

MTR Corporation Limited

**Shatin to Central Link –  
Tai Wai to Hung Hom Section and  
Mong Kok East to Hung Hom Section**

Monthly EM&A Report No. 57

[Period from 1 to 31 May 2017]

(June 2017)

Verified by: Fredrick Leong 

Position: Independent Environmental Checker

Date: 12 June 2017


MTR Corporation Limited

**Shatin to Central Link –  
Tai Wai to Hung Hom Section and  
Mong Kok East to Hung Hom Section**

Monthly EM&A Report No. 57

[Period from 1 to 31 May 2017]

(June 2017)

Certified by:  Felice Wong

Position: Environmental Team Leader

Date: 12<sup>th</sup> June 2017

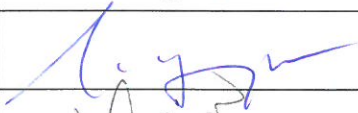
**MTR Corporation Limited**

Consultancy Agreements  
No. C11033 & C11033B

**Shatin to Central Link - Tai Wai to Hung  
Hom Section and Mong Kok East  
to Hung Hom Section**

**Monthly EM&A Report No. 57**

[Period from 1 to 31 May 2017]

|                      | Name        | Signature   |
|----------------------|-------------|---|
| Prepared & Checked:  | Joanne Tsoi |  |
| Reviewed & Approved: | Josh Lam    |  |

|  |   |                    |
|--|---|--------------------|
| Version:   | A | Date: 12 June 2017 |
| <p>This Monthly EM&amp;A Report is prepared for MTR Corporation Limited and is given for its sole benefit in relation to and pursuant to Consultancy Agreement No. C11033 &amp; C11033B and may not be disclosed to, quoted to or relied upon by any person other than MTR Corporation Limited without our prior written consent. No person (other than MTR Corporation Limited) into whose possession a copy of this report comes may rely on this plan without our express written consent and MTR Corporation Limited may not rely on it for any purpose other than as described above.</p> |   |                    |

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

## Table of Contents

|   | Page      |
|---|-----------|
| <b>1 INTRODUCTION.....</b>  | <b>1</b>  |
| 1.1 Background .....  | 1         |
| 1.2 Project Programme .....   | 1         |
| 1.3 Purpose of the Report .....   | 2         |
| <b>2 ENVIRONMENTAL MONITORING AND AUDIT.....</b>                            | <b>2</b>  |
| <b>3 IMPLEMENTATION STATUS ON THE ENVIRONMENTAL PROTECTION REQUIREMENTS</b> | <b>10</b> |

### List of Tables

|           |   |
|-----------|---|
| Table 1.1 | Summary of Awarded Works Contracts  |
| Table 2.1 | Summary of Major Construction Activities in the Reporting Period  |
| Table 2.2 | Summary of 24-Hour TSP Monitoring Results in the Reporting Period   |
| Table 2.3 | Summary of Construction Noise Monitoring Results in the Reporting Period                                      |
| Table 2.4 | Log for Environmental Complaints, Notification of Summons and Successful Prosecutions for the Reporting Month |
| Table 3.1 | Summary of Status of Required Submissions for and EP-438/2012/K   |
| Table 3.2 | Summary of Status of Required Submissions for EP-437/2012   |

### List of Appendices

|            |   |
|------------|---|
| Appendix A | 57 <sup>th</sup> Monthly EM&A Report for Works Contract 1109 – Stations and Tunnels of Kowloon City Section |
| Appendix B | 53 <sup>rd</sup> Monthly EM&A Report for Works Contract 1111 – Hung Hom North Approach Tunnels              |
| Appendix C | 52 <sup>nd</sup> Monthly EM&A Report for Works Contract 1103 – Hin Keng to Diamond Hill Tunnels             |
| Appendix D | 51 <sup>st</sup> Monthly EM&A Report for Works Contract 1106 – Diamond Hill Station                         |
| Appendix E | 49 <sup>th</sup> Monthly EM&A Report for Works Contract 1107 – Diamond Hill to Kai Tak Tunnels              |
| Appendix F | 48 <sup>th</sup> Monthly EM&A Report for Works Contract 1112 – Hung Hom Station and Stabling Sidings        |
| Appendix G | 48 <sup>th</sup> Monthly EM&A Report for Works Contract 1108 – Kai Tak Station and Associated Tunnels       |
| Appendix H | 44 <sup>th</sup> Monthly EM&A Report for Works Contract 1102 – Hin Keng Station and Approach Structures     |

## 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) was subsequently applied for EP-438/2012 and the latest Environmental Permit (EP No: EP-438/2012/K) was issued by Director of Environmental Protection (DEP) on 4 October 2016.

### 1.2 Project Programme

- 1.2.1 Ten civil construction works contracts of the Project have been awarded since July 2012. The construction of the Project commenced in September 2012 and is expected to complete in 2019 tentatively. **Table 1.1** summarises the information of the awarded Works Contracts.

**Table 1.1 Summary of Awarded Works Contracts**

| Works Contract      | Description                              | Construction Start Date | Contractor                          | Environmental Team                        |
|---------------------|--|-------------------------|-------------------------------------|---|
| 1101 <sup>(1)</sup> | Ma On Shan Line Modification Works       | December 2012           | Sun Fook Kong Joint Venture (SFKJV) | ANewR Consulting Ltd. (ANewR)             |
| 1102                | Hin Keng Station and Approach Structures | October 2013            | Penta-Ocean Construction Co. Ltd.   | Cinotech Consultants Ltd. (Cinotech)      |
| 1103                | Hin Keng to Diamond Hill Tunnels         | February 2013           | Vinci Construction Grands Projets   | Ove Arup & Partners Hong Kong Ltd. (Arup) |
| 1106                | Diamond Hill Station                     | March 2013              | Leader Joint Venture                | Cinotech Consultants Ltd. (Cinotech)      |
| 1107                | Diamond Hill to Kai Tak Tunnels          | May 2013                | Chun Wo - SELI Joint Venture        | Cinotech Consultants Ltd. (Cinotech)      |
| 1108                | 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 <sup>(2)</sup> | Kai Tak Barging Point Facilities             | September 2012          | Concentric – Hong Kong River Joint Venture (CCL-HKR JV) | Cinotech Consultants Ltd. (Cinotech) |
| 1109                 | Stations and Tunnels of Kowloon City Section | September 2012          | Samsung-Hsin Chong JV (SSHCJV)                          | ERM-Hong Kong Limited (ERM)          |
| 1111                 | Hung Hom North Approach Tunnels              | January 2013            | Gammon-Kaden SCL1111 JV                                 | AECOM Asia Co. Ltd.                  |
| 1112                 | Hung Hom Station and Stabling Sidings        | June 2013               | Leighton Contractors (Asia) Limited                     | SMEC Asia Ltd., HK                   |

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.

### 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 fifty-seventh EM&A Report for the Project which summarises the EM&A works undertaken by the respective Contractor's ETs during the period from 1 to 31 May 2017.

## 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 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.

| 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 & EP-438/2012/K               |
| 1112           | Hung Hom Station and Stabling Sidings        | EP-437/2012 & EP-438/2012/K               |

- 2.1.2 The EM&A Reports for Works Contracts 1109, 1111, 1103, 1106, 1107, 1112, 1108, and 1102, prepared by the respective Contractor's ETs are provided in **Appendices A to H**, respectively.

The EM&A Reports provide details of the project information, EM&A requirements, impact monitoring and audit results for the corresponding Contracts.

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 2.1**.

**Table 2.1 Summary of Major Construction Activities in the Reporting Period**

| Works Contract | Site                                     | Construction Activities   |
|----------------|--|---|
| 1102           | Hin Keng Station and Approach Structures | <ul style="list-style-type: none"> <li>• Soft Landscaping;</li> <li>• ABWF works at Hin Keng Station;</li> <li>• Modification of Retaining Wall and Installation of Noise Barrier;</li> <li>• Hard Landscape; and</li> <li>• E&amp;M Works</li> </ul>   |
| 1103           | Diamond Hill Area                        | <ul style="list-style-type: none"> <li>• Underground remedial works</li> </ul>  |
|                | Hin Keng Area                            | <ul style="list-style-type: none"> <li>• Tunnel lining, partition walls, dividing slabs, drains, walkways and site formation</li> </ul>   |
|                | Fung Tak Area                            | <ul style="list-style-type: none"> <li>• Tunnels connection, RC concrete, ELS work, sheet piling for retaining wall and RRIW for PTT</li> </ul>   |
|                | Ma Chai Hang Area                        | <ul style="list-style-type: none"> <li>• Central core, ventilation tunnel, C&amp;S works and ABWF works</li> </ul>  |
|                | Shui Chuen O                             | <ul style="list-style-type: none"> <li>• Storage area</li> </ul>  |
| 1106           | Diamond Hill Station Area                | <ul style="list-style-type: none"> <li>• Construct Level U1 Wall and structural steel erection;</li> <li>• ABWF works at SCL-DIH station area;</li> <li>• Foundation works, temporary road diversion, TTA for site access and temporary footpath diversion at Choi Hung Road;</li> <li>• Excavation and lateral support works at Lung Cheung Road;</li> <li>• Construct Base Slab at MOE near Entrance B; and</li> <li>• Drilling works and raking pile installation at Entrance A2.</li> </ul>   |
| 1107           | Tunnel section next to Kai Tak Station   | <ul style="list-style-type: none"> <li>• Reinstatement and Backfilling works of Drainage.</li> </ul>  |
| 1108           | Kai Tak Station                          | <ul style="list-style-type: none"> <li>• Open cut tunnel: DT and UT general cleaning and defect rectification, walkway top-up remedial works at Section A of DT and UT.</li> <li>• Cut and cover tunnel: DT and UT general cleaning and defect rectification, walkway top-up remedial works at Section A &amp; B of DT and UT, and access shaft closure at UT completed.</li> <li>• Station: Drainage work at all area, leveling to F.F.L. in Area 3, installation of roof cladding at Entrance A, B &amp; D, EVA construction for the first 2 portion, accessible ramp at DEE and Planter at Entrance A Cast and installation of glass canopy at DEE and SEE.</li> </ul> |

| Works Contract | Site                                     | Construction Activities   |
|----------------|--|---|
| 1109           | Ma Tau Wai (MTW) Works Area              | <ul style="list-style-type: none"> <li>Along Ma Tau Wai Road and TKW/MTW Road Garden – Station construction; ABWF works; and EEP construction</li> </ul>  |
|                | To Kwa Wan (TKW) Works Area              | <ul style="list-style-type: none"> <li>Olympic Garden – Construction of station entrance and new Pier 46;</li> <li>TKW Station – Construction of TKW station, and backfilling;</li> <li>Tam Kung Road – Sump pit construction; and</li> <li>Nam Kok Road – Construction of station entrance</li> </ul>  |
| 1111           | Mong Kok Freight Terminal <sup>(1)</sup> | <ul style="list-style-type: none"> <li>All construction activities were completed in May 2015</li> </ul>  |
|                | Ho Man Tin                               | <ul style="list-style-type: none"> <li>EVA construction</li> </ul>  |
|                | NSL 3 - 8                                | <ul style="list-style-type: none"> <li>Concreting works, form work erection, reinforcement fixing, backfill, road &amp; drainage construction, excavation, pipe laying</li> </ul>   |
|                | OB2                                      | <ul style="list-style-type: none"> <li>Backfill, TB1 dismantling, watermain diversion, upstand wall modification, OB2 bridge jacking and bearing replacement and parapet wall construction</li> </ul>   |
|                | OB2A                                     | <ul style="list-style-type: none"> <li>OB2A bridge reinstatement, precast parapet installation, bearing replacement, backfilling</li> </ul>   |
|                | NSL 9 & Oi Sen Path                      | <ul style="list-style-type: none"> <li>Backfilling, drainage work, Scaffolding platform erection, dismantling of scaffolding, lifting works, temporary working platform removal, ELS removal, tunnel works, rock breaking</li> </ul>  |
|                | EWL 7 - 9                                | <ul style="list-style-type: none"> <li>Reinstatement, road diversion, backfilling, steel deck dismantling</li> </ul>  |
| 1112           | Hong Hom (HUH and HHS) Works Area        | <ul style="list-style-type: none"> <li>Building services works at SAT</li> <li>EVA Roadworks at SAT</li> <li>Demolition works of bulkhead door adjacent to existing West Rail Stub Tunnel at SAT</li> <li>Construction of tunnel structure at HUH, NAT</li> <li>Drainage work at HHS</li> <li>Platform ABWF and E&amp;M works at HUH</li> <li>Utility works at NAT</li> <li>Modification works at Concourse level, mid-level walkway</li> </ul> |

Note:

(1) Construction works were completed.

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 all Works Contracts according to the Continuous Noise Monitoring Plan (CNMP). The air quality and construction noise for this reporting month are summarised in **Tables 2.2** and **2.3**. Details of the monitoring requirements, locations, equipment,



methodology and QA/QC procedures are presented in the EM&A Reports as provided in **Appendices A to H**.

- 2.1.5 Water quality monitoring was not carried out during this reporting period since no dredging activity was conducted in the reporting month.
- 2.1.6 An environmental complaint regarding dust issue under Works Contract 1111 was referred by EPD on 8 May 2017. Investigations were conducted and reported in the EM&A Report. A notification of summon under Works Contract 1108 was issued on 20 February 2017. The contractor attended to the court on 24 May 2017. The next court days were scheduled on 14 to 16 August 2017. No exceedance of action and limit levels were recorded during the reporting period. Log for environmental complaints, notification of summons and successful prosecutions are provided in **Table 2.4**.
- 2.1.7 Regular site inspections were conducted by the respective Contractor's ETs 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 2.2 Summary of 24-Hour TSP Monitoring Results in the Reporting Period**

| Monitoring Station ID                     | Location   | TSP Concentration ( $\mu\text{g}/\text{m}^3$ ) | Action Level ( $\mu\text{g}/\text{m}^3$ ) | Limit Level ( $\mu\text{g}/\text{m}^3$ ) | Exceedance due to the Project Construction (Yes/No) |
|---|--|--|---|--|---|
| <b>Works Contract 1102 and 1103</b>       |  |  |   |  |   |
| DMS-1                                     | C.U.H.K.A.A. Thomas Cheung School  | 21.9-59.1                                      | 148.7                                     | 260                                      | No  |
| <b>Works Contract 1103</b>                |  |  |   |  |   |
| DMS-2                                     | Price Memorial Catholic Primary School                                       | 23.2-83.0                                      | 167.4                                     | 260                                      | No  |
| <b>Works Contracts 1103 and 1106</b>      |  |  |   |  |   |
| DMS-3                                     | Hong Kong S.K.H Nursing Home <sup>(1)</sup>                                  | 29.4-67.5                                      | 159.1                                     | 260                                      | No  |
| <b>Works Contract 1106 and 1107</b>       |  |  |   |  |   |
| DMS-4                                     | Block 1, Rhythm Garden   | 28.2-82.9                                      | 160.4                                     | 260                                      | No  |
| <b>Works Contract 1108</b> <sup>(5)</sup> |  |  |   |  |   |
| <b>Works Contract 1109</b>                |  |  |   |  |   |
| DMS-6                                     | Katherine Building <sup>(2)</sup>  | 62 – 65  | 156.8                                     | 260                                      | No  |
| DMS-7                                     | Parc 22 <sup>(3)(10)</sup>   | -  | 166.7                                     | 260                                      | No  |
| DMS-8                                     | SKH Good Shepherd Primary School   | 63 – 78  | 152.2                                     | 260                                      | No  |
| DMS-9                                     | No. 12 Pau Chung Street <sup>(4)(9)</sup>                                    | 53 – 83  | 160.9                                     | 260                                      | No  |
| DMS-10                                    | Chat Ma Mansion  | 58 – 75  | 170.4                                     | 260                                      | No  |
| <b>Works Contract 1111</b>                |  |  |   |  |   |
| AM1 <sup>(6)</sup>                        | No. 234 – 238 Chatham Road North <sup>(7)</sup>                              | 30.5 – 91.1                                    | 183.9                                     | 260                                      | No  |
| <b>Works Contract 1112</b>                |  |  |   |  |   |
| AM2                                       | Site Boundary of Finger Pier Adjacent To Harbourfront Horizon <sup>(8)</sup> | 38.0 – 45.9                                    | 182                                       | 260                                      | 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) 24-hour averaged dust monitoring at DMS-9 No. 26 Kowloon City Road (alternative location of Lucky Building) has been suspended since March 2014 due to denied access by the occupant of the premise. However, No. 12 Pau Chung Street, as an alternative monitoring location, was formally approved by EPD on 19 May 2014. Impact dust monitoring was resumed on 12 June 2014.
- (10) 24-hour averaged dust monitoring at DMS-7 Parc 22 (alternative monitoring location of Skytower Tower 2) has been temporary suspended since 13 December 2016 due to request from the management office.

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

| Monitoring Station ID                     | Location  | Noise Level ( $L_{Aeq,30mins}$ , dB(A)) |          |                          | Limit Level (dB(A))   | Exceedance due to the Project Construction (Yes/No) |
|---|---|---|----------|--------------------------|---|---|
|   |   | Measured                                | Baseline | Corrected <sup>(7)</sup> |   |   |
| <b>Works Contract 1102 and 1103</b>       |   |   |          |                          |   |   |
| NMS-CA-1                                  | C.U.H.K.A.A. Thomas Cheung School                       | 51.6-55.8                               | 57.0     | < Baseline               | 70<br>(65 during examination period)  | No  |
| <b>Works Contract 1103</b>                |   |   |          |                          |   |   |
| NMS-CA-2                                  | Price Memorial Catholic Primary School                  | 60.0-62.0                               | 66.0     | < Baseline               | 70<br>(65 during examination period)  | No  |
| <b>Works Contracts 1103 and 1106</b>      |   |   |          |                          |   |   |
| NMS-CA-3                                  | Hong Kong S.K.H Nursing Home <sup>(1)</sup>             | 71.8-72.6                               | 73.0     | < Baseline               | 70  | No  |
| <b>Works Contract 1106 and 1107</b>       |   |   |          |                          |   |   |
| NMS-CA-4                                  | Block 1, Rhythm Garden (north-eastern façade)           | 71.2-72.4                               | 71.0     | 57.7-66.8                | 75  | No  |
| NMS-CA-5                                  | Block 1, Rhythm Garden (northern façade) <sup>(2)</sup> | 70.3-71.4                               | 74.0     | <Baseline                | 70<br>(65 during examination period)  | No  |
| <b>Works Contract 1108 <sup>(6)</sup></b> |   |   |          |                          |   |   |
| <b>Works Contract 1109</b>                |   |   |          |                          |   |   |
| NMS-CA-6                                  | No. 16-23 Nam Kok Road <sup>(3)</sup>                   | 62.9-63.2                               | 76.1     | < Baseline               | 75  | No  |
| NMS-CA-7                                  | Skytower Tower 2  | 65.2-66.1                               | 70.0     | < Baseline               | 75  | No  |
| NMS-CA-8                                  | SKH Good Shepherd Primary School                        | 71.8-73.0                               | 75.4     | < Baseline               | 70<br>(65 during examination period)<br>(79 during the period of conducting the continuous noise monitoring) <sup>(8)</sup> | No  |
| NMS-CA-9                                  | Kong Yiu Mansion <sup>(4)</sup>                         | 68.4-69.2                               | 69.2     | ≤ Baseline               | 75  | No  |
| NMS-CA-10                                 | Chat Ma Mansion   | 75.6-76.8                               | 76.6     | < Baseline-63.3          | 75  | No  |
| <b>Works Contract 1111</b>                |   |   |          |                          |   |   |

| Monitoring Station ID                     | Location  | Noise Level ( $L_{Aeq,30mins}$ , dB(A)) |          |                          | Limit Level (dB(A))   | Exceedance due to the Project Construction (Yes/No) |
|---|---|---|----------|--------------------------|---|---|
|   |   | Measured                                | Baseline | Corrected <sup>(7)</sup> |   |   |
| NM1                                       | Carmel Secondary School (South Block)           | 65.2-67.4                               | 68.0     | < Baseline               | 70<br>(65 during examination period)<br>(68 during the period of conducting the continuous noise monitoring) <sup>(9)</sup> | No  |
| NM2                                       | No. 234 – 238 Chatham Road North <sup>(5)</sup> | 68.6-69.8                               | 79.0     | < Baseline               | 75 (77) <sup>(10)</sup>   | No  |
| <b>Works Contract 1112</b> <sup>(6)</sup> |   |   |          |                          |   |   |

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.

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

| <b>Works Contract</b> | <b>Environmental Complaints</b> | <b>Notification of Summons</b> | <b>Successful Prosecutions</b> |
|-----------------------|---------------------------------|--------------------------------|--------------------------------|
| 1102                  | 0                               | 0                              | 0                              |
| 1103                  | 0                               | 0                              | 0                              |
| 1106                  | 0                               | 0                              | 0                              |
| 1107                  | 0                               | 0                              | 0                              |
| 1108                  | 0                               | 0                              | 0                              |
| 1109                  | 0                               | 0                              | 0                              |
| 1111                  | 1                               | 0                              | 0                              |
| 1112                  | 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 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 and 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 (1 <sup>st</sup> submission)<br>31 Aug 2012 (2 <sup>nd</sup> submission)<br>30 Nov 2012 (3 <sup>rd</sup> submission)  |
| Condition 2.7                | Management Organisation of Main Construction Companies           | 27 Jul 2012 (1 <sup>st</sup> submission)<br>21 Aug 2012 (2 <sup>nd</sup> submission)<br>19 Dec 2012 (3 <sup>rd</sup> submission)<br>22 Jan 2013 (4 <sup>th</sup> submission)<br>30 Apr 2013 (5 <sup>th</sup> submission)<br>21 May 2013 (6 <sup>th</sup> 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 (1 <sup>st</sup> submission)<br>28 Sep 2012 (2 <sup>nd</sup> submission)<br>30 Nov 2012 (3 <sup>rd</sup> submission)<br>11 Jan 2013 (4 <sup>th</sup> submission)<br>8 Feb 2013 (Approved)<br>8 Feb 2013 (5 <sup>th</sup> submission)<br>26 Apr 2013 (6 <sup>th</sup> submission)<br>11 Jun 2013 (7 <sup>th</sup> submission)<br>12 July 2013 (Approved)<br>26 July 2013 (8 <sup>th</sup> submission)<br>22 Aug 2013 (Approved)<br>23 Aug 2013 (9 <sup>th</sup> submission)<br>13 Sept 2013 (Approved)<br>20 Jan 2014 (10 <sup>th</sup> submission)<br>26 Feb 2014 (Approved)<br>31 Mar 2015 (Contract 1106 submission only)<br>13 Apr 2015 (Contract 1106 submission only)<br>15 Apr 2015 (Approved) |
| Condition 2.10               | Continuous Noise Monitoring Plan (CNMP)                          | 1 Aug 2012 (1 <sup>st</sup> submission)<br>28 Sep 2012 (2 <sup>nd</sup> submission)<br>30 Nov 2012 (3 <sup>rd</sup> submission)<br>11 Jan 2013 (4 <sup>th</sup> submission)<br>8 Feb 2013 (Approved)<br>8 Feb 2013 (5 <sup>th</sup> submission)<br>26 Apr 2013 (6 <sup>th</sup> submission)<br>11 Jun 2013 (7 <sup>th</sup> submission)<br>12 July 2013 (Approved)<br>26 July 2013 (8 <sup>th</sup> submission)<br>22 Aug 2013 (Approved)<br>23 Aug 2013 (9 <sup>th</sup> submission)<br>13 Sept 2013 (Approved)<br>20 Jan 2014 (10 <sup>th</sup> submission)   |

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

| EP Condition<br>(EP-438/2012/K) | Submission   | Submission date  |
|---------------------------------|--|--|
|                                 |  | 15 Jul 2016 (Batch 1 Version D approved)<br>15 Jul 2016 (Batch 2 Version C approved)<br>15 Sep 2016 (Batch 3 Version A submission)<br>4 Oct 2016 (Batch 3 Version A approved)<br>8 Mar 2017 (Batch 4 Version A)<br>7 April 2017 (Batch 4 Version A approved) |
| Condition 2.30                  | As-built Drawings for Operational Air-borne Noise Mitigation Measures  | 4 Dec 2015 (1 <sup>st</sup> submission)<br>28 Dec 2015 (2 <sup>nd</sup> submission)<br>4 Feb 2016 (Approved)   |
| Condition 2.33                  | As-built Drawings for Landscape and Visual Mitigation Measures   | 4 Dec 2015 (1 <sup>st</sup> submission)<br>28 Dec 2015 (2 <sup>nd</sup> submission)<br>4 Feb 2016 (Approved)   |
| Condition 2.36                  | Contamination Assessment Plan (CAP) for the Temporary Magazine Site at TKO Area 137  | 23 Mar 2016 (1 <sup>st</sup> submission)<br>20 Apr 2016 (2 <sup>nd</sup> submission)<br>22 Apr 2016 (Approved)   |
| Condition 2.36                  | Contamination Assessment Report (CAR) for the Temporary Magazine Site at TKO Area 137  | 19 May 2016 (1 <sup>st</sup> submission)<br>3 Jun 2016 (2 <sup>nd</sup> submission)<br>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 3.3                   | 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. 1-55<br><br>Monthly EM&A Report No. 56  | Reported in previous Monthly EM&A Reports<br><br>12 May 2017   |



**Table 3.2 Summary of Status of Required Submissions for EP-437/2012**

| <b>EP Condition (EP-437/2012)</b> | <b>Submission</b>  | <b>Submission date</b>   |
|-----------------------------------|--|--|
| 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 (1 <sup>st</sup> submission)<br>30 Apr 2013 (2 <sup>nd</sup> 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 (1 <sup>st</sup> submission)<br>8 Feb 2013 (Approved )<br>26 Apr 2013 (2 <sup>nd</sup> submission)<br>11 Jun 2013 (3 <sup>rd</sup> submission)<br>27 Aug 2013 (Approved)<br>20 Jan 2014 (4 <sup>th</sup> submission)<br>28 Apr 2016 (Approved) |
| Condition 2.8                     | Continuous Noise Monitoring Plan (CNMP)  | 30 Nov 2012 (1 <sup>st</sup> submission)<br>11 Jan 2013 (2 <sup>nd</sup> submission)<br>8 Feb 2013 (Approved)<br>20 Jan 2014 (3 <sup>rd</sup> submission)<br>28 Apr 2016 (Approved)  |
| Condition 2.9                     | Construction and Demolition Materials Management Plan (C&DMMP)   | 6 Jul 2012 (1 <sup>st</sup> submission)<br>12 Sep 2012 (2 <sup>nd</sup> submission)<br>15 Oct 2012 (Approved)  |
| Condition 2.10                    | Sediment Management Plan   | 6 Jul 2012 (1 <sup>st</sup> submission)<br>12 Sep 2012 (2 <sup>nd</sup> submission)<br>5 Oct 2012 (3 <sup>rd</sup> submission)<br>15 Oct 2012 (Approved)   |
| Condition 2.11                    | Visual, Landscape, Tree Planting & Tree Protection Plan (VLTP)   | 14 Nov 2012 (1 <sup>st</sup> submission)<br>8 Feb 2013 (2 <sup>nd</sup> submission)<br>4 Feb 2015 (3 <sup>rd</sup> submission)<br>26 Jun 2015 (4 <sup>th</sup> submission)<br>12 May 2017 (5 <sup>th</sup> submission)                                     |
| Condition 2.16                    | Operational Ground-borne Noise Mitigation Measures Plan  | 23 Mar 2017 (1 <sup>st</sup> submission)<br>17 May 2017 (2 <sup>nd</sup> submission)   |
| 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. 5-55  | Reported in previous Monthly EM&A Reports  |
|                                   | Monthly EM&A Report No. 56   | 12 May 2017  |

---

**Appendix A**

**57<sup>th</sup> EM&A Report for Works Contract 1109 –  
Stations and Tunnels of Kowloon City Section**

---

MTR Corporation Limited

**Shatin to Central Link –  
Tai Wai to Hung Hom Section**

Monthly EM&A Report No. 57

[Period from 1 to 31 May 2017]

Works Contract 1109 - Stations and Tunnels of  
Kowloon City Section

(12 June 2017)

Certified by: *Mandy To* Mandy To

Position: Environmental Team Leader

Date: 12 June 2017

Samsung-Hsin Chong JV

Shatin to Central Link (SCL) - Tai  
Wai to Hung Hom Section:  
Works Contract 1109 - Stations and  
Tunnels of Kowloon City Section  
*Monthly EM&A Report No.57*

May 2017

**Environmental Resources Management**

16/F Berkshire House  
25 Westlands Road  
Quarry Bay, Hong Kong  
Telephone: (852) 2271 3000  
Facsimile: (852) 2723 5660  
E-mail: [post.hk@erm.com](mailto:post.hk@erm.com)  
<http://www.erm.com>

Samsung-Hsin Chong JV

Shatin to Central Link (SCL) - Tai  
Wai to Hung Hom Section:  
Works Contract 1109 - Stations and  
Tunnels of Kowloon City Section  
*Monthly EM&A Report No.57*

May 2017

Reference 0171181

For and on behalf of  
ERM-Hong Kong, Limited

Approved by: Frank Wan

Signed:



Position: Partner

Date: 12 June 2017

## CONTENTS

|       |   |    |
|-------|---|----|
| 1     | <b>INTRODUCTION</b>   | 1  |
| 1.1   | <i>PURPOSE OF THE REPORT</i>  | 1  |
| 1.2   | <i>STRUCTURE OF THE REPORT</i>  | 1  |
| 2     | <b>PROJECT INFORMATION</b>  | 3  |
| 2.1   | <b>BACKGROUND</b>   | 3  |
| 2.2   | <i>GENERAL SITE DESCRIPTION</i>   | 3  |
| 2.3   | <i>CONSTRUCTION PROGRAMME AND ACTIVITIES</i>                              | 3  |
| 2.4   | <i>PROJECT ORGANISATION</i>   | 4  |
| 2.5   | <i>STATUS OF ENVIRONMENTAL LICENCES, NOTIFICATION AND PERMITS</i>         | 4  |
| 3     | <b>ENVIRONMENTAL MONITORING REQUIREMENTS</b>                              | 6  |
| 3.1   | <b>REGULAR CONSTRUCTION NOISE MONITORING</b>                              | 6  |
| 3.1.1 | <i>Monitoring Location</i>  | 6  |
| 3.1.2 | <i>Monitoring Parameter and Frequency</i>                                 | 6  |
| 3.1.3 | <i>Monitoring Equipment and Methodology</i>                               | 7  |
| 3.1.4 | <i>Action and Limit Levels</i>  | 7  |
| 3.2   | <b>CONTINUOUS NOISE MONITORING</b>  | 8  |
| 3.2.1 | <i>Monitoring Location</i>  | 8  |
| 3.2.2 | <i>Monitoring Parameter and Frequency</i>                                 | 9  |
| 3.2.3 | <i>Monitoring Equipment and Methodology</i>                               | 9  |
| 3.2.4 | <i>Action and Limit Levels</i>  | 9  |
| 3.3   | <b>CONSTRUCTION DUST MONITORING</b>                                       | 10 |
| 3.3.1 | <i>Monitoring Location</i>  | 10 |
| 3.3.2 | <i>Monitoring Parameter and Frequency</i>                                 | 11 |
| 3.3.3 | <i>Monitoring Equipment</i>   | 11 |
| 3.3.4 | <i>Monitoring Methodology</i>   | 12 |
| 3.3.5 | <i>Action and Limit Levels</i>  | 14 |
| 3.4   | <b>CULTURAL HERITAGE</b>  | 14 |
| 3.5   | <b>LANDSCAPE AND VISUAL MITIGATION MEASURES</b>                           | 15 |
| 4     | <b>IMPLEMENTATION STATUS OF THE ENVIRONMENTAL PROTECTION REQUIREMENTS</b> | 16 |
| 5     | <b>MONITORING RESULTS</b>   | 17 |
| 5.1   | <b>REGULAR CONSTRUCTION NOISE MONITORING</b>                              | 17 |
| 5.2   | <b>CONTINUOUS NOISE MONITORING</b>  | 17 |
| 5.3   | <b>CONSTRUCTION DUST MONITORING</b>                                       | 17 |
| 5.4   | <b>CULTURAL HERITAGE</b>  | 18 |
| 5.5   | <b>WASTE MANAGEMENT</b>   | 18 |
| 5.6   | <b>LANDSCAPE AND VISUAL MITIGATION MEASURES</b>                           | 18 |
| 6     | <b>ENVIRONMENTAL SITE INSPECTION</b>                                      | 20 |

|     |   |    |
|-----|---|----|
| 7   | <b>ENVIRONMENTAL NON-CONFORMANCE</b>                              | 21 |
| 7.1 | <b>SUMMARY OF MONITORING EXCEEDANCE</b>                           | 21 |
| 7.2 | <b>SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE</b>                    | 21 |
| 7.3 | <b>SUMMARY OF ENVIRONMENTAL COMPLAINT</b>                         | 21 |
| 7.4 | <b>SUMMARY OF ENVIRONMENTAL SUMMON AND SUCCESSFUL PROSECUTION</b> | 21 |
| 8   | <b>FUTURE KEY ISSUES</b>  | 22 |
| 8.1 | <b>KEY ISSUES FOR THE COMING MONTH</b>                            | 22 |
| 8.2 | <b>MONITORING SCHEDULE FOR THE NEXT MONTH</b>                     | 22 |
| 8.3 | <b>CONSTRUCTION PROGRAMME FOR THE NEXT MONTH</b>                  | 22 |
| 9   | <b>CONCLUSIONS</b>  | 23 |

#### **LIST OF ANNEXES**

|                |  |
|----------------|--|
| <i>Annex A</i> | <i>The Alignment and Works Area for Works Contract</i>                   |
| <i>Annex B</i> | <i>Construction Programme for the Reporting Month and Coming Month</i>   |
| <i>Annex C</i> | <i>Project Organisation Chart and Contact Detail</i>                     |
| <i>Annex D</i> | <i>Locations of Monitoring Stations for Noise and Dust Monitoring</i>    |
| <i>Annex E</i> | <i>Monitoring Schedule of the Reporting Period and the Next Month</i>    |
| <i>Annex F</i> | <i>Calibration Reports</i>   |
| <i>Annex G</i> | <i>Summary of Event/Action Plans</i>                                     |
| <i>Annex H</i> | <i>Summary of Implementation Status of Environmental Mitigation</i>      |
| <i>Annex I</i> | <i>Regular Noise Monitoring Results</i>                                  |
| <i>Annex J</i> | <i>Construction Dust Monitoring Results</i>                              |
| <i>Annex K</i> | <i>Waste Flow Table</i>  |
| <i>Annex L</i> | <i>(Not Used)</i>  |
| <i>Annex M</i> | <i>Environmental Complaint, Environmental Summon and Prosecution Log</i> |

## EXECUTIVE SUMMARY

The construction works of **MTR Shatin to Central Link Works Contract 1109 – Stations and Tunnels of Kowloon City Section** commenced on 1 September 2012. This is the fifty-seventh monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 May 2017 to 31 May 2017 in accordance with the EM&A Manual.

### Summary of the Construction Works undertaken during the Reporting Month

The major construction works undertaken during the reporting month include:

---

#### **Construction Activities undertaken**

---

##### Works in Ma Tau Wai (MTW)

- Along Ma Tau Wai Road and TKW/MTW Road Garden – Station construction; ABWF works; and EEP construction.

---

##### Works in To Kwa Wan (TKW)

- Olympic Garden – Construction of station entrance and new Pier 46;
  - TKW Station – Construction of TKW station, and backfilling;
  - Tam Kung Road – Sump pit construction; and
  - Nam Kok Road – Construction of station entrance.
- 

### Regular 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
  - NMS-CA-6 *5 times*
  - NMS-CA-7 *5 times*
  - NMS-CA-8 *5 times*
  - NMS-CA-9 *5 times*
  - NMS-CA-10 *5 times*
- Construction dust (24-hour TSP) monitoring
  - DMS-6 *5 times*
  - DMS-7 *0 time*
  - DMS-8 *5 times*
  - DMS-9 *5 times*
  - DMS-10 *5 times*

### Continuous Noise Monitoring

No continuous noise monitoring was required during this reporting month, according to the schedule presented in the latest approved CNMP.

### Cultural Heritage

A License to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance has been obtained from Antiquities and Monuments Office (AMO) on 29 October 2012. The archaeological survey-cum-excavation and additional investigation at the Sacred Hill (North) commenced



on 1 November 2012 and was conducted in accordance with the License and the approved Archaeological Action Plan (AAP). An updated AAP was submitted to AMO for renewal of the 1 year archaeological license. The license was renewed and granted by AMO on 24 October 2013. The updated AAP was submitted to EPD for approval on 11 October 2013 and it was approved on 1 November 2013. The fieldworks of the archaeological survey-cum-excavation and additional investigation were completed on 27 December 2013. The Interim Archaeological Report was provided to AMO in April 2014.

No vibration monitoring was conducted during the reporting period as relevant tunnelling work for this Works Contract had been completed in vicinity of the historical structures listed in EM&A Manual.

#### Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. 10,676 m<sup>3</sup> inert C&D material was generated from the Project during the reporting month. 296 kg of plastics was generated and sent to recyclers for recycling during the reporting period. About 619 m<sup>3</sup> of non-recyclable non-inert C&D materials, such as general refuse, were disposed of at NENT Landfill. No metal waste was generated during this reporting month. 158 kg of paper/cardboard packaging was generated and sent to recyclers for recycling during the reporting period. No chemical waste was generated during this reporting month.

#### Landscape and Visual

Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 2 and 15 May 2017. No audit findings were observed during the reporting month. The implementation status is presented in *Section 5*.

#### Environmental Site Inspection

Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 2, 8, 15, 22 and 29 May 2017. The representative of the IEC joined the site inspection on 8 May 2017. Details of the audit findings and implementation status are presented in *Section 6*.

#### Environmental Exceedance/Non-conformance/Compliant/Summons and Prosecution

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

No exceedance of the Action and Limit Levels of 24-hour TSP monitoring was recorded during the reporting period.

No complaint was received during the reporting period.

No summon or prosecution was received in this reporting period.

### Future Key Issues

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

---

#### **Construction Activities to be undertaken**

---

##### Work in Ma Tau Wai (MTW)

- Along Ma Tau Wai Road and TKW/MTW Road Garden – Station construction; ABWF works; and EEP construction.

---

##### Work in To Kwa Wan (TKW)

- Olympic Garden – Construction of station entrance and new Pier 46;
  - Tam Kung Road – Sump pit construction;
  - TKW Station – Construction of TKW station and backfilling; and
  - Nam Kok Road – Construction of station entrance.
-

ERM-Hong Kong, Limited (ERM) was appointed by Samsung-Hsin Chong JV (SSHCJV) 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) Works Contract 1109 – Stations and Tunnels of Kowloon City Section** (the Project).

### **1.1 PURPOSE OF THE REPORT**

This is the fifty-seventh EM&A report which summarises the monitoring results and audit findings during the reporting period from 1 May to 31 May 2017.

### **1.2 STRUCTURE OF THE REPORT**

#### **Section 1 : Introduction**

It details the purpose and structure of the report.

#### **Section 2 : Project Information**

It summarises the background and scope of the project, site description, project 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 : **Future Key Issues**

It summarises the forecast of environmental impact and monitoring schedule for the next three months.

Section 9 : **Conclusions**

## 2 PROJECT INFORMATION

### 2.1 BACKGROUND

The Shatin to Central Link – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH)) is an extension of the Ma On Shan Line and is approximately 11 km long. It links 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).

The construction of the SCL (TAW-HUH) has been divided into a series of civil construction Works Contracts and this Works Contract 1109 covers the construction of stations in To Kwa Wan (TKW) and Ma Tau Wai (MTW), and the tunnels between the TKW station and Ho Man Tin station (HOM).

### 2.2 GENERAL SITE DESCRIPTION

For the Works Contract 1109, the alignment runs from TKW station below Ma Tau Chung Road/Ma Tau Wai Road towards the west, reaching the MTW station. After leaving MTW station, the alignment passes Ko Shan Road and joins the HOM station at the intersection of Fat Kwong Street and Shun Yung Street. The underground sections of the alignment between TKW and HOM stations will be constructed by bored tunneling. Both the TKW and MTW stations will be constructed by cut-and-cover method.

The alignment and works area for the Works Contract 1109 are shown in *Annex 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 *Annex B*.

**Table 2.1** *Summary of the Construction Activities Undertaken during the Reporting Month*

| <b>Construction Activities undertaken</b>  |
|--|
| <u><i>Works in Ma Tau Wai (MTW)</i></u>  |
| <ul style="list-style-type: none"><li>• Along Ma Tau Wai Road and TKW/MTW Road Garden – Station construction; ABWF works; and EEP construction.</li></ul>  |
| <u><i>Works in To Kwa Wan (TKW)</i></u>  |
| <ul style="list-style-type: none"><li>• Olympic Garden – Construction of station entrance and new Pier 46;</li><li>• TKW Station – Construction of TKW station, and backfilling;</li><li>• Tam Kung Road – Sump pit construction; and</li><li>• Nam Kok Road – Construction of station entrance.</li></ul> |

## 2.4 PROJECT ORGANISATION

The project organisational chart and contact details are shown in *Annex 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 Project 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) | 348516            | 13 August 2012 – 30 April 2017    | -                                |
| Notification of Construction Works under Air Pollution Control (Construction Dust) Regulation (Form NB)     | 351125            | 16 October 2012 – 30 April 2017   | -                                |
| <b>Wastewater Discharge Licence</b>   |                   |                                   |                                  |
| Site at TKW   | WT00019555-2014   | 30-September-2017                 | -                                |
| Site at MTW   | WT00019556-2014   | 30-September-2017                 | -                                |
| <b>Chemical Waste Producer Registration</b>   |                   |                                   |                                  |
| Site at TKW   | 5213-286-S3682-01 | Throughout the Contract           | -                                |
| Site at MTW   | 5213-242-S3682-02 | Throughout the Contract           | -                                |
| <b>Construction Noise Permit</b>  |                   |                                   |                                  |
| - PME at TKW Garden   | GW-RE1071-16      | 11 November 2016 – 10 May 2017    | -                                |
| - PME at Kai Tak Storage Yard 1   | GW-RE0121-17      | 17 March 2017 – 15 September 2017 | -                                |
| - PME at Kai Tak New Land 2   | GW-RE1258-16      | 26 January 2017 – 25 July 2017    | -                                |
| - PME at MTW Road E1-E6   | GW-RE1091-16      | 9 November 2016 – 8 May 2017      | Superseded by GW-RE0314-17       |
| -   | GW-RE0314-17      | 8 May 2017 – 7 November 2017      | -                                |
| - PME at SUW works Area (TBM)   | GW-RE0282-17      | 24 April 2017 – 23 October 2017   | -                                |
| - PME at SUW works Area   | GW-RE0236-17      | 6 April 2017 – 5 October 2017     | -                                |
| - PME at Olympic Garden   | GW-RE1101-16      | 24 November 2016 – 23 May 2017    | Superseded by GW-RE0376-17       |
| -   | GW-RE0376-17      | 23 May 2017 – 22 November 2017    | -                                |
| - PME at Olympic Garden (Flyover Load Transfer)   | GW-RE0203-17      | 24 March 2017 – 23 May 2017       | -                                |

| <b>Permit/ Licences/<br/>Notification</b>          | <b>Reference</b> | <b>Validity Period</b>            | <b>Remarks</b>   |
|--|------------------|-----------------------------------|--|
| - <i>PME at Olympic Playground</i>                 | GW-RE1014-16     | 17 October 2016 - 16 April 2017   | -  |
| - <i>PME at TKW Opening (1-8)</i>                  | GW-RE0037-17     | 19 February 2017 - 18 May 2017    | Supceded by GW-RE0374-17   |
| -  | GW-RE0374-17     | 18 May 2017 - 17 September 2017   | -  |
| - <i>PME at MTW Road TTMS (Inclinometer)</i>       | GW-RE0066-17     | 17 February 2017 - 16 May 2017    | Supceded by GW-RE0326-17   |
| -  | GW-RE0326-17     | 17 May 2017 - 16 August 2017      | -  |
| - <i>PME at Lok Shan Road and Kiang Su Street</i>  | GW-RE1085-16     | 9 November 2016 - 8 May 2017      | Supceded by GW-RE0333-17   |
| -  | GW-RE0333-17     | 8 May 2017 - 7 November 2017      | -  |
| - <i>PME at Kai Tak Storage Area 1</i>             | GW-RE0121-17     | 17 March 2017 - 15 September 2017 | -  |
| SP-Licence for TBM operation                       | L-3-249(1)       | 19 May 2015 - 18 May 2018         | Notification for the cancellation of the Specified Process Licence has been given to EPD in Nov 2016 |
| Billing Account for Disposal of Construction Waste | 7015758          | Throughout the Contract           | -  |

### 3.1 REGULAR CONSTRUCTION NOISE MONITORING

#### 3.1.1 Monitoring Location

In accordance with the EM&A Manual, monitoring of construction noise impact should be conducted at designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was either rejected or unavailable; alternative locations were proposed and agreed by the ER (Engineer's Representative), IEC (Independent Environmental Checker) and EPD (Environmental Protection Department). The construction noise monitoring locations are listed in *Table 3.1* and shown in *Annex D*. The noise sensitive receivers (NSRs) related to this Works Contract are also shown in *Annex D*.

*Table 3.1 Regular Construction Noise Monitoring Location*

| Proposed Regular Construction Noise Monitoring Location | Description                      | Type of Measurement |
|---|----------------------------------|---------------------|
| NMS-CA-6 (a)  | No.16-23 Nam Kok Road            | Façade              |
| NMS-CA-7  | Skytower Tower 2                 | Façade              |
| NMS-CA-8  | SKH Good Shepherd Primary School | Façade              |
| NMS-CA-9 (b)  | Kong Yiu Mansion                 | Façade              |
| NMS-CA-10   | Chat Ma Mansion                  | Façade              |

**Notes:**

(a) Access to the monitoring location at Prosperity House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. Furthermore, the alternative location, No. 420 Prince Edward Road West, used in the baseline monitoring was also not available as access permission was rejected by the owner of the building. An alternative location (No.16-23 Nam Kok Road) was proposed and approved by the ER and agreed by the IEC and EPD.

(b) As the Incorporated Owners Association of the monitoring location at Lucky Building (originally proposed in the approved EM&A Manual) did not reply to our request for access to their premise, an alternative location, Kong Yiu Mansion, was proposed and approved by the ER and agreed by the IEC and EPD.

#### 3.1.2 Monitoring Parameter and Frequency

Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the 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 *Annex 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 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 meters and calibrator used for the noise measurement, as listed in *Table 3.2*, compile with the IEC 651: 1979 and 804:1985 (Type 1) specification. The calibration certificates of the sound level meters are included in *Annex F*.

**Table 3.2** *Noise Monitoring Equipment*

| <b>Monitoring Stations</b>          | <b>Monitoring Equipment (Sound Level Meter and Calibrator)</b> |
|-------------------------------------|--|
| NMS-CA-6, NMS-CA-7,                 | Calibrator: NC 73 (Serial No. 10997142)                        |
| NMS-CA-8, NMS-CA-9 and<br>NMS-CA-10 | Sound Level Meter: NL 18 (Serial No. 00360030)                 |

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 (EAP) for noise monitoring is presented in *Annex G*.

**Table 3.3 Action and Limit Levels for Noise Monitoring**

| Time Period                          | Regular Noise Monitoring Location | Action Level                                    | Limit Level  |
|--------------------------------------|-----------------------------------|---|--|
| 0700 - 1900 hours on normal weekdays | NMS- CA-6                         | When one documented valid complaint is received | 75 dB(A)   |
|                                      | NMS- CA-7                         | When one documented valid complaint is received | 75 dB(A)   |
|                                      | NMS- CA-8                         | When one documented valid complaint is received | 70 dB(A)<br>65 dB(A) during examination periods<br>79 dB(A) <sup>(b)</sup> during the period of conducting the continuous noise monitoring |
|                                      | NMS- CA-9                         | When one documented valid complaint is received | 75 dB(A)   |
|                                      | NMS- CA-10                        | When one documented valid complaint is received | 75 dB(A)   |

**Notes:**

(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.

(b) The Limit Level of 79 dB(A) was updated on 22 August 2013 as per the latest Construction Noise Mitigation Measures Plan (CNMMP) and Continuous Noise Monitoring Plan (CNMP), which were approved by EPD.

### 3.2 CONTINUOUS NOISE MONITORING

#### 3.2.1 Monitoring Locations

With reference to the Continuous Noise Monitoring Plan (CNMP) and EP Condition 2.10, continuous noise monitoring should be conducted during the construction of the SCL (TAW-HUH) under Works Contract 1109 at eight noise sensitive receivers (NSRs), where the predicted residual air-borne construction noise impacts exceed the relevant noise criteria. The proposed continuous noise monitoring locations are presented in *Table 3.4* and shown in *Annex D*.

**Table 3.4 Proposed Continuous Noise Monitoring Locations**

| Continuous Noise Monitoring Location <sup>(a)</sup> | Description                      |
|---|----------------------------------|
| TKW-3-2(B)  | Hing Fu Building                 |
| MTW-12-3(A)   | SKH Good Shepherd Primary School |
| MTW-12-4(A)   | Kong Yiu Mansion                 |
| MTW-12-4-1(A)                                       | 59 Maidstone Road                |
| MTW-12-10   | Lucky Building (South Façade)    |
| MTW-12-10-1   | Lucky Building (East Façade)     |
| MTW-12-11(A)  | SKH Good Shepherd Primary School |
| MTW-16-1  | SKH Good Shepherd Primary School |

**Note:**

(a) Subject to the latest Continuous Noise Monitoring Plan approved in October 2014 and

| Continuous Noise Monitoring Location <sup>(a)</sup> | Description |
|---|-------------|
| review in March 2015.                               |             |

### 3.2.2 *Monitoring Parameter and Frequency*

Continuous monitoring of  $L_{Aeq(30min)}$  noise levels are required to be carried out at the eight proposed continuous noise monitoring locations identified in **Table 3.4** during the normal construction working hours (0700 – 1900 Monday to Saturday) in the period that presented in the CNMP. The recommended measurement period for the continuous noise monitoring programme in the CNMP are presented in **Table 3.6**. 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.

### 3.2.3 *Monitoring Equipment and Methodology*

In accordance to the Technical Memorandum (TM) issued under the *Noise Control Ordinance* (NCO), sound level meters in compliance with the *International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1)* specifications will be used for carrying out the noise monitoring. Immediately prior to the noise measurement, the accuracy of the sound level meter will be checked using an acoustic calibrator, which generated a known sound pressure level at a known frequency. The accuracy of the sound level meter will also be checked on an annual-basis. Measurements will be accepted as valid only if the calibration level before and after the noise measurement agrees to be within 1.0 dB(A). Noise measurements will be made in accordance with standard acoustical principles and practices in relation to weather conditions.

### 3.2.4 *Action and Limit Levels*

The Action/Limit Levels for the continuous noise monitoring programme recommended in the latest CNMP are presented in **Table 3.6**.

**Table 3.6 Action/Limit Levels for Continuous Noise Monitoring <sup>(a)</sup>**

| Proposed Continuous Noise Monitoring Stations | Description                      | Action/<br>Limit Level<br>(a) | Measurement Period <sup>(a)</sup>  |
|---|----------------------------------|-------------------------------|--|
| TKW-3-2(B)                                    | Hing Fu Building                 | 80                            | September 2014 – December 2014 <sup>(b)</sup>  |
| MTW-12-3(A)                                   | SKH Good Shepherd Primary School | 80                            | August 2014 – January 2015 <sup>(b)</sup> ,<br>March 2015 – June 2015  |
| MTW-12-4(A)                                   | Kong Yiu Mansion                 | 80                            | August 2014 – June 2015 <sup>(b)</sup>   |
| MTW-12-4-1(A)                                 | 59 Maidstone Road                | 82                            | October 2014,<br>December 2014 – June 2015   |
| MTW-12-10                                     | Lucky Building (South Façade)    | 84                            | March 2015 – April 2015,<br>September 2015 – January 2016  |
| MTW-12-10-1                                   | Lucky Building (East Façade)     | 80                            | December 2014 – May 2015,<br>September 2015 – January 2016   |
| MTW-12-11(A)                                  | SKH Good Shepherd Primary School | 81                            | September 2014 – June 2015 <sup>(b)</sup>  |
| MTW-16-1                                      | SKH Good Shepherd Primary School | 78                            | December 2012 – January 2013;<br>April 2013 – 21 August 2013,<br>22 August 2013 – December 2013,<br>August 2014 – March 2016 |

**Notes:**

- (a) The A/L Levels and Measurement Periods will be subject to the latest Construction Noise Mitigation Measures Plan (CNMMP) and Continuous Noise Monitoring Plan (CNMP).
- (b) The latest CNMP was approved by EPD in October 2014. Continuous noise monitoring at TKW-3-2 (B), MTW-12-3(A), MTW-12-4(A) and MTW-12-11(A) commenced in October 2014.
- (c) The A/L Level of 79 dB(A) was updated on 22 August 2013 as per the latest Construction Noise Mitigation Measures Plan (CNMMP) and Continuous Noise Monitoring Plan (CNMP) which were approved by EPD.

The Event/ Action Plan (EAP) of the latest CNMP for continuous noise monitoring is presented in *Annex G*.

### 3.3 CONSTRUCTION DUST MONITORING

#### 3.3.1 Monitoring Location

The proposed dust monitoring stations for the construction phase of the Project, as recommended in the approved EM&A Manual, are listed in *Table 3.7* and shown in *Annex D*. The proposed locations have been agreed with the ER, EPD and IEC.

**Table 3.7 Construction Dust Monitoring Location**

| Proposed Construction Dust Monitoring Location | Description                      |
|--|----------------------------------|
| DMS-6 (a)                                      | Katherine Building               |
| DMS-7  | Parc 22                          |
| DMS-8  | SKH Good Shepherd Primary School |
| DMS-9 (b)                                      | No. 12 Pau Chung Street          |
| DMS-10   | Chat Ma Mansion                  |

**Notes:**

(a) Access to the monitoring location at Prosperity House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. Furthermore, the alternative location at No. 420 Prince Edward Road West, which was used in the baseline monitoring, was also not available as access permission was not granted by the owner of the building. An alternative location, Katherine Building, was proposed and had been approved by the ER and agreed by the IEC and EPD.

(b) As the Incorporated Owners Association of the originally proposed monitoring location at Lucky Building did not reply to our request for access to their premise, an alternative location, No. 26 Kowloon City Road, was proposed and had been approved by the ER and agreed by the IEC and EPD. However, 24-hour averaged dust monitoring had been suspended at DMS-9 No. 26 Kowloon City Road since March 2014 due to denied access by the occupant of the premise. No. 12 Pau Chung Street, as an alternative monitoring location, was formally approved by EPD on 19 May 2014. Impact dust monitoring at No. 12 Pau Chung Street commenced on 12 June 2014.

### 3.3.2 Monitoring Parameter and Frequency

The construction dust monitoring (in terms of Total Suspended Particulates (TSP)) was conducted at the designated monitoring stations in accordance with the requirements stipulated in the EM&A Manual. The 24-hour TSP levels were monitored at the frequency and duration stated in *Table 3.8*. The TSP monitoring was conducted as per the schedule presented in *Annex E*.

**Table 3.8 Construction Dust Monitoring Parameters and Frequency**

| Monitoring Period | Duration  | Parameter   | Frequency       |
|-------------------|---|-------------|-----------------|
| Dust Monitoring   | Throughout the construction period of the Project | 24-hour TSP | Once per 6 days |

### 3.3.3 Monitoring Equipment

24-hour averaged TSP monitoring was performed at designated monitoring stations using High Volume Samplers (HVS) with the appropriate sampling inlets installed. The performance specification of HVS complied with the standard method “*Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)*” as stipulated in *US EPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50 Appendix B)*. *Table 3.9* summarises the equipment that was deployed for the 24-hour averaged monitoring.

**Table 3.9 Construction Dust Monitoring Equipment**

| <b>Monitoring Location</b> | <b>Monitoring Equipment (HVS and Calibrator)</b>       |
|----------------------------|--|
| DMS-6                      | TE-5170 (Serial No. 0107), CM-AIR-43 (Orifice ID 2454) |
| DMS-7                      | TE-5170 (Serial No. 3574), CM-AIR-43 (Orifice ID 2454) |
| DMS-8                      | TE-5170 (Serial No. 3572), CM-AIR-43 (Orifice ID 2454) |
| DMS-9 (a)                  | TE-5170 (Serial No. 0814), CM-AIR-43 (Orifice ID 2454) |
| DMS-10                     | TE-5170 (Serial No. 3573), CM-AIR-43 (Orifice ID 2454) |

**Note:**  
 (a) 24-hour averaged dust monitoring at DMS-9 No. 26 Kowloon City Road had been suspended since March 2014 due to denied access by the occupant of the premise. However, No. 12 Pau Chung Street, as an alternative monitoring location, was formally approved by EPD on 19 May 2014. Impact dust monitoring at No. 12 Pau Chung Street commenced on 12 June 2014.

### 3.3.4 Monitoring Methodology

All HVSs were free-standing with no obstruction.

The following criteria were considered in the installation of the HVSs:

- appropriate support to secure the samplers against gusty wind needed to be provided at the monitoring stations;
- a minimum of 2m separation from walls, parapets and penthouses was required for rooftop samplers;
- no furnace or incinerator flues was nearby;
- airflow around the sampler was unrestricted; and
- permission could be obtained to set up the samplers and gain access to the monitoring stations.

#### *Preparation of Filter Papers*

- glass fibre filters were labelled and sufficient filters that were clean and without pinholes were selected;
- all filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25°C and not varied by more than  $\pm 3^\circ\text{C}$ ; the relative humidity (RH) was 40%; and
- SGS Hong Kong Ltd, a HOKLAS accredited laboratory, implemented comprehensive quality assurance and quality control programmes on the filters.

#### *Field Monitoring*

- the power supply was checked to ensure that the HVSs were working properly;

- the filter holder and area surrounding the filter were cleaned;
- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- the swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- the shelter lid was closed and secured with an aluminium strip;
- the HVS was warmed-up for about 5 minutes to establish run-temperature conditions;
- a new flow rate record sheet was inserted into the flow recorder;
- the flow rates of the HVSs were checked and adjusted to between 1.22 - 1.37 m<sup>3</sup>min<sup>-1</sup>, which was within the range specified in the EM&A Manual (i.e. 0.6 - 1.7 m<sup>3</sup>min<sup>-1</sup>);
- the programmable timer was set for a sampling period of 24 hours ± 1 hour, and the starting time, weather condition and filter number were recorded;
- the initial elapsed time was recorded;
- at the end of sampling, the sampled filter was removed carefully and folded in half so that only surfaces with collected particulate matter were in contact;
- the filter paper was placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- the filters were sent to SGS Hong Kong Ltd for analysis.

#### *Maintenance and Calibration*

- the HVSs and their accessories were maintained in a good working condition. For example, motor brushes were replaced routinely and electrical wiring was checked to ensure a continuous power supply; and
- the flow rate of each HVS with mass flow controller was calibrated using an orifice calibrator. Initial calibrations of the dust monitoring equipment were conducted upon installation and prior to commissioning. Five-point calibration was carried out for HVSs using CM-AIR-43 Calibration Kit. HVSs are calibrated every six-month. The calibration records for the HVSs are given in *Annex F*.

### Wind Data Monitoring

- Average 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 *Annex J*.

### 3.3.5 Action and Limit Levels

The Action and Limit levels have been established and are presented in *Table 3.10*.

**Table 3.10** Action and Limit Levels for Dust Monitoring

| Parameters                | Dust Monitoring Station | Action Level ( $\mu\text{g m}^{-3}$ ) <sup>(a)</sup> | Limit Level ( $\mu\text{g m}^{-3}$ ) <sup>(a)</sup> |
|---------------------------|-------------------------|--|---|
| 24-hour TSP               | DMS-6                   | 156.8  | 260   |
|                           | DMS-7                   | 166.7  | 260   |
|                           | DMS-8                   | 152.2  | 260   |
|                           | DMS-9 <sup>(c)</sup>    | 160.9  | 260   |
|                           | DMS-10                  | 170.4  | 260   |
| 1-hour TSP <sup>(b)</sup> | DMS-6                   | 288.8  | 500   |
|                           | DMS-7                   | 289.7  | 500   |
|                           | DMS-8                   | 300.0  | 500   |
|                           | DMS-9 <sup>(c)</sup>    | 303.0  | 500   |
|                           | DMS-10                  | 294.7  | 500   |

**Notes:**

- (a) Reference to the Baseline Monitoring Report submitted in July 2012.
- (b) Action and Limit Levels for 1-hour TSP will only be used when 1-hour TSP is required to be monitored when a valid complaint is received.
- (c) 24-hour averaged dust monitoring at DMS-9 No. 26 Kowloon City Road had been suspended since March 2014 due to denied access by the occupant of the premise. However, No. 12 Pau Chung Street, as an alternative monitoring location, was formally approved by EPD on 19 May 2014. Impact dust monitoring at No. 12 Pau Chung Street commenced on 12 June 2014.

The Event/ Action Plan (EAP) for dust monitoring is presented in *Annex G*.

### 3.4 CULTURAL HERITAGE

A License to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance was obtained from the Antiquities and Monuments Office (AMO) on 29 October 2012. The archaeological survey-cum-excavation and additional investigation at the Sacred Hill (North) commenced on 1 November 2012 and was conducted in accordance with the Licence and the approved Archaeological Action Plan (AAP). An updated AAP was submitted to AMO for renewal of the 1 year archaeological license. The license was renewed and granted by AMO on 24 October 2013. The updated AAP was submitted to EPD for approval on 11 October 2013 and it was approved on 1 November 2013. The fieldworks of the archaeological survey-cum-excavation and additional investigation were completed on 27 December 2013. The Interim Archaeological Report was provided to AMO in April 2014.



In accordance with the EM&A Manual, appropriate vibration monitoring on the identified built heritage will be agreed with the Building Department (BD)/Geotechnical Engineering Office (GEO) under the requirement of Buildings Ordinance and/or Blasting Permit as appropriate. Vibration levels will be controlled to appropriate levels. Vibration monitoring will be carried out by the Contractor. The structures requiring vibration monitoring during the relevant tunneling work for this Works Contract include S.K.H. Holy Trinity Church and Old Fast East Flying Training School.

### 3.5

#### *LANDSCAPE AND VISUAL MITIGATION MEASURES*

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

## **IMPLEMENTATION STATUS OF THE ENVIRONMENTAL PROTECTION REQUIREMENTS**

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

**Table 4.1** *Status of Required Submission under Works Contract 1109*

| <b>EP Condition</b> | <b>Submission</b>               | <b>Submission Date</b> |
|---------------------|---------------------------------|------------------------|
| Condition 3.4       | Fifty-sixth Monthly EM&A Report | 12 May 2017            |

**5.1 *REGULAR CONSTRUCTION NOISE MONITORING***

A total of 25 sets of 30-minute construction noise measurements were carried out at the monitoring stations during normal weekdays of the reporting period. The noise level recorded at all five monitoring locations during the whole reporting period are below baseline level or below limit level after baseline-level correction.

The monitoring results together with their graphical presentations are presented in *Annex I-1*.

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

**5.2 *CONTINUOUS NOISE MONITORING***

No continuous noise monitoring was required during the reporting period in accordance with the schedule presented in the latest approved CNMP.

**5.3 *CONSTRUCTION DUST MONITORING***

A total of 20 sets of 24-hr TSP monitoring were carried out at the designated monitoring stations during normal weekdays of the reporting period. The monitoring results together with their graphical presentations are presented in *Annex J* and a summary of the dust monitoring results in this reporting month is given in *Table 5.1*.

*Table 5.1 Summary of the Dust Monitoring Results in this Reporting Month*

| Monitoring Station | 24-hour TSP Monitoring Results measured, $\mu\text{gm}^{-3}$ (a) |         | Action Level, $\mu\text{gm}^{-3}$ | Limit Level, $\mu\text{gm}^{-3}$ |
|--------------------|--|---------|-----------------------------------|----------------------------------|
|                    | Average  | Range   |                                   |                                  |
| DMS-6              | 64   | 62 – 65 | 156.8                             | 260                              |
| DMS-7 (b)          | -  | -       | 166.7                             | 260                              |
| DMS-8              | 69   | 63 – 78 | 152.2                             | 260                              |
| DMS-9 (a)          | 67   | 53 – 83 | 160.9                             | 260                              |
| DMS-10             | 68   | 58 – 75 | 170.4                             | 260                              |

**Note:**

- (a) 24-hour averaged dust monitoring at DMS-9 No. 26 Kowloon City Road has been suspended since March 2014 due to denied access by the occupant of the premise. However, No. 12 Pau Chung Street, as an alternative monitoring location, was approved by EPD. 24-hour averaged dust monitoring commenced on 12 June 2014.
- (b) 24-hour averaged dust monitoring at DMS-7 Parc 22 was temporary suspended since 13 December 2016 due to request from the Management Office.

No exceedance of the Action and Limit Levels of the 24-hr TSP was recorded during the reporting period.

## 5.4

### CULTURAL HERITAGE

A License to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance was obtained from Antiquities and Monuments Office (AMO) on 29 October 2012. The archaeological survey-cum-excavation and additional investigation at the Sacred Hill (North) commenced on 1 November 2012 and was conducted in accordance with the License and the approved Archaeological Action Plan (AAP). An updated AAP was submitted to AMO for renewal of the 1 year archaeological license. The license was renewed and granted by AMO on 24 October 2013. The updated AAP was submitted to EPD for approval on 11 October 2013 and it was approved on 1 November 2013. The fieldworks of the archaeological survey-cum-excavation and additional investigation were completed on 27 December 2013. The Interim Archaeological Report was provided to AMO in April 2014.

No vibration monitoring was conducted during the reporting period as relevant tunnelling work for this Works Contract had been completed in vicinity of the historical structures listed in EM&A Manual.

## 5.5

### WASTE MANAGEMENT

The waste generated from this Project 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. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in *Table 5.2*. Details of waste management data are presented in *Annex K*.

*Table 5.2 Quantities of Waste Generated from the Project*

| Reporting Month | Quantity                       |                    |                                 |                    |          |        |
|-----------------|--------------------------------|--------------------|---------------------------------|--------------------|----------|--------|
|                 | Inert C&D Materials (a)<br>(b) | Chemical Waste (c) | Non-inert C&D Materials         |                    |          |        |
|                 |                                |                    | General Refuse/Vegetative Waste | Recycled materials |          |        |
|                 |                                |                    |                                 | Paper/card board   | Plastics | Metals |
| May 2017        | 10,676 m <sup>3</sup>          | 0 kg               | 619 m <sup>3</sup>              | 158 kg             | 296 kg   | 0 kg   |

**Notes:**

(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil.

(b) 10,676 m<sup>3</sup> of inert C&D materials was generated from the Project during the reporting month.

(c) Chemical waste includes waste oil. It is assumed density of waste oil to be 0.8 kg/L.

## 5.6

### LANDSCAPE AND VISUAL MITIGATION MEASURES

Bi-weekly inspections of the implementation of landscape and visual mitigation measures were conducted on 2 and 15 May 2017. Most of the

mitigation measures given in *Annex H* have been implemented. Required Actions that were found are listed below:

2 May 2017

- No observation was reported during the site inspection.

15 May 2017

- No observation was reported during the site inspection.

Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 2, 8, 15, 22 and 29 May 2017. The representative of the IEC joined the site inspection on 8 May 2017. No non-compliance was recorded during the site inspections.

Findings and recommendations for the site inspection in this reporting month are summarised as follows:

2 May 2017

- There was no major observation during site inspection.

8 May 2017

- There was no major observation during site inspection.

15 May 2017

- There was no major observation during site inspection.

22 May 2017

- There was no major observation during site inspection.

29 May 2017

- There was no major observation during site inspection.

All follow-up actions requested by Contractor's ET and IEC during the site inspections were undertaken as reported by the Contractor. The abovementioned environmental issues had been addressed and mitigated during the reporting period.

## 7 ENVIRONMENTAL NON-CONFORMANCE

### 7.1 SUMMARY OF MONITORING EXCEEDANCE

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

No exceedance of the Action and Limit Levels of 24-hour TSP monitoring was recorded during the reporting month.

### 7.2 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE

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

### 7.3 SUMMARY OF ENVIRONMENTAL COMPLAINT

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

### 7.4 SUMMARY OF ENVIRONMENTAL SUMMON AND SUCCESSFUL PROSECUTION

No summon was received during the reporting month. The cumulative summon/prosecution log is shown in *Annex M*.

8.1 *KEY ISSUES FOR THE COMING MONTH*

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

*Table 8.1 Construction Works to be undertaken in the Next Reporting Month*

| <b>Construction Activities to be undertaken</b>  |
|--|
| <i>Work in Ma Tau Wai (MTW)</i>  |
| <ul style="list-style-type: none"> <li>• Along Ma Tau Wai Road and TKW/MTW Road Garden – Station construction; ABWF works; and EEP construction.</li> </ul>  |
| <i>Work in To Kwa Wan (TKW)</i>  |
| <ul style="list-style-type: none"> <li>• Olympic Garden – Construction of station entrance and new Pier 46;</li> <li>• Tam Kung Road – Sump pit construction;</li> <li>• TKW Station – Construction of TKW station and backfilling; and</li> <li>• Nam Kok Road – Construction of station entrance.</li> </ul> |

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

8.2 *MONITORING SCHEDULE FOR THE NEXT MONTH*

The tentative schedule of regular construction noise monitoring and 24-hour TSP monitoring in the next reporting period is presented in *Annex E*. The regular construction noise monitoring and 24-hour TSP monitoring will be conducted at the same monitoring locations in the next reporting period.

8.3 *CONSTRUCTION PROGRAMME FOR THE NEXT MONTH*

The construction programme for the Project for the next reporting month is presented in *Annex B*.



This 57<sup>th</sup> monthly Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 May 2017 to 31 May 2017 in accordance with the EM&A Manual and the requirement under EP-438/2012/K.

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

No exceedance of the Action and Limit Levels of 24-hour TSP monitoring was recorded at the designated monitoring stations during the reporting period.

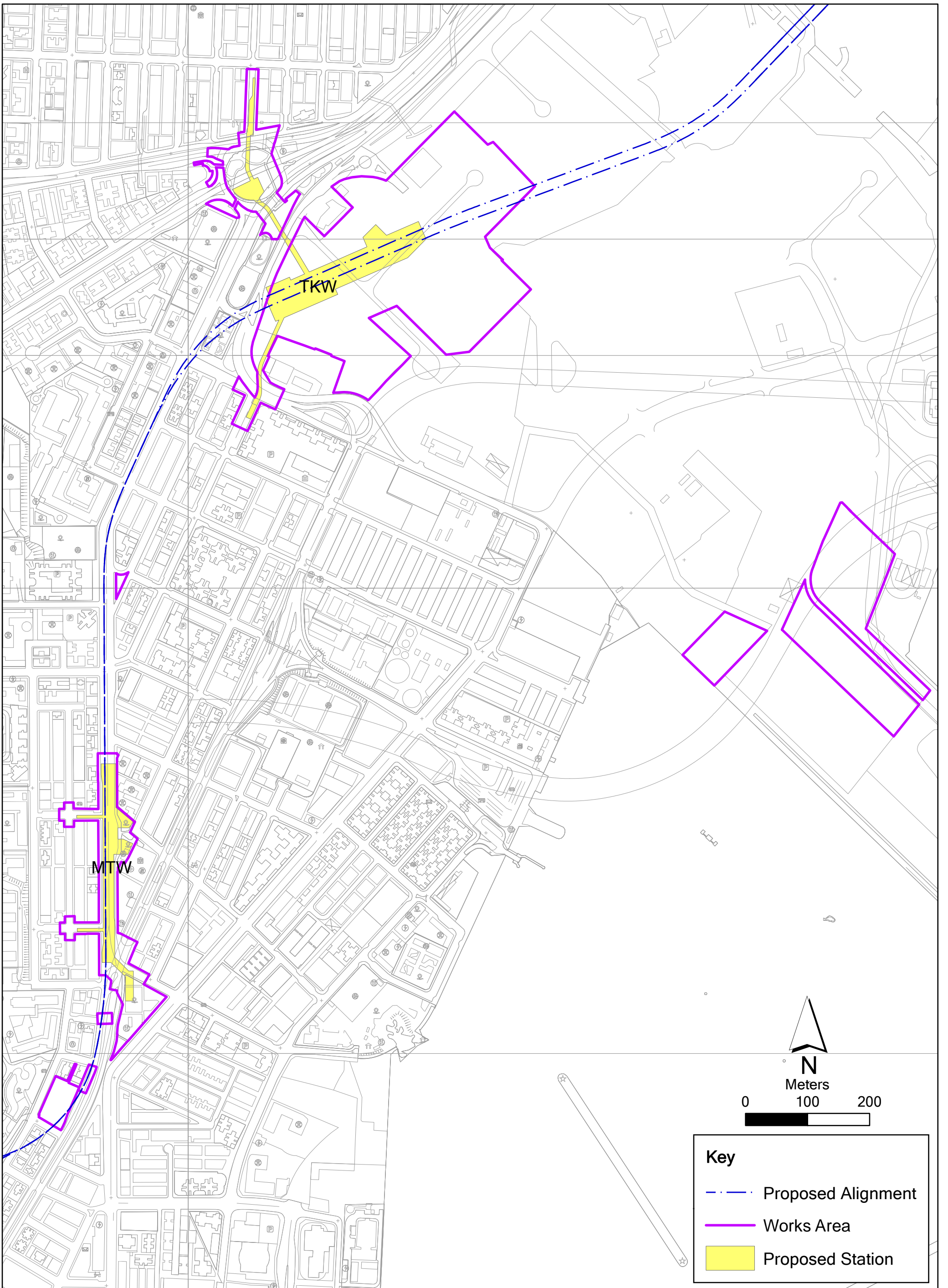
No complaint was received during reporting period.

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.

Annex A

## The Alignment and Works Area for Works Contract



Annex A

Alignment, Stations and Works Area of SCL Works Contract 1109

Name: 0171181\_Works\_Area\_Annex.mxd  
Date: 12/08/2014

Environmental  
Resources  
Management



Annex B

## Construction Programme for the Reporting Month and the Coming Month <sup>(1)</sup>

---

(1) Sung Wong Toi and To Kwa Wan Stations in the programme mean To Kwa Wan and Ma Tau Wai Stations in the Monthly EM&A Report respectively.

**SAMSUNG - HSIN CHONG JOINT VENTURE**

**THREE MONTH ROLLING PROGRAMME - MAY 2017**

| Activity ID   | Activity Name   | Physical % Complete | Start       | Finish      | 2017 |     |     |     |
|---|---|---------------------|-------------|-------------|------|-----|-----|-----|
|   |   |                     |             |             | May  | Jun | Jul | Aug |
| <b>1109 - SUW &amp; TKW Stations and Tunnels May 2017 (MPR2)</b>                |   |                     |             |             |      |     |     |     |
| <b>PROJECT DATES</b>  |   |                     |             |             |      |     |     |     |
| <b>Table 4 - Specified Degrees of Completion</b>                                |   |                     |             |             |      |     |     |     |
| <b>Degree 1 Dates</b>   |   |                     |             |             |      |     |     |     |
| <b>TKW Station</b>  |   |                     |             |             |      |     |     |     |
| 01109.CD1290  | 4S Deg 1 - TKW Mezz & Low P/Fm Lvl - All remaining areas (DRM: 22 Jan 17, 03/17)                                      | 100%                |             | 04-May-17 A | ◆    |     |     |     |
| <b>SUW Station</b>  |   |                     |             |             |      |     |     |     |
| 01109.CD1080  | 4B Deg 1 - SUW Platform GL5-23 All rem areas excl Ref 4C (DRM: 30 Apr 17, 17/17)                                      | 100%                |             | 15-May-17 A | ◆    |     |     |     |
| 01109.CD1220  | 4I(i) Deg 1 - SUW Ent A - Tx Rooms & 11kV Switchgear & Tx Rm incl. HV cable riser /cable rt (DRM: 4 Jun 17, 22/17)    | 0%                  |             | 31-Jul-17*  | ●    |     |     |     |
| 01109.CD1120  | 4F Deg 1 - SUW Concourse GL5-23 SCR, SCpR, TER, & TECS Rooms (DRM: 11 Jun 17, 23/17)                                  | 0%                  |             | 07-Aug-17*  |      | ●   |     |     |
| 01109.CD1130  | 4G Deg 1 - SUW Concourse GL5-23 All remaining areas (DRM: 2 Jul 17, 26/17)  | 0%                  |             | 21-Aug-17*  |      |     | ●   |     |
| <b>Specified Milestone Dates (Revised)</b>                                      |   |                     |             |             |      |     |     |     |
| <b>CC-A Milestones</b>  |   |                     |             |             |      |     |     |     |
| 01109.MSA19-P   | A19 - Engr's confirm satisfact implementation of Sys Ass & Risk Mgmt & Des for Safety & Construct (21 May 2017)       | 100%                |             | 21-May-17 A | ◆    |     |     |     |
| <b>CC-B Milestones</b>  |   |                     |             |             |      |     |     |     |
| 01109.MSB18i-P  | B18(ii) - 95% structural works of Adit B & Entrances B1 to B3 of SUW complete(14 Apr 2017)                            | 100%                |             | 28-Apr-17 A | ◆    |     |     |     |
| 01109.MSB18j-P  | B18(i) - All struct.of Ent.A CLP Trans Rms & 11kV Switchgear & Trnsfmr Rms of SUW comp (14 Apr 2017)                  | 0%                  |             | 27-May-17*  |      | ◆   |     |     |
| <b>CC-C Milestones</b>  |   |                     |             |             |      |     |     |     |
| 01109.MSC20-P1  | C20 - All works at Transformer Rooms & CLP HV Cable Risers Rooms at TKW complete & ready for CLP access (28 May 2017) | 0%                  |             | 28-May-17*  |      | ◆   |     |     |
| 01109.MSC21-P   | C21 - All floor, wall and ceiling finishes to BoH - FCR, TER, CTER, TECS, SER and PSD Rooms comp (13 Aug 2017)        | 0%                  |             | 13-Aug-17*  |      |     | ◆   |     |
| <b>CC-B - SUW STATION, ENTRANCES AND ADITS</b>                                  |   |                     |             |             |      |     |     |     |
| <b>SUW Station Construction Works</b>   |   |                     |             |             |      |     |     |     |
| <b>Station - C&amp;S Works (Concourse Level and Above)</b>                      |   |                     |             |             |      |     |     |     |
| <b>Concourse Slab</b>   |   |                     |             |             |      |     |     |     |
| <b>GL 1 to 5</b>  |   |                     |             |             |      |     |     |     |
| <b>Removal of S3, S2 and S1</b>   |   |                     |             |             |      |     |     |     |
| <b>S2a</b>  |   |                     |             |             |      |     |     |     |
| 01109.PDB7446A  | Removal of S2a layer (G.L 1-3/A-F)  | 0%                  | 26-May-17*  | 07-Jun-17   |      |     |     |     |
| <b>S1</b>   |   |                     |             |             |      |     |     |     |
| 01109.PDB7513A  | Removal of S1 layer Batch 1 (G.L 3-4/A-A1)  | 0%                  | 08-Jun-17*  | 19-Jun-17   |      |     |     |     |
| 01109.PDB7513A2   | Removal of S1 layer Batch 1 (G.L 3-4/F-F2)  | 0%                  | 25-Jun-17*  | 12-Jul-17   |      |     |     |     |
| 01109.PDB7463A  | Removal of S1 above Concourse Slab Batch 3 (G.L Remain)   | 0%                  | 13-Jul-17   | 22-Jul-17   |      |     |     |     |
| <b>External Walls &amp; Columns; From Concourse Slab to Roof Slab (C/S-R/S)</b> |   |                     |             |             |      |     |     |     |
| <b>GL 1 to 5</b>  |   |                     |             |             |      |     |     |     |
| 01109.PDB9010A10  | W1 (4-5/A) (or W10)   | 100%                | 10-Apr-17 A | 25-Apr-17 A | ◆    |     |     |     |
| 01109.PDB9010A60  | W4 (1-2/A1-D) (or LS4)  | 100%                | 26-Apr-17 A | 17-May-17 A | ◆    |     |     |     |
| 01109.PDB9010A20  | W2 (3-4/A-A1) (or LS1)  | 100%                | 30-Apr-17 A | 02-May-17 A | ◆    |     |     |     |
| 01109.PDB9010A70  | W5 (1/D-F1) (or LS4)  | 100%                | 03-May-17 A | 17-May-17 A | ◆    |     |     |     |
| 01109.PDB9010A80  | W6 (2-4/F-F1) (or LS5)  | 100%                | 04-May-17 A | 08-May-17 A | ◆    |     |     |     |



**MTR Corporation Limited**  
**Shatin to Central Link Contract 1109**

1109-MPR2-2I, Page 1 of 9  
 THREE MONTH ROLLING PROGRAMME - May 17 TASK filters: 3MRP  
 Dates, MTRC 1109 - 3MRP.  
 Printed:06-Jun-17

- Actual Work
- Remaining Work
- Master Programme Rev.2
- Last Month Update
- Milestone
- MP Rev.2 Milestone
- Last Month Milestone

| Activity ID   | Activity Name  | Physical % Complete | Start       | Finish      | 2017 |     |     |     |
|---|--|---------------------|-------------|-------------|------|-----|-----|-----|
|   |  |                     |             |             | May  | Jun | Jul | Aug |
| 01109.PDB9010A30  | W3 (1-3/A-A1) (or LS2 & LS3)   | 100%                | 06-May-17 A | 10-May-17 A |      |     |     |     |
| 01109.PDB9010A40  | W8 (4-5/F2) (or LS7)   | 0%                  | 10-May-17 A | 29-May-17   |      |     |     |     |
| 01109.PDB9010A50  | W7 (3-4/F-F2) (or LS6)   | 100%                | 10-May-17 A | 20-May-17 A |      |     |     |     |
| <b>Roof Slabs &amp; Water Tanks (C/S-R/S)</b>                                 |  |                     |             |             |      |     |     |     |
| <b>GL 1 to 5</b>  |  |                     |             |             |      |     |     |     |
| 01109.PDB7120A  | Roof slab-Bay 1  | 0%                  | 26-May-17*  | 19-Jun-17   |      |     |     |     |
| 01109.PDB7160A  | Roof slab-Bay 4, Part 1  | 0%                  | 26-May-17*  | 30-Jun-17   |      |     |     |     |
| 01109.PDB7150A  | Roof slab-Bay 3, Part 1  | 0%                  | 13-Jun-17*  | 07-Jul-17   |      |     |     |     |
| 01109.PDB7140A  | Roof slab-Bay 2, Part 1  | 0%                  | 20-Jun-17*  | 17-Jul-17   |      |     |     |     |
| 01109.PDB7150A2   | Roof slab-Bay 3, Part 2  | 0%                  | 08-Jul-17*  | 12-Jul-17   |      |     |     |     |
| 01109.PDB7140A2   | Roof slab-Bay 2, Part 2  | 0%                  | 18-Jul-17*  | 19-Jul-17   |      |     |     |     |
| <b>GL 6 to 13</b>   |  |                     |             |             |      |     |     |     |
| 01109.PDB7190-A30   | Roof Slab GL 06 to 07 (GL 5.5-7.5/F-F2), Bay 14, Part 2  | 100%                | 03-Apr-17 A | 29-Apr-17 A |      |     |     |     |
| 01109.PDB7190-A20   | Roof Slab GL 06 to 07 (GL 5.5-7.5/F-F2), Bay 14, Part 1  | 100%                | 03-Apr-17 A | 27-Apr-17 A |      |     |     |     |
| <b>Waterproofing &amp; Backfilling; Concourse Slab to Roof Slab (C/S-R/S)</b> |  |                     |             |             |      |     |     |     |
| <b>GL 13 to 19</b>  |  |                     |             |             |      |     |     |     |
| 01109.PDB8810   | Waterproofing Roof Slab & backfill GL 17 to 18   | 0%                  | 06-Jul-17   | 14-Jul-17   |      |     |     |     |
| <b>GL 19 to 23</b>  |  |                     |             |             |      |     |     |     |
| 01109.PDB8670   | Waterproofing Roof Slab & backfill S/C to & on R/S GL 20 to 21                                   | 0%                  | 15-Jun-17   | 23-Jun-17   |      |     |     |     |
| 01109.PDB8650   | Waterproofing Roof Slab & backfill S/C to & on R/S GL 19 to 20                                   | 0%                  | 24-Jun-17   | 05-Jul-17   |      |     |     |     |
| <b>Station - ABWF Works - Concourse Level</b>                                 |  |                     |             |             |      |     |     |     |
| <b>GL 1 - 5 - Works to Degree 1</b>   |  |                     |             |             |      |     |     |     |
| 01109.PDB18490  | Deg 1 - Complete all necessary works etc. for CLP routing (BoH)                                  | 0%                  | 24-Aug-17   | 06-Oct-17   |      |     |     |     |
| <b>Station - ABWF Works - Degree 2</b>  |  |                     |             |             |      |     |     |     |
| <b>GL 1 - 5 - Works to Degree 2, Platform Level</b>                           |  |                     |             |             |      |     |     |     |
| 01109.PDB17010  | Deg 2 - Install permanent door frames with temp doors/locks (BoH)                                | 0%                  | 30-Jun-17   | 04-Aug-17   |      |     |     |     |
| 01109.PDB17020  | Deg 2 - Install metal staircases, cat-ladders and catwalks (BoH)                                 | 0%                  | 30-Jun-17   | 16-Aug-17   |      |     |     |     |
| 01109.PDB17050  | Deg 2 - Test water tanks (BoH)   | 0%                  | 30-Jun-17   | 21-Jul-17   |      |     |     |     |
| 01109.PDB17060  | Deg 2 - Complete all wall and ceiling finishes (BoH)   | 0%                  | 30-Jun-17   | 25-Aug-17   |      |     |     |     |
| 01109.PDB17070  | Deg 2 - Complete BoH fixing brackets for raised floor (BoH)                                      | 0%                  | 30-Jun-17   | 25-Aug-17   |      |     |     |     |
| 01109.PDB17090  | Deg 2 - Install Air tight + acoustic doors for air plenums (BoH)                                 | 0%                  | 05-Aug-17   | 09-Sep-17   |      |     |     |     |
| 01109.PDB17030  | Deg 2 - Install structural steelwork & l/face brackets to lift shafts, P/form screen doors (FoH) | 0%                  | 07-Aug-17   | 18-Oct-17   |      |     |     |     |
| 01109.PDB17040  | Deg 2 - Install louvres and grills (FoH)   | 0%                  | 07-Aug-17   | 18-Oct-17   |      |     |     |     |
| 01109.PDB17080  | Deg 2 - Install framework for wall panels and cladding (FoH)                                     | 0%                  | 07-Aug-17   | 18-Oct-17   |      |     |     |     |
| 01109.PDB17100  | Deg 2 - Complete brackets, hangers, framework etc for Designated Contractors (FoH)               | 0%                  | 07-Aug-17   | 18-Oct-17   |      |     |     |     |
| <b>GL 5 - 23 - Works to Degree 2, Platform Level</b>                          |  |                     |             |             |      |     |     |     |
| 01109.PDB17990  | Deg 2 - Install structural steelwork & l/face brackets to lift shafts, P/form screen doors (FoH) | 0%                  | 15-Jun-17   | 17-Nov-17   |      |     |     |     |
| 01109.PDB18000  | Deg 2 - Install louvres and grills (FoH)   | 0%                  | 15-Jun-17   | 29-Nov-17   |      |     |     |     |
| 01109.PDB18040  | Deg 2 - Install framework for wall panels and cladding (FoH)                                     | 0%                  | 15-Jun-17   | 29-Nov-17   |      |     |     |     |



MTR Corporation Limited  
Shatin to Central Link Contract 1109

1109-MPR2-2I, Page 2 of 9

THREE MONTH ROLLING PROGRAMME - May 17 TASK filters: 3MRP Dates, MTRC 1109 - 3MRP.

Printed:06-Jun-17

- Actual Work
- Remaining Work
- Master Programme Rev.2
- Last Month Update
- Milestone
- MP Rev.2 Milestone
- Last Month Milestone

| Activity ID   | Activity Name   | Physical % Complete | Start       | Finish      | 2017 |     |     |     |
|---|---|---------------------|-------------|-------------|------|-----|-----|-----|
|   |   |                     |             |             | May  | Jun | Jul | Aug |
| 01109.PDB18060  | Deg 2 - Complete brackets, hangers, framework etc for Designated Contractors (FoH)                                      | 0%                  | 15-Jun-17   | 29-Nov-17   |      |     |     |     |
| 01109.PDB17980  | Deg 2 - Install metal staircases, cat-ladders and catwalks (BoH)  | 0%                  | 17-Aug-17   | 04-Oct-17   |      |     |     |     |
| <b>GL 5 - 23 - Works to Degree 2, Concourse Level</b>         |   |                     |             |             |      |     |     |     |
| 01109.PDB18660  | Deg 2 - Complete all wall and ceiling finishes (BoH)  | 0%                  | 05-Jul-17   | 09-Oct-17   |      |     |     |     |
| 01109.PDB18670  | Deg 2 - Complete BoH fixing brackets for raised floor (BoH)   | 0%                  | 05-Jul-17   | 09-Oct-17   |      |     |     |     |
| 01109.PDB18610  | Deg 2 - Install permanent door frames with temp doors/locks (BoH)   | 0%                  | 05-Jul-17   | 19-Aug-17   |      |     |     |     |
| 01109.PDB18620  | Deg 2 - Install metal staircases, cat-ladders and catwalks (BoH)  | 0%                  | 21-Aug-17   | 09-Oct-17   |      |     |     |     |
| <b>Entrance A</b>   |   |                     |             |             |      |     |     |     |
| <b>Entrance A - Concrete Structural Works (GL 16-18/A1-D)</b> |   |                     |             |             |      |     |     |     |
| <b>Concrete Walls ,Staircases and Roof</b>                    |   |                     |             |             |      |     |     |     |
| <b>Concrete Walls ,Staircases M/F to G/F</b>                  |   |                     |             |             |      |     |     |     |
| 01109.PDB13630A-20  | Construction of CLP Room Baseslab at Entrance A   | 100%                | 06-Apr-17 A | 02-May-17 A |      |     |     |     |
| 01109.PDB13630A-30  | Construction of CLP Room Roof at Entrance A   | 0%                  | 03-May-17 A | 27-May-17   |      |     |     |     |
| 01109.PDB13630A-40  | Construction of Top Roof Slab at Entrance A   | 0%                  | 29-May-17   | 20-Jun-17   |      |     |     |     |
| <b>Entrance A - Works for Degree 2 Finish</b>                 |   |                     |             |             |      |     |     |     |
| 01109.PDB13733  | For 4l(ii) Deg 2 handover, Prepare SUW Vent Shaft B - Tx Rooms & 11kV Switchgear & Tx Rm incl. HV cable riser /cable rt | 0%                  | 01-Aug-17   | 06-Sep-17   |      |     |     |     |
| <b>Entrance A - Works for Degree 3 Finish</b>                 |   |                     |             |             |      |     |     |     |
| 01109.PDB13735  | For 4l(i) Deg 3 handover, Prepare SUW Vent Shaft B - Tx Rooms & 11kV Switchgear & Tx Rm incl... (DRM: 27 Aug 17, 34/17) | 0%                  | 01-Aug-17   | 22-Oct-17   |      |     |     |     |
| <b>Entrance B &amp; Adit B</b>                                |   |                     |             |             |      |     |     |     |
| <b>Civil</b>  |   |                     |             |             |      |     |     |     |
| <b>Portion 2</b>  |   |                     |             |             |      |     |     |     |
| <b>Entrance B - Underpinning of KNEC Piers</b>                |   |                     |             |             |      |     |     |     |
| <b>Pier P46</b>   |   |                     |             |             |      |     |     |     |
| 01109.PDB12750A-70  | Construction of New Pier 46 - Load Transfer back  | 100%                | 27-Apr-17 A | 27-Apr-17 A |      |     |     |     |
| 01109.PDB12750A-80  | Construction of New Pier 46 - Temporary support frame removal   | 0%                  | 24-May-17 A | 08-Jun-17   |      |     |     |     |
| <b>Entrance B &amp; Adit B - Concrete Structural Works</b>    |   |                     |             |             |      |     |     |     |
| <b>Portion 1a</b>   |   |                     |             |             |      |     |     |     |
| 01109.PDB13471A   | Concrete Structure GL B1.5 to B3, Wall  | 100%                | 07-Apr-17 A | 04-May-17 A |      |     |     |     |
| 01109.PDB13491  | Concrete Structure GL B1.5 to B3, at Mezzanine Level  | 100%                | 05-May-17 A | 19-May-17 A |      |     |     |     |
| 01109.PDB13490  | Concrete Structure GL B1.5 to B3, Roof Slab   | 0%                  | 20-May-17 A | 05-Jun-17   |      |     |     |     |
| <b>GL B3 to B4.5</b>  |   |                     |             |             |      |     |     |     |
| 01109.PDB13481A   | Concrete Structure GL B3 to B4.5, Wall  | 50%                 | 20-Apr-17 A | 01-Jun-17   |      |     |     |     |
| 01109.PDB13501  | Concrete Structure GL B3 to B4.5, at Mezzanine Level  | 0%                  | 23-May-17 A | 01-Jun-17   |      |     |     |     |
| 01109.PDB13500  | Concrete Structure GL B3 to B4.5, Roof Slab   | 0%                  | 02-Jun-17   | 15-Jun-17   |      |     |     |     |
| <b>Portion 3</b>  |   |                     |             |             |      |     |     |     |
| <b>Area 1 remaining (GL 19 - 21)</b>                          |   |                     |             |             |      |     |     |     |
| 01109.PDB13330A-18  | Area 1 remaining (GL 19 - 21) - Plenum slab   | 100%                | 21-Apr-17 A | 19-May-17 A |      |     |     |     |
| 01109.PDB13330A-30  | Area 1 remaining (GL 19 - 21) - Wall construction (Part 1)  | 0%                  | 20-May-17 A | 27-May-17   |      |     |     |     |
| 01109.PDB13330A-31  | Area 1 remaining (GL 19 - 21) - Plenum slab (Part 1)  | 0%                  | 26-May-17   | 31-May-17   |      |     |     |     |
| 01109.PDB13330A-19  | Area 1 remaining (GL 19 - 21) - Roof slab   | 0%                  | 01-Jun-17   | 23-Jun-17   |      |     |     |     |
| <b>GL B23-B24.3</b>   |   |                     |             |             |      |     |     |     |
| 01109.PDB13340A-10  | Concrete Structure GL B23 to B24.3, Wall construction (2nd pour)  | 100%                | 06-Mar-17 A | 25-Apr-17 A |      |     |     |     |



**MTR Corporation Limited**  
**Shatin to Central Link Contract 1109**

1109-MPR2-21, Page 3 of 9  
 THREE MONTH ROLLING PROGRAMME - May 17 TASK filters: 3MRP  
 Dates, MTRC 1109 - 3MRP.  
 Printed:06-Jun-17

- Actual Work
- Remaining Work
- Master Programme Rev.2
- ▶ Last Month Update
- ◆ Milestone
- MP Rev.2 Milestone
- ▼ Last Month Milestone

| Activity ID  | Activity Name  | Physical % Complete | Start       | Finish      | 2017 |     |     |     |
|--|--|---------------------|-------------|-------------|------|-----|-----|-----|
|  |  |                     |             |             | May  | Jun | Jul | Aug |
| 01109.PDB13340A-5  | Concrete Structure GL B23 to B24.3, Roof                                   | 100%                | 26-Apr-17 A | 16-May-17 A |      |     |     |     |
| <b>Jun 2017 NKR TTMS Implementation</b>                    |  |                     |             |             |      |     |     |     |
| 01109.PDB3-A1030   | Site clearance   | 100%                | 20-Apr-17 A | 27-Apr-17 A |      |     |     |     |
| 01109.PDB3-A1040   | Pipe piles cutting   | 100%                | 28-Apr-17 A | 11-May-17 A |      |     |     |     |
| 01109.PDB3-A1050   | Retaining wall construction  | 100%                | 02-May-17 A | 10-May-17 A |      |     |     |     |
| 01109.PDB3-A1060   | Backfilling  | 100%                | 10-May-17 A | 27-May-17   |      |     |     |     |
| 01109.PDB3-A1070   | Excavation to uncover water connection points                              | 0%                  | 11-May-17 A | 27-May-17   |      |     |     |     |
| 01109.PDB3-A1090   | Drainpipe installation   | 0%                  | 13-May-17 A | 01-Jun-17   |      |     |     |     |
| 01109.PDB3-A1080   | Trench excavation for waterpipe installation                               | 0%                  | 29-May-17   | 30-May-17   |      |     |     |     |
| 01109.PDB3-A1100   | Sub-base compaction  | 0%                  | 02-Jun-17   | 07-Jun-17   |      |     |     |     |
| 01109.PDB3-A1110   | Breaking existing road surface   | 0%                  | 02-Jun-17   | 07-Jun-17   |      |     |     |     |
| 01109.PDB3-A1120   | Road carriage casting  | 0%                  | 08-Jun-17   | 13-Jun-17   |      |     |     |     |
| 01109.PDB3-A1130   | Joint sealant  | 0%                  | 14-Jun-17   | 15-Jun-17   |      |     |     |     |
| 01109.PDB3-A1140   | Site clearance   | 0%                  | 14-Jun-17   | 15-Jun-17   |      |     |     |     |
| 01109.PDB3-A1150   | TTMS Implementation  | 0%                  | 16-Jun-17   | 16-Jun-17   |      |     |     |     |
| <b>Entrance B &amp; Adit B - External Works</b>            |  |                     |             |             |      |     |     |     |
| <b>Portion 2</b>   |  |                     |             |             |      |     |     |     |
| 01109.PDB14630   | Complete Civil reinstatement of Olympic Garden in Works Area 1109.W1       | 0%                  | 26-May-17   | 19-Dec-17   |      |     |     |     |
| <b>Entrance B &amp; Adit B - Works for Degree 2 Finish</b> |  |                     |             |             |      |     |     |     |
| 01109.PDB16110   | For Deg 2 handover, works by Designated Contractors (DRM: 5 Nov 17, 44/17) | 0%                  | 03-Aug-17   | 16-Jan-18   |      |     |     |     |
| <b>Portion 1</b>   |  |                     |             |             |      |     |     |     |
| 01109.PDB14980   | E&M Internal Works for Adit B; GL B1 to B12 - to Degree 2 completion       | 0%                  | 17-Aug-17   | 21-Nov-17   |      |     |     |     |
| <b>CC-C - TKW STATION, ENTRANCES AND ADITS</b>             |  |                     |             |             |      |     |     |     |
| <b>TKW Station</b>   |  |                     |             |             |      |     |     |     |
| <b>Station - C&amp;S Works (Upper Platform Level)</b>      |  |                     |             |             |      |     |     |     |
| <b>Upper Track Slab Works</b>                              |  |                     |             |             |      |     |     |     |
| 01109.PDC27190A100   | Coring and removal of UT drop slab at south end                            | 100%                | 25-Mar-17 A | 20-May-17 A |      |     |     |     |
| 01109.PDC27190A160   | Coring and removal of UT temporary slab                                    | 48%                 | 29-Apr-17 A | 13-Jun-17   |      |     |     |     |
| <b>Upper Track OTE- GL 1 to 23</b>                         |  |                     |             |             |      |     |     |     |
| <b>Slabs</b>   |  |                     |             |             |      |     |     |     |
| 01109.PDC27180A10  | Completion of Upper Track Platform next to Trackway                        | 90%                 | 03-Nov-16 A | 13-Jun-17   |      |     |     |     |
| 01109.PDC27190A140   | Casting for Remaining Internal Structure                                   | 80%                 | 03-Nov-16 A | 29-Jun-17   |      |     |     |     |
| 01109.PDC27180A30  | Completion of Mass Concrete Walkway, Platform Side                         | 95%                 | 10-Nov-16 A | 01-Jun-17   |      |     |     |     |
| <b>Station - C&amp;S Works (Lower Platform Level)</b>      |  |                     |             |             |      |     |     |     |
| <b>Lower Track Mezzanine &amp; OTE Duct Works</b>          |  |                     |             |             |      |     |     |     |
| 01109.PDC27190A130   | Casting for Remaining Internal Structure                                   | 82%                 | 05-Jan-17 A | 29-Jun-17   |      |     |     |     |
| 01109.PDC27190A10  | Completion of Lower Track Platform next to Trackway                        | 88%                 | 05-Jan-17 A | 13-Jun-17   |      |     |     |     |
| <b>Lower Track OTE Slabs</b>                               |  |                     |             |             |      |     |     |     |
| 01109.PDC27190A30  | Completion of Mass Concrete Walkway, Platform Side                         | 95%                 | 16-Feb-17 A | 13-Jun-17   |      |     |     |     |
| 01109.PDC27190A80  | Rebar for OTE Slab Construction  | 100%                | 22-Feb-17 A | 09-May-17 A |      |     |     |     |



MTR Corporation Limited  
Shatin to Central Link Contract 1109

1109-MPR2-2I, Page 4 of 9  
THREE MONTH ROLLING PROGRAMME - May 17 TASK filters: 3MRP  
Dates, MTRC 1109 - 3MRP.  
Printed:06-Jun-17

- Actual Work
- Remaining Work
- Master Programme Rev.2
- Last Month Update
- Milestone
- MP Rev.2 Milestone
- Last Month Milestone



| Activity ID   | Activity Name   | Physical % Complete | Start       | Finish      | 2017 |     |     |     |
|---|---|---------------------|-------------|-------------|------|-----|-----|-----|
|   |   |                     |             |             | May  | Jun | Jul | Aug |
| 01109.PDC27190A120                                      | Casting for OTE Slab Construction (-12.75mP)                        | 100%                | 08-Mar-17 A | 10-May-17 A |      |     |     |     |
| 01109.PDC27190A90                                       | Casting for OTE Slab Construction                                   | 100%                | 08-Mar-17 A | 10-May-17 A |      |     |     |     |
| 01109.PDC27190A110                                      | Casting for OTE Slab Construction (-14.05mP)                        | 100%                | 29-Mar-17 A | 02-May-17 A |      |     |     |     |
| 01109.PDC27190A150                                      | Casting for OTE Wall above -12.75mPD                                | 90%                 | 30-Mar-17 A | 15-Jun-17   |      |     |     |     |
| <b>Moling hole reinstatement</b>                        |   |                     |             |             |      |     |     |     |
| <b>Moling Hole Ent D A3</b>                             |   |                     |             |             |      |     |     |     |
| 01109.PDC27560-3A31                                     | TKW Ent D Opening A3 closing at Upper Track Level                   | 0%                  | 09-Jun-17*  | 20-Jun-17   |      |     |     |     |
| 01109.PDC27560-3A21                                     | TKW Ent D Opening A3 closing at Concourse Level                     | 0%                  | 21-Jun-17*  | 26-Jun-17   |      |     |     |     |
| 01109.PDC27560-3A11                                     | TKW Ent D Opening A3 closing at Roof Level                          | 0%                  | 04-Jul-17*  | 15-Jul-17   |      |     |     |     |
| <b>Moling Hole 1</b>                                    |   |                     |             |             |      |     |     |     |
| 01109.PDC27560-3A10                                     | TKW Opening 1 closing at Roof Level                                 | 100%                | 26-Apr-17 A | 05-May-17 A |      |     |     |     |
| <b>Moling Hole 2</b>                                    |   |                     |             |             |      |     |     |     |
| 01109.PDC27560A30                                       | Construction of TKW Stair Case at Opening 2 below Upper Track Level | 0%                  | 26-May-17   | 13-Jun-17   |      |     |     |     |
| 01109.PDC27560A20                                       | Construction of TKW Stair Case at Opening 2 at Concourse Level      | 0%                  | 14-Jun-17   | 30-Jun-17   |      |     |     |     |
| 01109.PDC27560A10                                       | TKW Opening 2 closing at Roof Level                                 | 0%                  | 03-Jul-17   | 14-Jul-17   |      |     |     |     |
| <b>Moling Hole 3</b>                                    |   |                     |             |             |      |     |     |     |
| 01109.PDC27780A30                                       | Construction of TKW Stair Case at Opening 3 at Upper Track Level    | 0%                  | 26-May-17*  | 10-Jun-17   |      |     |     |     |
| 01109.PDC27780A20                                       | Construction of TKW Stair Case at Opening 3 at Concourse Level      | 0%                  | 12-Jun-17   | 30-Jun-17   |      |     |     |     |
| 01109.PDC27780A10                                       | TKW Opening 3 closing at Roof Level                                 | 0%                  | 03-Jul-17   | 15-Jul-17   |      |     |     |     |
| <b>Moling Hole 4</b>                                    |   |                     |             |             |      |     |     |     |
| 01109.PDC27790A30                                       | Construction of TKW Stair Case at Opening 4 at Upper Track Level    | 0%                  | 26-May-17*  | 10-Jun-17   |      |     |     |     |
| 01109.PDC27790A20                                       | Construction of TKW Stair Case at Opening 4 at Concourse Level      | 0%                  | 12-Jun-17   | 30-Jun-17   |      |     |     |     |
| 01109.PDC27790A10                                       | TKW Opening 4 closing at Roof Level                                 | 0%                  | 03-Jul-17   | 15-Jul-17   |      |     |     |     |
| <b>Moling Hole 5</b>                                    |   |                     |             |             |      |     |     |     |
| 01109.PDC27800A30                                       | Construction of TKW Stair Case at Opening 5 below Upper Track Level | 0%                  | 26-May-17*  | 10-Jun-17   |      |     |     |     |
| 01109.PDC27800A20                                       | Construction of TKW Stair Case at Opening 5 at Concourse Level      | 0%                  | 30-May-17   | 19-Jun-17   |      |     |     |     |
| 01109.PDC27800A10                                       | TKW Opening 5 closing at Roof Level                                 | 0%                  | 20-Jun-17   | 05-Jul-17   |      |     |     |     |
| <b>Moling Hole 6</b>                                    |   |                     |             |             |      |     |     |     |
| 01109.PDC27810A30                                       | Construction of TKW Stair Case at Opening 6 below Upper Track Level | 0%                  | 26-May-17   | 10-Jun-17   |      |     |     |     |
| 01109.PDC27810A20                                       | Construction of TKW Stair Case at Opening 6 at Concourse Level      | 0%                  | 30-May-17   | 19-Jun-17   |      |     |     |     |
| 01109.PDC27810A10                                       | TKW Opening 6 closing at Roof Level                                 | 0%                  | 23-Jun-17   | 07-Jul-17   |      |     |     |     |
| <b>Moling Hole 7</b>                                    |   |                     |             |             |      |     |     |     |
| 01109.PDC27820A30                                       | Construction of TKW Stair Case at Opening 7 below Upper Track Level | 0%                  | 26-May-17   | 07-Jun-17   |      |     |     |     |
| 01109.PDC27820A20                                       | Construction of TKW Stair Case at Opening 7 at Concourse Level      | 0%                  | 08-Jun-17   | 20-Jun-17   |      |     |     |     |
| 01109.PDC27820A10                                       | TKW Opening 7 closing at Roof Level                                 | 0%                  | 21-Jun-17   | 04-Jul-17   |      |     |     |     |
| <b>Station - ABWF Works (Concourse Level and Above)</b> |   |                     |             |             |      |     |     |     |
| 01109.PDC27990-12A                                      | Deg 1 - Aluminum Wall Panel Bracket Installation at Grid A          | 85%                 | 27-Mar-17 A | 30-Jun-17   |      |     |     |     |
| <b>Station - ABWF Works (Upper Platform Level)</b>      |   |                     |             |             |      |     |     |     |
| 01109.PDC28001A   | Deg 1 - I Beam installation at track area (BOH)                     | 100%                | 09-Mar-17 A | 06-May-17 A |      |     |     |     |



**MTR Corporation Limited**  
**Shatin to Central Link Contract 1109**

1109-MPR2-21, Page 5 of 9

THREE MONTH ROLLING PROGRAMME - May 17 TASK filters: 3MRP  
 Dates, MTRC 1109 - 3MRP.

Printed:06-Jun-17

- Actual Work
- Remaining Work
- Master Programme Rev.2
- Last Month Update
- Milestone
- MP Rev.2 Milestone
- Last Month Milestone

| Activity ID                          | Activity Name   | Physical % Complete | Start       | Finish      | 2017 |     |     |     |
|--------------------------------------|---|---------------------|-------------|-------------|------|-----|-----|-----|
|                                      |   |                     |             |             | May  | Jun | Jul | Aug |
| 01109.PDC28000A                      | Deg 1 - Screeding Works at GL12-14, 16.5-17.5 & 20-21 (BOH)   | 0%                  | 05-Jun-17*  | 20-Jun-17   |      |     |     |     |
| <b>Entrance A &amp; Vent Shaft A</b> |   |                     |             |             |      |     |     |     |
| <b>Vent Shaft A</b>                  |   |                     |             |             |      |     |     |     |
| <b>Civil &amp; Structure</b>         |   |                     |             |             |      |     |     |     |
| 01109.PDC27430-3A60                  | Internal wall construction ( -6.03 to +0.45 ) / 16.5-17.5     | 100%                | 01-Feb-17 A | 04-May-17 A |      |     |     |     |
| 01109.PDC27430-3A81                  | Dismantle S3  | 100%                | 13-Apr-17 A | 28-Apr-17 A |      |     |     |     |
| 01109.PDC27430-3A80                  | 2nd Cutting Dwall and connection                              | 30%                 | 24-Apr-17 A | 17-Jul-17   |      |     |     |     |
| 01109.PDC27430-3A110                 | Perimeter wall to S2 (+5.0mPD)                                | 100%                | 02-May-17 A | 24-May-17 A |      |     |     |     |
| 01109.PDC27430-3A120                 | Vent riser walls from CC to +5.0mPD                           | 70%                 | 11-May-17 A | 01-Jun-17   |      |     |     |     |
| 01109.PDC27430-3A130                 | Install Re-prop S8 and Remove S2                              | 0%                  | 02-Jun-17   | 27-Jun-17   |      |     |     |     |
| 01109.PDC27430-3A140                 | Concourse Column C7   | 0%                  | 28-Jun-17   | 05-Jul-17   |      |     |     |     |
| 01109.PDC27460-1A                    | Vent Shaft A - Roof slab Concrete                             | 0%                  | 18-Jul-17   | 01-Aug-17   |      |     |     |     |
| <b>Entrance A</b>                    |   |                     |             |             |      |     |     |     |
| <b>Civil &amp; Structure</b>         |   |                     |             |             |      |     |     |     |
| 01109.PDC22645A                      | Ent A - Internal Wall after S5 removal (+7.82MPD to +17.2mPD) | 70%                 | 21-Mar-17 A | 30-Jun-17   |      |     |     |     |
| 01109.PDC22642A10                    | Ent A - Erect Tower Crane                                     | 90%                 | 01-Apr-17 A | 23-Jun-17   |      |     |     |     |
| 01109.PDC22646A30                    | Cutting Dwall and connection Portion 9,10                     | 40%                 | 09-May-17 A | 16-Jun-17   |      |     |     |     |
| <b>Entrance B</b>                    |   |                     |             |             |      |     |     |     |
| <b>Entrance B (Part A)</b>           |   |                     |             |             |      |     |     |     |
| 01109.PDC16290-5A30                  | Ent B - Decking Removal and Strut S1                          | 0%                  | 19-May-17 A | 01-Jun-17   |      |     |     |     |
| 01109.PDC16290-5A40                  | Ent B - Roof Slab and P wall construction (+14.189mPD)        | 0%                  | 02-Jun-17   | 23-Jun-17   |      |     |     |     |
| <b>Entrance B (Part B)</b>           |   |                     |             |             |      |     |     |     |
| 01109.PDC22750A10                    | Ent B - S3 removal and wall construction below S2             | 100%                | 21-Mar-17 A | 28-Apr-17 A |      |     |     |     |
| 01109.PDC22760                       | Ent B - Roof slab Concrete                                    | 100%                | 24-Apr-17 A | 28-Apr-17 A |      |     |     |     |
| 01109.PDC22770                       | Ent B - Waterproof / Backfill                                 | 100%                | 29-Apr-17 A | 23-May-17 A |      |     |     |     |
| <b>Entrance C</b>                    |   |                     |             |             |      |     |     |     |
| <b>Entrance C (Part A)</b>           |   |                     |             |             |      |     |     |     |
| 01109.PDC12210-40A10                 | Structure Works (GL C3 - C5)                                  | 0%                  | 03-Apr-17 A | 09-Jun-17   |      |     |     |     |
| 01109.PDC12210-20A-2                 | Roof and Wall Structure (GLA2 - C3/ +9 to 12.57mPD)           | 100%                | 03-Apr-17 A | 06-May-17 A |      |     |     |     |
| <b>Entrance C (Part B)</b>           |   |                     |             |             |      |     |     |     |
| 01109.PDC22860A                      | Ent C - Dwall Breakthrough                                    | 100%                | 18-Mar-17 A | 16-May-17 A |      |     |     |     |
| 01109.PDC22830A                      | Ent C - Wall Structure to S3 & ELS Removal                    | 100%                | 01-Apr-17 A | 22-May-17 A |      |     |     |     |
| 01109.PDC22840A10                    | Ent C - Roof and Wall Structure to S2 & ELS Removal           | 10%                 | 23-May-17 A | 15-Jun-17   |      |     |     |     |
| 01109.PDC22840A                      | Ent C - Roof and Wall Structure to S1 & ELS Removal           | 0%                  | 16-Jun-17   | 03-Jul-17   |      |     |     |     |
| <b>Entrance D &amp; Vent Shaft</b>   |   |                     |             |             |      |     |     |     |
| <b>Entrance D (Bottom Up)</b>        |   |                     |             |             |      |     |     |     |
| 01109.PDC22930-4A20                  | Ent D - Area A1 Internal Structure (+5.5mPD to +8.55mPD)      | 100%                | 07-Apr-17 A | 11-May-17 A |      |     |     |     |
| 01109.PDC22930-9A20                  | Ent D - Area A2 Remaining Structures below +8.55mPD           | 30%                 | 14-Apr-17 A | 16-Jun-17   |      |     |     |     |
| 01109.PDC22930-9A31                  | Ent D - Wall and Slab GL 1B-1D/D-E +8.55 to +12.2mPD          | 20%                 | 14-Apr-17 A | 26-May-17   |      |     |     |     |



**MTR Corporation Limited**  
**Shatin to Central Link Contract 1109**

1109-MPR2-2I, Page 6 of 9  
 THREE MONTH ROLLING PROGRAMME - May 17 TASK filters: 3MRP  
 Dates, MTRC 1109 - 3MRP.  
 Printed:06-Jun-17

- Actual Work
- Remaining Work
- Master Programme Rev.2
- Last Month Update
- Milestone
- MP Rev.2 Milestone
- Last Month Milestone

| Activity ID  | Activity Name  | Physical % Complete | Start       | Finish      | 2017 |     |     |     |
|--|--|---------------------|-------------|-------------|------|-----|-----|-----|
|  |  |                     |             |             | May  | Jun | Jul | Aug |
| 01109.PDC22930-9A40  | Ent D - Area A3 Mezz Structure   | 100%                | 24-Apr-17 A | 10-May-17 A |      |     |     |     |
| 01109.PDC22930-9A21  | Ent D - Close A3 Opening at Uprack level   | 30%                 | 09-May-17 A | 20-Jun-17   |      |     |     |     |
| 01109.PDC22930-4A30  | Ent D - Area A1 Internal Structure (+8.55mPD to +12.55mPD)                               | 0%                  | 20-May-17 A | 16-Jun-17   |      |     |     |     |
| 01109.PDC22930-9A32  | Ent D - Wall and Slab GL 1B-1D/D-E +12.2 to +13.7mPD                                     | 0%                  | 27-May-17   | 20-Jun-17   |      |     |     |     |
| 01109.PDC22930-9A22  | Ent D - Close -8.55 slab at Area A3  | 0%                  | 21-Jun-17   | 10-Jul-17   |      |     |     |     |
| 01109.PDC22930-9A33  | Ent D - Wall and Slab GL 1B-1D/D-E +13.7mPD to +14.24mPD                                 | 0%                  | 21-Jun-17   | 27-Jun-17   |      |     |     |     |
| <b>CC-D - BORED TUNNELS FROM SUW STATION TO HOM STATION</b>                                |  |                     |             |             |      |     |     |     |
| <b>EEP (EI No.52)</b>  |  |                     |             |             |      |     |     |     |
| <b>EI 52 - EEP Shaft Structure (Revised)</b>   |  |                     |             |             |      |     |     |     |
| 01109.PDDEI52033A-30   | Cast Permanent EEP Structure below upper Adit (Pour 3 of 4)                              | 100%                | 18-Mar-17 A | 29-Apr-17 A |      |     |     |     |
| 01109.PDDEI52033A-40   | Cast Permanent EEP Structure below upper Adit (Pour 4 of 4)                              | 100%                | 30-Apr-17 A | 06-May-17 A |      |     |     |     |
| 01109.PDDEI52033A-41   | Cast Permanent EEP Structure below upper Adit (Pour 5)                                   | 100%                | 07-May-17 A | 11-May-17 A |      |     |     |     |
| 01109.PDDEI52033A-42   | Cast Permanent EEP Structure below upper Adit (Pour 6)                                   | 100%                | 12-May-17 A | 16-May-17 A |      |     |     |     |
| 01109.PDDEI52033A-43   | Cast Permanent EEP Structure below upper Adit (Pour 7)                                   | 100%                | 16-May-17 A | 20-May-17 A |      |     |     |     |
| 01109.PDDEI52030A-11   | EEP Entrance D Adit - Backfill sand done upto 7th lift including dewatering arrangements | 0%                  | 23-May-17 A | 26-May-17   |      |     |     |     |
| 01109.PDDEI52030A-12   | EEP Entrance D Adit - Setup crash deck for Upper Adit excavation                         | 0%                  | 26-May-17   | 29-May-17   |      |     |     |     |
| 01109.PDDEI52030A-13   | EEP Entrance D Adit - Coring of concrete wall including scaffold                         | 0%                  | 30-May-17   | 03-Jun-17   |      |     |     |     |
| 01109.PDDEI52030A-14   | EEP Entrance D Adit - Break concrete ringwalls   | 0%                  | 04-Jun-17   | 12-Jun-17   |      |     |     |     |
| 01109.PDDEI52030A-15   | EEP Entrance D Adit - Removal of Steel piles   | 0%                  | 13-Jun-17   | 21-Jun-17   |      |     |     |     |
| 01109.PDDEI52030A-16   | EEP Entrance D Adit - Excavation and Support of Adit                                     | 0%                  | 22-Jun-17   | 07-Jul-17   |      |     |     |     |
| 01109.PDDEI52030A-17   | EEP Entrance D Adit - Removal of Segments  | 0%                  | 08-Jul-17   | 10-Jul-17   |      |     |     |     |
| 01109.PDDEI52030A-18   | EEP Entrance D Adit - Removal of Frame   | 0%                  | 11-Jul-17   | 11-Jul-17   |      |     |     |     |
| 01109.PDDEI52030A-20   | EEP Entrance D Adit - Works for Adit Base  | 0%                  | 12-Jul-17   | 25-Jul-17   |      |     |     |     |
| 01109.PDDEI52030A-30   | EEP Entrance D Adit - Works for Adit Walls and Crown                                     | 0%                  | 26-Jul-17   | 04-Aug-17   |      |     |     |     |
| 01109.PDDEI52030A-31   | EEP Entrance D Adit - Roof   | 0%                  | 05-Aug-17   | 08-Aug-17   |      |     |     |     |
| 01109.PDDEI52036A-10   | Cast Permanent EEP Structure above upper Adit (Pour 1 of 3)                              | 0%                  | 09-Aug-17   | 15-Sep-17   |      |     |     |     |
| <b>EI 52 - EEP Cut &amp; Cover Tunnel and Remaining Shaft Structure (-2.3 to 2.95 mPD)</b> |  |                     |             |             |      |     |     |     |
| 01109.PDDEI52049   | ELS to -2.3mPD   | 0%                  | 05-Apr-17 A | 02-Jun-17   |      |     |     |     |
| 01109.PDDEI52050   | Cut Opening to EEP Shaft and Ent D and Removal of RW5 to RW7                             | 0%                  | 03-Jun-17   | 09-Jun-17   |      |     |     |     |
| 01109.PDDEI52051   | Cover Tunnel Structure   | 0%                  | 10-Jun-17   | 14-Jul-17   |      |     |     |     |
| 01109.PDDEI52052   | Backfilling and Removal of strut and waler (C&C)   | 0%                  | 15-Jul-17   | 02-Aug-17   |      |     |     |     |
| 01109.PDDEI52053   | Removal of Formwork and Scaffolding (inside structure)                                   | 0%                  | 03-Aug-17   | 26-Aug-17   |      |     |     |     |
| <b>To Kwa Wan Ancillary Building</b>   |  |                     |             |             |      |     |     |     |
| <b>C&amp;S Works (Below Ground Level)</b>  |  |                     |             |             |      |     |     |     |
| <b>TKA Shaft Structure (Revised)</b>   |  |                     |             |             |      |     |     |     |
| 01109.PDD3430A-24  | Setup cherry picker & Waterproofing installation & testing                               | 100%                | 19-Apr-17 A | 25-Apr-17 A |      |     |     |     |
| 01109.PDD3430A-25  | Scaffold erection & Steelfix up to -11.500 including RB3                                 | 100%                | 24-Apr-17 A | 10-May-17 A |      |     |     |     |



**MTR Corporation Limited**  
**Shatin to Central Link Contract 1109**

1109-MPR2-2I, Page 7 of 9

THREE MONTH ROLLING PROGRAMME - May 17 TASK filters: 3MRP Dates, MTRC 1109 - 3MRP.

Printed:06-Jun-17

- Actual Work
- Remaining Work
- Master Programme Rev.2
- Last Month Update
- Milestone
- MP Rev.2 Milestone
- Last Month Milestone

| Activity ID   | Activity Name  | Physical % Complete | Start       | Finish      | 2017 |     |     |     |
|---|--|---------------------|-------------|-------------|------|-----|-----|-----|
|   |  |                     |             |             | May  | Jun | Jul | Aug |
| 01109.PDD3430A-26   | E&M items, Cast-in items, Cathodic protection, Box out openings 8 no done                          | 100%                | 09-May-17 A | 11-May-17 A |      |     |     |     |
| 01109.PDD3430A-30   | Cast Permanent TKA Structure upto -16.923 mPD  | 100%                | 12-May-17 A | 16-May-17 A |      |     |     |     |
| 01109.PDD3430A-40   | Cast Permanent TKA Structure upto -14.380 mPD  | 0%                  | 17-May-17 A | 26-May-17   |      |     |     |     |
| 01109.PDD3430A-50   | Cast Permanent TKA Structure upto -11.662 mPD  | 0%                  | 26-May-17   | 12-Jun-17   |      |     |     |     |
| 01109.PDD3430A-60   | Cast Permanent TKA Structure upto -9.571 mPD (last 7.234m dia pour)                                | 0%                  | 13-Jun-17   | 29-Jun-17   |      |     |     |     |
| 01109.PDD3430A-70   | Cast Permanent TKA Structure upto -9.016 mPD   | 0%                  | 30-Jun-17   | 04-Jul-17   |      |     |     |     |
| 01109.PDD3430A-80   | Cast Permanent TKA Structure upto -6.37 mPD  | 0%                  | 05-Jul-17   | 08-Jul-17   |      |     |     |     |
| 01109.PDD3440A-10   | Cast Permanent TKA Structure upto -1.078 mPD   | 0%                  | 10-Jul-17   | 29-Jul-17   |      |     |     |     |
| 01109.PDD3440A-20   | Cast Permanent TKA Structure upto +1.568 mPD   | 0%                  | 31-Jul-17   | 14-Aug-17   |      |     |     |     |
| 01109.PDD3450A  | Cast Permanent TKA Structure upto +4.214 mPD   | 0%                  | 15-Aug-17   | 28-Aug-17   |      |     |     |     |
| <b>ABWF Works (Below Ground Level)</b>                              |  |                     |             |             |      |     |     |     |
| <b>Floor Finishes</b>   |  |                     |             |             |      |     |     |     |
| 01109.PDD3680   | Floor screeding (101m2)  | 0%                  | 18-Aug-17   | 08-Sep-17   |      |     |     |     |
| <b>CC-E - REPROVISIONING, REMEDIAL AND IMPROVEMENT WORKS (RRIW)</b> |  |                     |             |             |      |     |     |     |
| <b>General C &amp; S Works</b>                                      |  |                     |             |             |      |     |     |     |
| <b>C&amp;S Works for Olympic Garden</b>                             |  |                     |             |             |      |     |     |     |
| 01109.PDE1080   | Misc finishing works at Olympic Garden in Works Area 1109.W1                                       | 0%                  | 22-Aug-17   | 19-Dec-17   |      |     |     |     |
| <b>C&amp;S Works for Subways KS33 &amp; KS34</b>                    |  |                     |             |             |      |     |     |     |
| <b>KS33</b>   |  |                     |             |             |      |     |     |     |
| 01109.PDE1050-320A50  | Lift installation at KS33 (LT08) - High speed test   | 100%                | 18-Apr-17 A | 29-Apr-17 A |      |     |     |     |
| 01109.PDE1050-320A52  | Lift installation at KS33 (LT08) - CCTV system & supervisory panel location marking and inspection | 100%                | 02-May-17 A | 09-May-17 A |      |     |     |     |
| 01109.PDE1050-320A53  | Lift installation at KS33 (LT08) - CCTV system & supervisory panel cutout cutting                  | 100%                | 09-May-17 A | 10-May-17 A |      |     |     |     |
| 01109.PDE1050-320A54  | Lift installation at KS33 (LT08) - Lift shaft pit concrete block installation                      | 100%                | 15-May-17 A | 23-May-17 A |      |     |     |     |
| 01109.PDE1050-320A35  | Lift installation at KS33 (LT08) - CCTV system & supervisory panel installation                    | 0%                  | 24-May-17 A | 26-May-17   |      |     |     |     |
| 01109.PDE1050-320A33  | Lift installation at KS33 (LT08) - Push button box fixing and hall indicator installation          | 0%                  | 27-May-17   | 29-May-17   |      |     |     |     |
| 01109.PDE1050-320A56  | Lift installation at KS33 (LT08) - Lift Protection Works   | 0%                  | 30-May-17   | 30-May-17   |      |     |     |     |
| 01109.PDE1050-320A57  | Lift installation at KS33 (LT08) - Temporary Gate Installation for Lift Protection                 | 0%                  | 31-May-17   | 31-May-17   |      |     |     |     |
| <b>KS33-Civil, Remaining</b>  |  |                     |             |             |      |     |     |     |
| 01109.PDE1050-240A12  | Take down existng wall & floor finishing   | 50%                 | 21-Apr-17 A | 03-Jun-17   |      |     |     |     |
| 01109.PDE1050-240A13  | Hack off existing subway structure   | 0%                  | 05-Jun-17   | 09-Jun-17   |      |     |     |     |
| 01109.PDE1050-240A14  | Placing blinding   | 0%                  | 10-Jun-17   | 12-Jun-17   |      |     |     |     |
| 01109.PDE1050-240A15  | Excavation to M.J.   | 0%                  | 13-Jun-17   | 20-Jun-17   |      |     |     |     |
| 01109.PDE1050-240A16  | Debonding membrane   | 0%                  | 21-Jun-17   | 21-Jun-17   |      |     |     |     |
| 01109.PDE1050-240A17  | Waterstop & formwork for new M.J.  | 0%                  | 22-Jun-17   | 23-Jun-17   |      |     |     |     |
| 01109.PDE1050-240A18  | M.J. casting   | 0%                  | 24-Jun-17   | 24-Jun-17   |      |     |     |     |
| 01109.PDE1050-240A19  | Formwork striking & cleaning   | 0%                  | 26-Jun-17   | 26-Jun-17   |      |     |     |     |
| 01109.PDE1050-240A20  | Waterproofing  | 0%                  | 27-Jun-17   | 27-Jun-17   |      |     |     |     |
| <b>KS33-ABWF</b>  |  |                     |             |             |      |     |     |     |



**MTR Corporation Limited**  
**Shatin to Central Link Contract 1109**

1109-MPR2-21, Page 8 of 9

THREE MONTH ROLLING PROGRAMME - May 17 TASK filters: 3MRP Dates, MTRC 1109 - 3MRP.

Printed:06-Jun-17

- Actual Work
- Remaining Work
- Master Programme Rev.2
- Last Month Update
- Milestone
- MP Rev.2 Milestone
- Last Month Milestone

| Activity ID                               | Activity Name   | Physical % Complete | Start       | Finish      | 2017 |     |     |     |
|---|---|---------------------|-------------|-------------|------|-----|-----|-----|
|   |   |                     |             |             | May  | Jun | Jul | Aug |
| 01109.PDE1050-330A10                      | ABWF Works at KS33 Subway - Wall Plastering           | 0%                  | 26-May-17*  | 14-Jun-17   |      |     |     |     |
| 01109.PDE1050-330A60                      | Modification Works of Structure Frame of Lift 7       | 0%                  | 26-May-17   | 29-May-17   |      |     |     |     |
| 01109.PDE1050-330A20                      | ABWF Works at KS33 Subway - Wall Tile Installation    | 0%                  | 15-Jun-17   | 30-Jun-17   |      |     |     |     |
| 01109.PDE1050-330A30                      | ABWF Works at KS33 Subway - Ceiling Sealer            | 0%                  | 01-Jul-17   | 05-Jul-17   |      |     |     |     |
| 01109.PDE1050-330A40                      | ABWF Works at KS33 Subway - Floor Tile Installation   | 0%                  | 06-Jul-17   | 11-Jul-17   |      |     |     |     |
| 01109.PDE1050-330A50                      | ABWF Works at KS33 Subway - Floor Screeding           | 0%                  | 12-Jul-17   | 17-Jul-17   |      |     |     |     |
| <b>KS34</b>                               |   |                     |             |             |      |     |     |     |
| <b>KS34-Civil</b>                         |   |                     |             |             |      |     |     |     |
| 01109.PDE1050-400A90                      | KS34 - Electrical Cabinet (up to Ground Level)        | 100%                | 22-Apr-17 A | 20-May-17 A |      |     |     |     |
| 01109.PDE1050-400A80                      | KS34 - Lift shaft wall (up to roof slab soffit)       | 100%                | 21-May-17 A | 03-Jun-17   |      |     |     |     |
| 01109.PDE1050-400A81                      | KS34 - Lift shaft Roof slab                           | 0%                  | 04-Jun-17   | 18-Jun-17   |      |     |     |     |
| <b>New Subway between KS33 &amp; KS34</b> |   |                     |             |             |      |     |     |     |
| <b>Lift 7</b>                             |   |                     |             |             |      |     |     |     |
| 01109.PDE1050A10                          | Adit B Lift 7 - Modification Works of Structure Frame | 0%                  | 18-Apr-17 A | 16-Jun-17   |      |     |     |     |
| 01109.PDE1050A20                          | Adit B Lift 7 - Installation of Metal Louve           | 0%                  | 17-Jun-17   | 22-Jun-17   |      |     |     |     |
| 01109.PDE1050A30                          | Adit B Lift 7 - Glass Panel Installation              | 0%                  | 23-Jun-17   | 30-Jun-17   |      |     |     |     |
| 01109.PDE1050A40                          | Adit B Lift 7 - Stainless Steel Frame Installation    | 0%                  | 01-Jul-17   | 07-Jul-17   |      |     |     |     |
| 01109.PDE1050A50                          | Adit B Lift 7 - Canopy Installation                   | 0%                  | 08-Jul-17   | 14-Jul-17   |      |     |     |     |



**MTR Corporation Limited**  
**Shatin to Central Link Contract 1109**

1109-MPR2-2I, Page 9 of 9

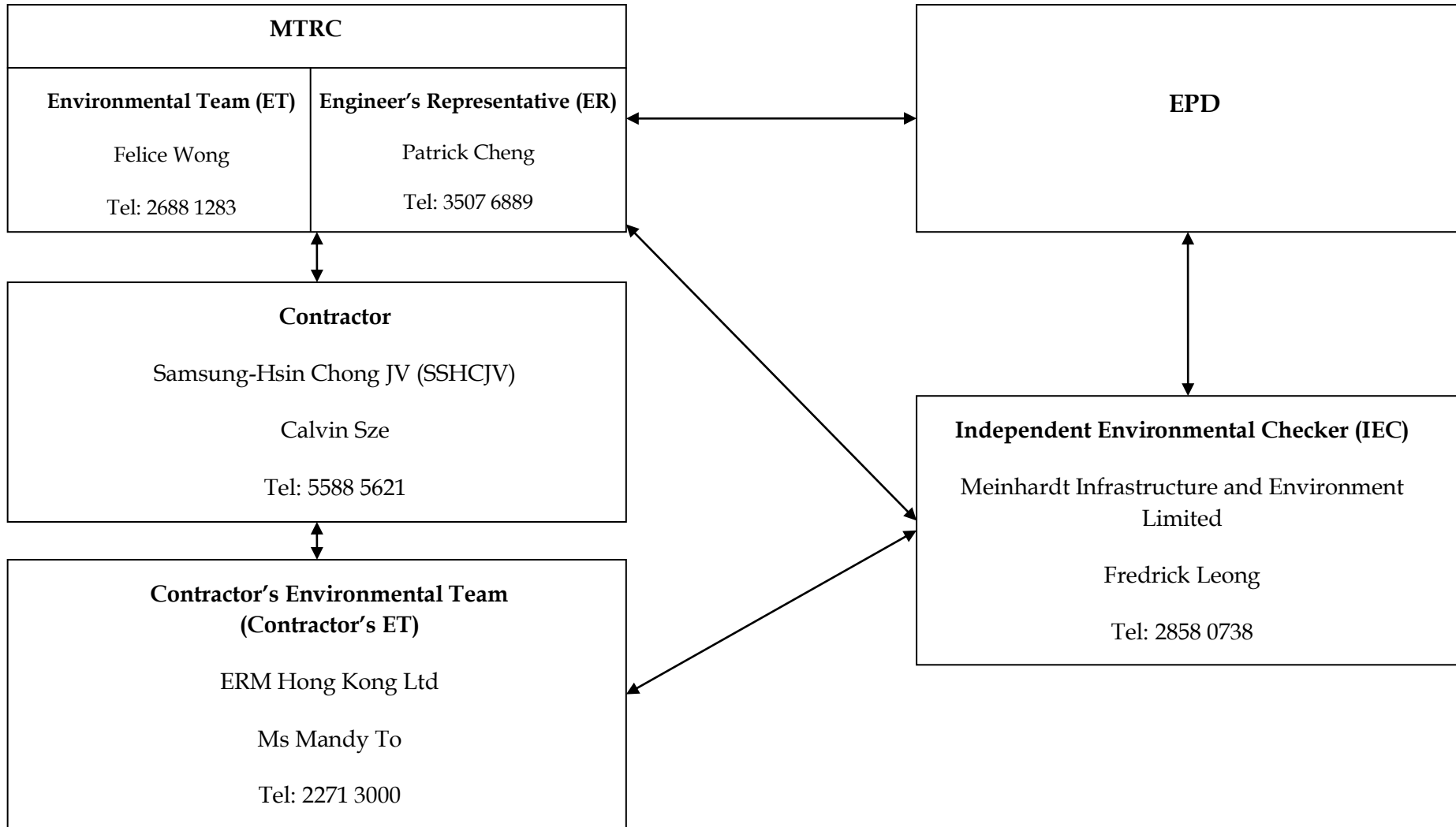
THREE MONTH ROLLING PROGRAMME - May 17 TASK filters: 3MRP Dates, MTRC 1109 - 3MRP.

Printed:06-Jun-17

- Actual Work
- Remaining Work
- Master Programme Rev.2
- Last Month Update
- Milestone
- MP Rev.2 Milestone
- Last Month Milestone

Annex C

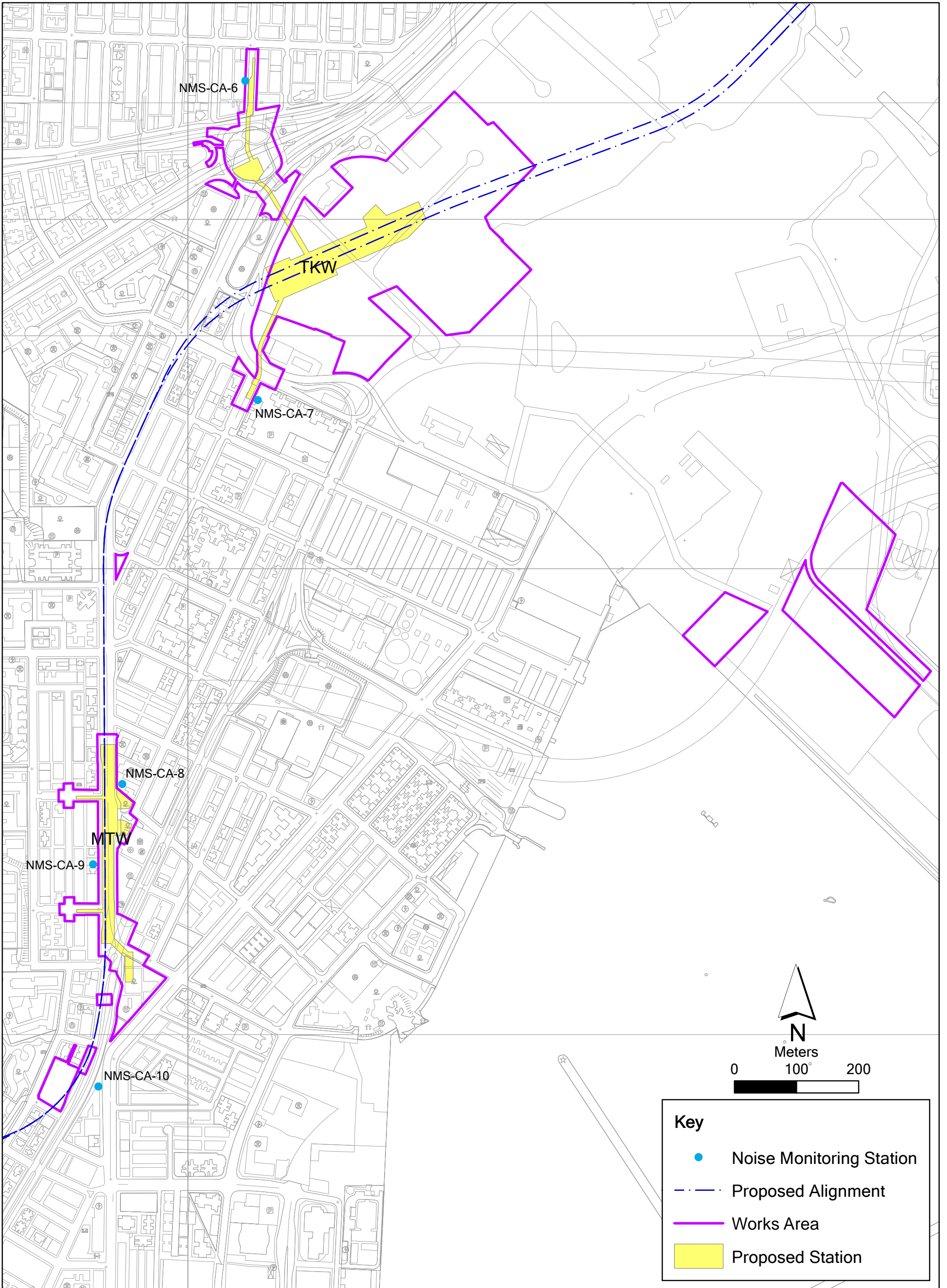
## Project Organization Chart and Contact Detail



Annex D

## Locations of Noise and Dust Monitoring Stations





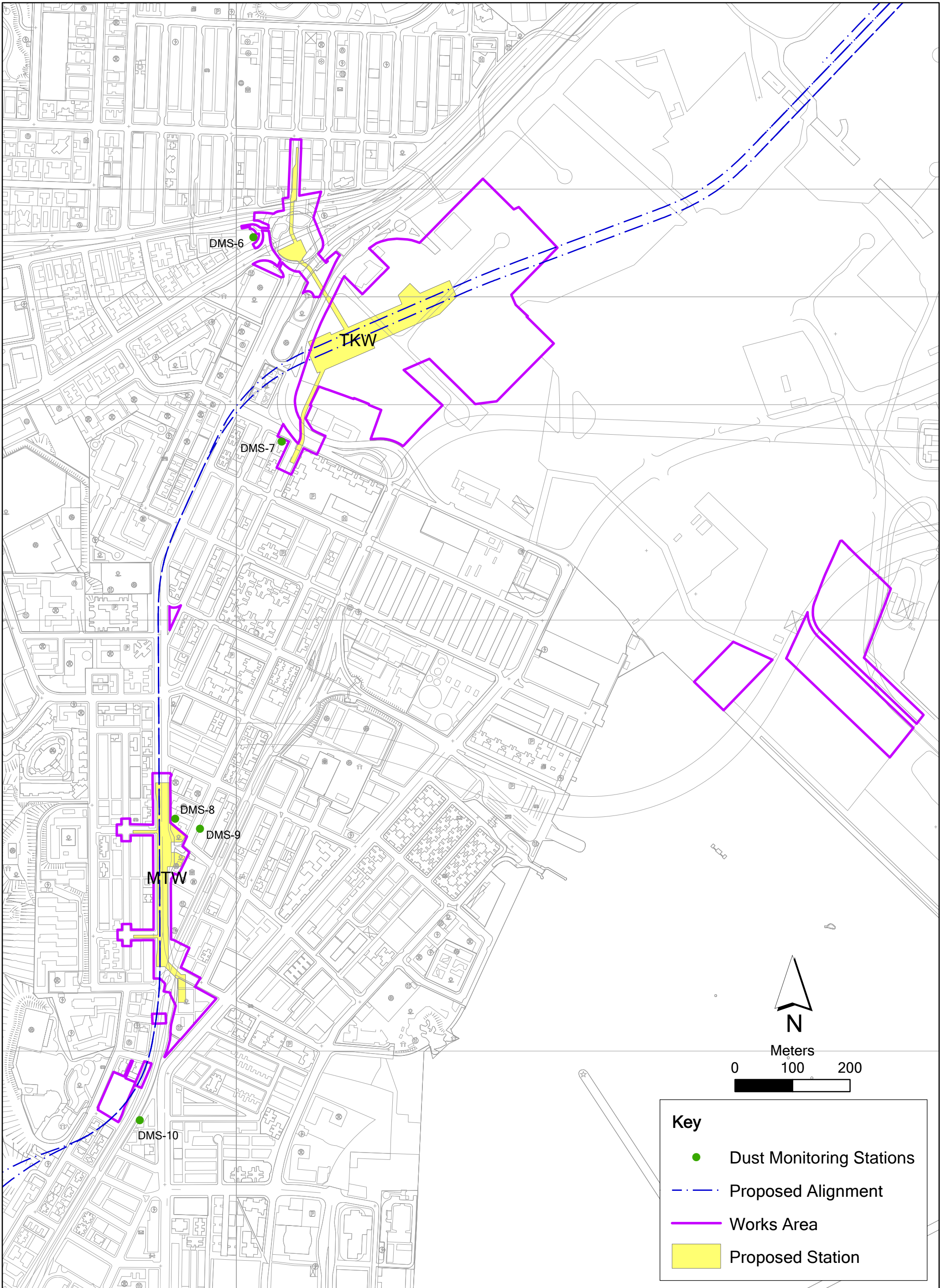
Annex D1

Location of Regular Construction Noise Monitoring Stations

File: T:\GIS\CONTRACT\0171181\Mxd\0171181\_Airborne\_Noise\_Monitoring\_Stations\_Annex.mxd  
 Date: 12/08/2014

Environmental  
 Resources  
 Management





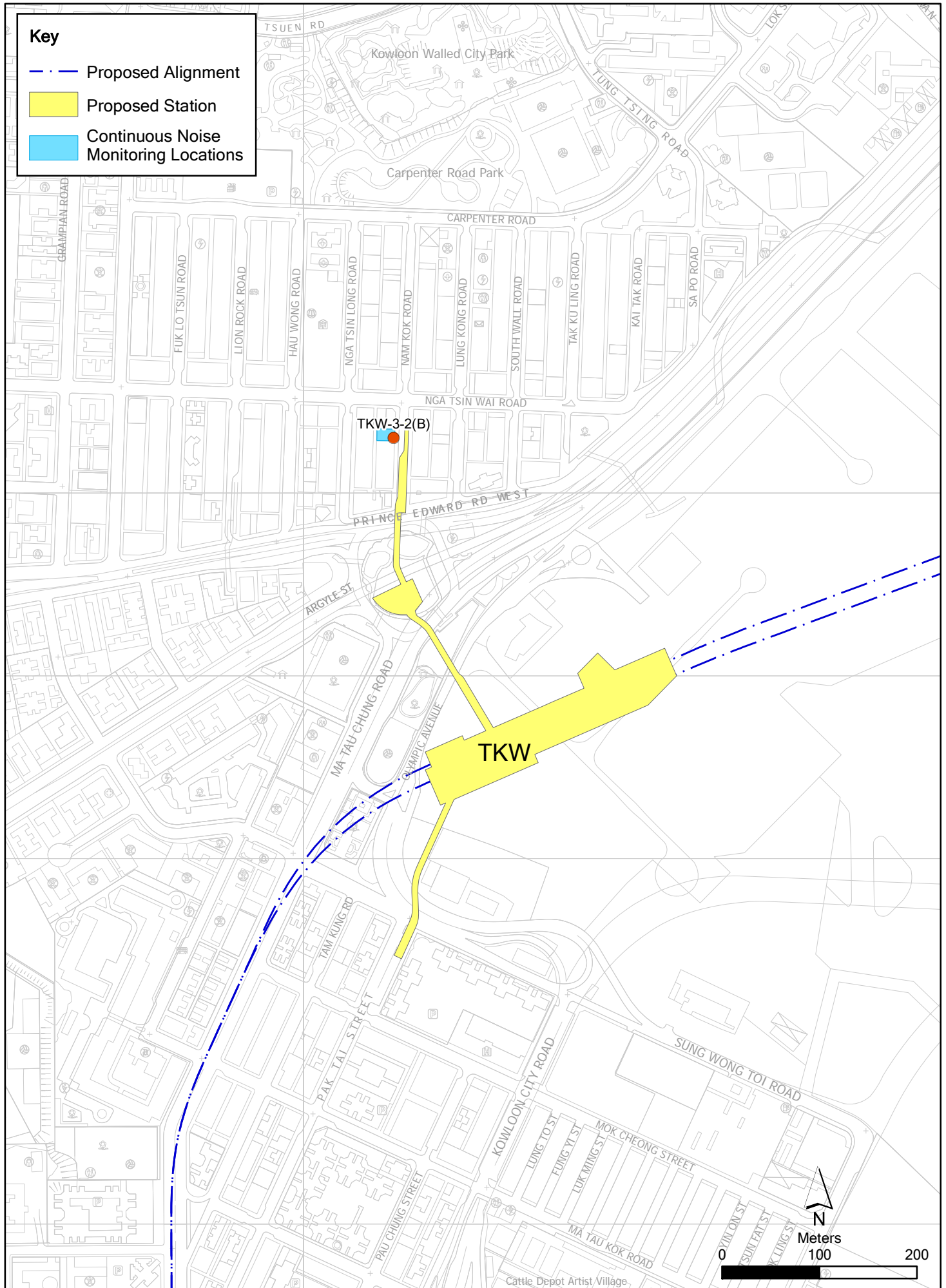


Figure 2.2a

Continuous Noise Monitoring Locations

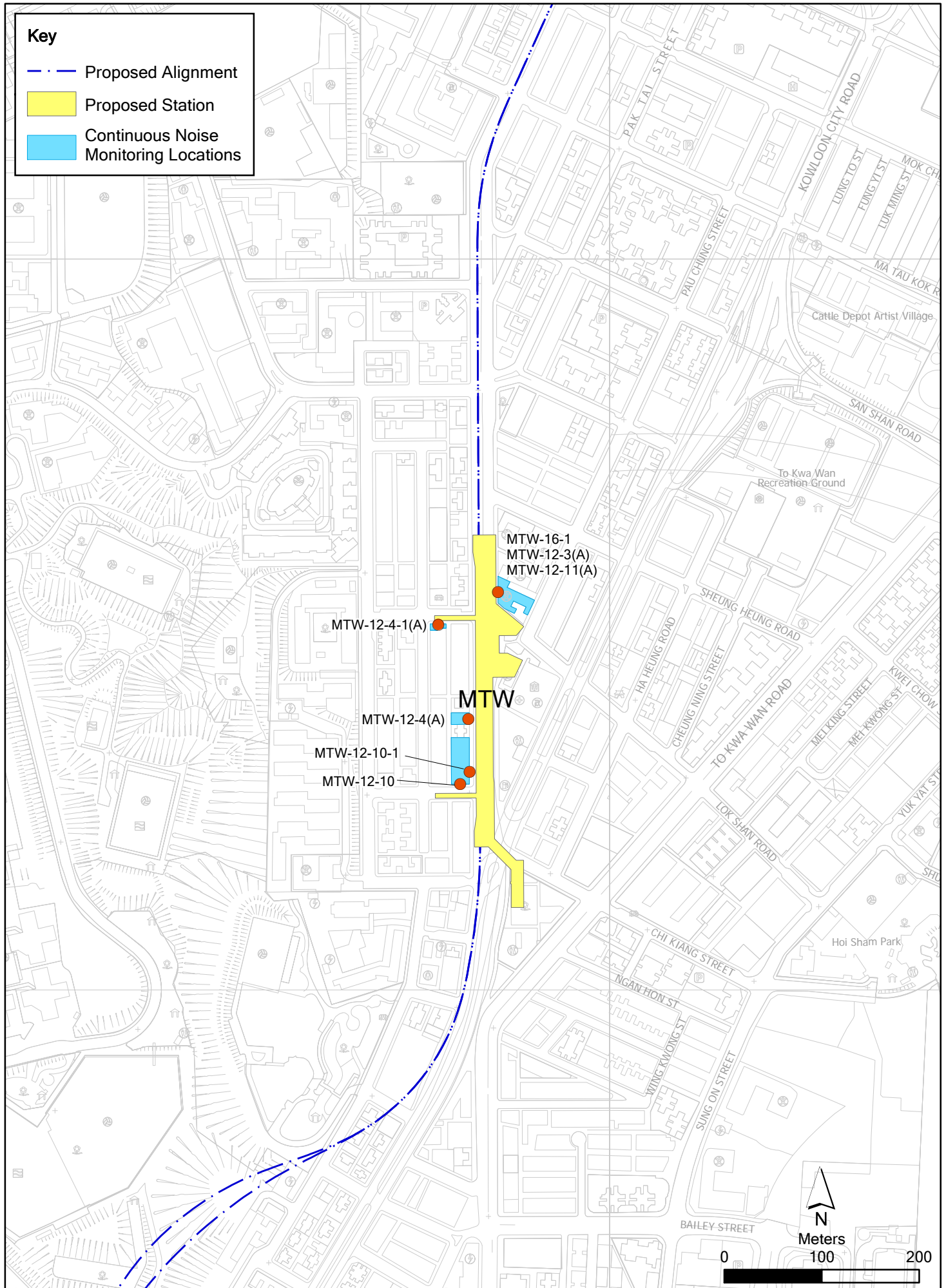


Figure 2.2b

Continuous Noise Monitoring Locations

Annex E

## Monitoring Schedule of the Reporting Period and the Next Month

**Shatin to Central Link  
Works Contract 1109  
Stations and Tunnels of Kowloon City Section  
Regular Noise Monitoring Schedule**

**Noise Monitoring Stations:  
NMS-CA-6, NMS-CA-7, NMS-CA-8, NMS-CA-9 and NMS-CA-10  
Monitoring Month : May 2017**

| Sunday | Monday           | Tuesday          | Wednesday        | Thursday         | Friday           | Saturday |
|--------|------------------|------------------|------------------|------------------|------------------|----------|
|        | 01-May           | 02-May           | 03-May           | 04-May           | 05-May           | 06-May   |
|        | Public Holiday   |                  | Public Holiday   |                  | Noise Monitoring |          |
| 07-May | 08-May           | 09-May           | 10-May           | 11-May           | 12-May           | 13-May   |
|        |                  |                  |                  | Noise Monitoring |                  |          |
| 14-May | 15-May           | 16-May           | 17-May           | 18-May           | 19-May           | 20-May   |
|        |                  |                  | Noise Monitoring |                  |                  |          |
| 21-May | 22-May           | 23-May           | 24-May           | 25-May           | 26-May           | 27-May   |
|        |                  | Noise Monitoring |                  |                  |                  |          |
| 28-May | 29-May           | 30-May           | 31-May           |                  |                  |          |
|        | Noise Monitoring | Public Holiday   |                  |                  |                  |          |

**Shatin to Central Link  
Works Contract 1109  
Stations and Tunnels of Kowloon City Section  
Regular Noise Monitoring Schedule**

**Noise Monitoring Stations:  
NMS-CA-6, NMS-CA-7, NMS-CA-8, NMS-CA-9 and NMS-CA-10  
Monitoring Month : June 2017**

| Sunday | Monday           | Tuesday          | Wednesday        | Thursday         | Friday | Saturday |
|--------|------------------|------------------|------------------|------------------|--------|----------|
|        |                  |                  |                  | 01-Jun           | 02-Jun | 03-Jun   |
|        |                  |                  |                  |                  |        |          |
| 04-Jun | 05-Jun           | 06-Jun           | 07-Jun           | 08-Jun           | 09-Jun | 10-Jun   |
|        |                  |                  |                  | Noise Monitoring |        |          |
| 11-Jun | 12-Jun           | 13-Jun           | 14-Jun           | 15-Jun           | 16-Jun | 17-Jun   |
|        |                  |                  | Noise Monitoring |                  |        |          |
| 18-Jun | 19-Jun           | 20-Jun           | 21-Jun           | 22-Jun           | 23-Jun | 24-Jun   |
|        |                  | Noise Monitoring |                  |                  |        |          |
| 25-Jun | 26-Jun           | 27-Jun           | 28-Jun           | 29-Jun           | 30-Jun |          |
|        | Noise Monitoring |                  |                  |                  |        |          |

**Shatin to Central Link  
Works Contract 1109  
Stations and Tunnels of Kowloon City Section  
Regular Dust Monitoring Schedule**

**24-hr TSP Monitoring Stations:  
DMS-6, DMS-7, DMS-8, DMS-9 and DMS-10  
Monitoring Month: May 2017**

| Sunday | Monday               | Tuesday              | Wednesday            | Thursday             | Friday               | Saturday |
|--------|----------------------|----------------------|----------------------|----------------------|----------------------|----------|
|        | 01-May               | 02-May               | 03-May               | 04-May               | 05-May               | 06-May   |
|        | Public Holiday       |                      | Public Holiday       |                      | 24-hr TSP Monitoring |          |
| 07-May | 08-May               | 09-May               | 10-May               | 11-May               | 12-May               | 13-May   |
|        |                      |                      |                      | 24-hr TSP Monitoring |                      |          |
| 14-May | 15-May               | 16-May               | 17-May               | 18-May               | 19-May               | 20-May   |
|        |                      |                      | 24-hr TSP Monitoring |                      |                      |          |
| 21-May | 22-May               | 23-May               | 24-May               | 25-May               | 26-May               | 27-May   |
|        |                      | 24-hr TSP Monitoring |                      |                      |                      |          |
| 28-May | 29-May               | 30-May               | 31-May               |                      |                      |          |
|        | 24-hr TSP Monitoring | Public Holiday       |                      |                      |                      |          |



**Shatin to Central Link  
Works Contract 1109  
Stations and Tunnels of Kowloon City Section  
Regular Dust Monitoring Schedule**

**24-hr TSP Monitoring Stations:  
DMS-6, DMS-7, DMS-8, DMS-9 and DMS-10  
Monitoring Month: June 2017**

| Sunday | Monday               | Tuesday              | Wednesday            | Thursday             | Friday               | Saturday |
|--------|----------------------|----------------------|----------------------|----------------------|----------------------|----------|
|        |                      |                      |                      | 01-Jun               | 02-Jun               | 03-Jun   |
|        |                      |                      |                      |                      | 24-hr TSP Monitoring |          |
| 04-Jun | 05-Jun               | 06-Jun               | 07-Jun               | 08-Jun               | 09-Jun               | 10-Jun   |
|        |                      |                      |                      | 24-hr TSP Monitoring |                      |          |
| 11-Jun | 12-Jun               | 13-Jun               | 14-Jun               | 15-Jun               | 16-Jun               | 17-Jun   |
|        |                      |                      | 24-hr TSP Monitoring |                      |                      |          |
| 18-Jun | 19-Jun               | 20-Jun               | 21-Jun               | 22-Jun               | 23-Jun               | 24-Jun   |
|        |                      | 24-hr TSP Monitoring |                      |                      |                      |          |
| 25-Jun | 26-Jun               | 27-Jun               | 28-Jun               | 29-Jun               | 30-Jun               |          |
|        | 24-hr TSP Monitoring |                      |                      |                      | 24-hr TSP Monitoring |          |

Annex F

## Calibration Reports

**Annex F Calibration Reports**

***Dust Monitoring Equipment***

| <b>Monitoring Station ID</b> | <b>Location</b>                  | <b>Monitoring Equipment</b> | <b>Last Calibration Date</b>  | <b>Next Calibration Date</b> |
|------------------------------|----------------------------------|-----------------------------|-------------------------------|------------------------------|
| <i>24-hr TSP</i>             |                                  | <b>HVS</b>                  | <b>Calibrator</b>             |                              |
| DMS-6                        | Katherine Building               | TE-5170 (S/N 0107)          | CM-AIR-43 (Orifice I.D. 2454) | 5 November 2016              |
| DMS-6                        | Katherine Building               | TE-5170 (S/N 0107)          | CM-AIR-43 (Orifice I.D. 2454) | 5 May 2017                   |
| DMS-7                        | Parc 22                          | TE-5170 (S/N 3574)          | CM-AIR-43 (Orifice I.D. 2454) | --                           |
| DMS-8                        | SKH Good Shepherd Primary School | TE-5170 (S/N 3572)          | CM-AIR-43 (Orifice I.D. 2454) | 5 November 2016              |
| DMS-8                        | SKH Good Shepherd Primary School | TE-5170 (S/N 3572)          | CM-AIR-43 (Orifice I.D. 2454) | 5 May 2017                   |
| DMS-9                        | No. 12 Pau Chung Street          | TE-5170 (S/N 0814)          | CM-AIR-43 (Orifice I.D. 2454) | 5 November 2016              |
| DMS-9                        | No. 12 Pau Chung Street          | TE-5170 (S/N 0814)          | CM-AIR-43 (Orifice I.D. 2454) | 5 May 2017                   |
| DMS-10                       | Chat Ma Mansion                  | TE-5170 (S/N 3573)          | CM-AIR-43 (Orifice I.D. 2454) | 5 November 2016              |
| DMS-10                       | Chat Ma Mansion                  | TE-5170 (S/N 3573)          | CM-AIR-43 (Orifice I.D. 2454) | 5 May 2017                   |

***Noise Monitoring Equipment***

| <b>Monitoring Station ID</b>                         | <b>Monitoring Equipment</b> | <b>Model &amp; Serial No.</b> | <b>Last Calibration Date</b> | <b>Next Calibration Date</b> |
|--|-----------------------------|-------------------------------|------------------------------|------------------------------|
| NMS-CA-6, NMS-CA-7, NMS-CA-8, NMS-CA-9 and NMS-CA-10 | Calibrator                  | Rion NC-73 (S/N 10997142)     | 15 June 2016                 | 15 June 2017                 |
|  | Sound Level Meter           | Rion NL-18 (S/N 00360030)     | 29 July 2016                 | 29 July 2017                 |

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler  
5-Point Calibration Record

Location : DMS-6(Katherine Building)  
Calibrated by : K.T.Ho  
Date : 05/11/2016

Sampler

Model : TE-5170  
Serial Number : S/N 0107

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
Service Date : 14 Mar 2016  
Slope (m) : 2.10326  
Intercept (b) : -0.06696  
Correlation Coefficient(r) : 0.99989

Standard Condition

Pstd (hpa) : 1013  
Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1019  
Ta(K) : 299

| Resistance Plate | dH [green liquid]<br>(inch water) | Z     | X=Qstd<br>(cubic meter/min) | IC<br>(chart) | Y<br>(corrected) |
|------------------|-----------------------------------|-------|-----------------------------|---------------|------------------|
| 1   18 holes     | 12.6                              | 3.554 | 1.722                       | 52            | 52.07            |
| 2   13 holes     | 9.6                               | 3.102 | 1.507                       | 46            | 46.06            |
| 3   10 holes     | 7.4                               | 2.724 | 1.327                       | 39            | 39.05            |
| 4   7 holes      | 4.4                               | 2.100 | 1.030                       | 30            | 30.04            |
| 5   5 holes      | 2.8                               | 1.675 | 0.828                       | 24            | 24.03            |

Sampler Calibration Relationship (Linear Regression)

Slope(m): 31.816      Intercept(b): -2.566      Correlation Coefficient(r): 0.9991

Checked by: Magnum Fan

Date: 10/11/2016

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler  
5-Point Calibration Record

Location : DMS-6(Katherine Building)  
Calibrated by : K.T.Ho  
Date : 05/05/2017

Sampler

Model : TE-5170  
Serial Number : S/N 0107

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
Service Date : 20 March 2017  
Slope (m) : 2.08464  
Intercept (b) : -0.036840  
Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013  
Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1012  
Ta(K) : 300

| Resistance Plate | dH [green liquid]<br>(inch water) | Z     | X=Qstd<br>(cubic meter/min) | IC<br>(chart) | Y<br>(corrected) |
|------------------|-----------------------------------|-------|-----------------------------|---------------|------------------|
| 1   18 holes     | 12.6                              | 3.536 | 1.714                       | 54            | 53.79            |
| 2   13 holes     | 9.6                               | 3.087 | 1.498                       | 46            | 45.82            |
| 3   10 holes     | 7.4                               | 2.710 | 1.318                       | 39            | 38.85            |
| 4   7 holes      | 4.4                               | 2.090 | 1.020                       | 30            | 29.89            |
| 5   5 holes      | 2.4                               | 1.543 | 0.758                       | 20            | 19.92            |

Sampler Calibration Relationship (Linear Regression)

Slope(m): 34.924                      Intercept(b): -6.404                      Correlation Coefficient(r): 0.9991

Checked by: Magnum Fan

Date: 10/05/2017

High-Volume TSP Sampler  
5-Point Calibration Record

Location : DMS-8(SHK Good Shepherd Primary School)  
Calibrated by : K.T.Ho  
Date : 05/11/2016

Sampler

Model : TE-5170  
Serial Number : S/N 3572

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
Service Date : 14 Mar 2016  
Slope (m) : 2.10326  
Intercept (b) : -0.06696  
Correlation Coefficient(r) : 0.99989

Standard Condition

Pstd (hpa) : 1013  
Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1019  
Ta(K) : 299

| Resistance Plate |          | dH [green liquid]<br>(inch water) | Z     | X=Qstd<br>(cubic meter/min) | IC<br>(chart) | Y<br>(corrected) |
|------------------|----------|-----------------------------------|-------|-----------------------------|---------------|------------------|
| 1                | 18 holes | 11.2                              | 3.351 | 1.625                       | 64            | 64.08            |
| 2                | 13 holes | 8.8                               | 2.970 | 1.444                       | 56            | 56.07            |
| 3                | 10 holes | 6.8                               | 2.611 | 1.273                       | 49            | 49.06            |
| 4                | 7 holes  | 4.8                               | 2.194 | 1.075                       | 40            | 40.05            |
| 5                | 5 holes  | 3.0                               | 1.734 | 0.856                       | 30            | 30.04            |

Sampler Calibration Relationship (Linear Regression)

Slope(m): 44.155 Intercept(b): -7.541 Correlation Coefficient(r): 0.9998

Checked by: Magnum Fan

Date: 10/11/2016

High-Volume TSP Sampler  
5-Point Calibration Record

Location : DMS-8(SHK Good Shepherd Primary School)  
 Calibrated by : K.T.Ho  
 Date : 05/05/2017

Sampler

Model : TE-5170  
 Serial Number : S/N 3572

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
 Service Date : 20 March 2017  
 Slope (m) : 2.08464  
 Intercept (b) : -0.036840  
 Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013  
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1012  
 Ta(K) : 300

| Resistance Plate |          | dH [green liquid]<br>(inch water) | Z     | X=Qstd<br>(cubic meter/min) | IC<br>(chart) | Y<br>(corrected) |
|------------------|----------|-----------------------------------|-------|-----------------------------|---------------|------------------|
| 1                | 18 holes | 12.4                              | 3.508 | 1.700                       | 62            | 61.76            |
| 2                | 13 holes | 9.8                               | 3.119 | 1.514                       | 56            | 55.79            |
| 3                | 10 holes | 7.8                               | 2.782 | 1.352                       | 50            | 49.81            |
| 4                | 7 holes  | 5.0                               | 2.228 | 1.086                       | 40            | 39.85            |
| 5                | 5 holes  | 2.8                               | 1.667 | 0.817                       | 30            | 29.89            |

Sampler Calibration Relationship (Linear Regression)

Slope(m): 36.406                      Intercept(b): 0.309                      Correlation Coefficient(r): 0.9996

Checked by: Magnum Fan

Date: 10/05/2017

High-Volume TSP Sampler  
5-Point Calibration Record

Location : DMS-9(No. 12 Pau Chung Street)  
 Calibrated by : K.T.Ho  
 Date : 05/11/2016

Sampler

Model : TE-5170  
 Serial Number : S/N 0814

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
 Service Date : 14 Mar 2016  
 Slope (m) : 2.10326  
 Intercept (b) : -0.06696  
 Correlation Coefficient(r) : 0.99989

Standard Condition

Pstd (hpa) : 1013  
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1019  
 Ta(K) : 299

| Resistance Plate |          | dH [green liquid]<br>(inch water) | Z     | X=Qstd<br>(cubic meter/min) | IC<br>(chart) | Y<br>(corrected) |
|------------------|----------|-----------------------------------|-------|-----------------------------|---------------|------------------|
| 1                | 18 holes | 12.4                              | 3.526 | 1.708                       | 67            | 67.09            |
| 2                | 13 holes | 9.8                               | 3.134 | 1.522                       | 58            | 58.07            |
| 3                | 10 holes | 7.6                               | 2.760 | 1.344                       | 51            | 51.07            |
| 4                | 7 holes  | 4.6                               | 2.148 | 1.053                       | 40            | 40.05            |
| 5                | 5 holes  | 2.8                               | 1.675 | 0.828                       | 30            | 30.04            |

Sampler Calibration Relationship (Linear Regression)

Slope(m): 41.227      Intercept(b): -3.989      Correlation Coefficient(r): 0.9991

Checked by: Magnum Fan

Date: 10/11/2016



High-Volume TSP Sampler  
5-Point Calibration Record

Location : DMS-9(No. 12 Pau Chung Street)  
 Calibrated by : K.T.Ho  
 Date : 05/05/2017

Sampler

Model : TE-5170  
 Serial Number : S/N 0814

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
 Service Date : 20 March 2017  
 Slope (m) : 2.08464  
 Intercept (b) : -0.036840  
 Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013  
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1012  
 Ta(K) : 300

| Resistance Plate |          | dH [green liquid]<br>(inch water) | Z     | X=Qstd<br>(cubic meter/min) | IC<br>(chart) | Y<br>(corrected) |
|------------------|----------|-----------------------------------|-------|-----------------------------|---------------|------------------|
| 1                | 18 holes | 12.6                              | 3.536 | 1.714                       | 64            | 63.75            |
| 2                | 13 holes | 9.8                               | 3.119 | 1.514                       | 56            | 55.79            |
| 3                | 10 holes | 7.6                               | 2.746 | 1.335                       | 48            | 47.82            |
| 4                | 7 holes  | 4.8                               | 2.182 | 1.065                       | 38            | 37.85            |
| 5                | 5 holes  | 2.6                               | 1.606 | 0.788                       | 28            | 27.89            |

Sampler Calibration Relationship (Linear Regression)

Slope(m): 38.832                      Intercept(b): -3.204                      Correlation Coefficient(r): 0.9992

Checked by: Magnum Fan

Date: 10/05/2017

High-Volume TSP Sampler  
5-Point Calibration Record

Location : DMS-10(Chat Ma Mansion)  
 Calibrated by : K.T.Ho  
 Date : 05/11/2016

Sampler

Model : TE-5170  
 Serial Number : S/N 3573

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
 Service Date : 14 Mar 2016  
 Slope (m) : 2.10326  
 Intercept (b) : -0.06696  
 Correlation Coefficient(r) : 0.99989

Standard Condition

Pstd (hpa) : 1013  
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1019  
 Ta(K) : 299

| Resistance Plate |          | dH [green liquid]<br>(inch water) | Z     | X=Qstd<br>(cubic meter/min) | IC<br>(chart) | Y<br>(corrected) |
|------------------|----------|-----------------------------------|-------|-----------------------------|---------------|------------------|
| 1                | 18 holes | 11.6                              | 3.410 | 1.653                       | 60            | 60.08            |
| 2                | 13 holes | 9.4                               | 3.070 | 1.491                       | 54            | 54.07            |
| 3                | 10 holes | 7.2                               | 2.687 | 1.309                       | 48            | 48.06            |
| 4                | 7 holes  | 4.6                               | 2.148 | 1.053                       | 40            | 40.05            |
| 5                | 5 holes  | 2.0                               | 1.416 | 0.705                       | 29            | 29.04            |

Sampler Calibration Relationship (Linear Regression)

Slope(m): 32.457 Intercept(b): 5.936 Correlation Coefficient(r): 0.9996

Checked by: Magnum Fan

Date: 10/11/2016

High-Volume TSP Sampler  
5-Point Calibration Record

Location : DMS-10(Chat Ma Mansion)  
Calibrated by : K.T.Ho  
Date : 05/05/2017

Sampler

Model : TE-5170  
Serial Number : S/N 3573

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454  
Service Date : 20 March 2017  
Slope (m) : 2.08464  
Intercept (b) : -0.036840  
Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013  
Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1012  
Ta(K) : 300

| Resistance Plate |          | dH [green liquid]<br>(inch water) | Z     | X=Qstd<br>(cubic meter/min) | IC<br>(chart) | Y<br>(corrected) |
|------------------|----------|-----------------------------------|-------|-----------------------------|---------------|------------------|
| 1                | 18 holes | 12                                | 3.451 | 1.673                       | 62            | 61.76            |
| 2                | 13 holes | 9.8                               | 3.119 | 1.514                       | 56            | 55.79            |
| 3                | 10 holes | 7.7                               | 2.764 | 1.344                       | 50            | 49.81            |
| 4                | 7 holes  | 5.1                               | 2.250 | 1.097                       | 42            | 41.84            |
| 5                | 5 holes  | 2.2                               | 1.478 | 0.726                       | 30            | 29.89            |

Sampler Calibration Relationship (Linear Regression)

Slope(m): 33.459                      Intercept(b): 5.296                      Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan

Date: 10/05/2017



TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE  
 VILLAGE OF CLEVELAND, OH  
 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 14, 2016 Rootsmeter S/N 0438320 Ta (K) - 295  
 Operator Tisch Orifice I.D. - 2454 Pa (mm) - 745.49

| PLATE OR Run # | VOLUME START (m3) | VOLUME STOP (m3) | DIFF VOLUME (m3) | DIFF TIME (min) | METER DIFF Hg (mm) | ORFICE DIFF H2O (in.) |
|----------------|-------------------|------------------|------------------|-----------------|--------------------|-----------------------|
| 1              | NA                | NA               | 1.00             | 1.4020          | 3.2                | 2.00                  |
| 2              | NA                | NA               | 1.00             | 1.0060          | 6.4                | 4.00                  |
| 3              | NA                | NA               | 1.00             | 0.9010          | 7.9                | 5.00                  |
| 4              | NA                | NA               | 1.00             | 0.8590          | 8.8                | 5.50                  |
| 5              | NA                | NA               | 1.00             | 0.7090          | 12.8               | 8.00                  |

DATA TABULATION

| Vstd                                | (x axis) Qstd | (y axis) | Va                        | (x axis) Qa | (y axis) |
|-------------------------------------|---------------|----------|---------------------------|-------------|----------|
| 0.9866                              | 0.7037        | 1.4078   | 0.9957                    | 0.7102      | 0.8896   |
| 0.9824                              | 0.9765        | 1.9909   | 0.9914                    | 0.9855      | 1.2581   |
| 0.9803                              | 1.0880        | 2.2259   | 0.9893                    | 1.0980      | 1.4066   |
| 0.9792                              | 1.1399        | 2.3345   | 0.9882                    | 1.1504      | 1.4753   |
| 0.9738                              | 1.3735        | 2.8155   | 0.9828                    | 1.3862      | 1.7792   |
| Qstd slope (m) = 2.10326            |               |          | Qa slope (m) = 1.31703    |             |          |
| intercept (b) = -0.06696            |               |          | intercept (b) = -0.04232  |             |          |
| coefficient (r) = 0.99989           |               |          | coefficient (r) = 0.99989 |             |          |
| y axis = SQRT[H2O(Pa/760) (298/Ta)] |               |          | y axis = SQRT[H2O(Ta/Pa)] |             |          |

CALCULATIONS

Vstd = Diff. Vol [(Pa-Diff. Hg)/760] (298/Ta)  
 Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]  
 Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{ [SQRT(H2O(Pa/760) (298/Ta))] - b}  
 Qa = 1/m{ [SQRT H2O(Ta/Pa)] - b}



TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE  
 VILLAGE OF CLEVELS, OH  
 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 20, 2017 Rootsmeter S/N 0438320 Ta (K) - 293  
 Operator Tisch Orifice I.D. - 2454 Pa (mm) - 759.46

| PLATE OR Run # | VOLUME START (m3) | VOLUME STOP (m3) | DIFF VOLUME (m3) | DIFF TIME (min) | METER        | ORFICE         |
|----------------|-------------------|------------------|------------------|-----------------|--------------|----------------|
|                |                   |                  |                  |                 | DIFF Hg (mm) | DIFF H2O (in.) |
| 1              | NA                | NA               | 1.00             | 1.4390          | 3.2          | 2.00           |
| 2              | NA                | NA               | 1.00             | 1.0240          | 6.4          | 4.00           |
| 3              | NA                | NA               | 1.00             | 0.9170          | 7.9          | 5.00           |
| 4              | NA                | NA               | 1.00             | 0.8730          | 8.8          | 5.50           |
| 5              | NA                | NA               | 1.00             | 0.7200          | 12.8         | 8.00           |

DATA TABULATION

| Vstd                                | (x axis) Qstd | (y axis) | Va                        | (x axis) Qa | (y axis) |
|-------------------------------------|---------------|----------|---------------------------|-------------|----------|
| 1.0120                              | 0.7033        | 1.4257   | 0.9958                    | 0.6920      | 0.8784   |
| 1.0078                              | 0.9842        | 2.0163   | 0.9916                    | 0.9683      | 1.2423   |
| 1.0057                              | 1.0967        | 2.2543   | 0.9895                    | 1.0791      | 1.3889   |
| 1.0045                              | 1.1507        | 2.3643   | 0.9884                    | 1.1322      | 1.4567   |
| 0.9992                              | 1.3878        | 2.8514   | 0.9831                    | 1.3654      | 1.7568   |
| Qstd slope (m) = 2.08464            |               |          | Qa slope (m) = 1.30537    |             |          |
| intercept (b) = -0.03684            |               |          | intercept (b) = -0.02270  |             |          |
| coefficient (r) = 0.99994           |               |          | coefficient (r) = 0.99994 |             |          |
| y axis = SQRT[H2O(Pa/760) (298/Ta)] |               |          | y axis = SQRT[H2O(Ta/Pa)] |             |          |

CALCULATIONS

Vstd = Diff. Vol [(Pa-Diff. Hg)/760] (298/Ta)  
 Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]  
 Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{ [SQRT(H2O(Pa/760) (298/Ta))] - b}  
 Qa = 1/m{ [SQRT H2O(Ta/Pa)] - b}



輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration

## 校正證書

Certificate No. : C163248  
證書編號

ITEM TESTED / 送檢項目 ( Job No. / 序引編號 : IC16-1307 )      Date of Receipt / 收件日期 : 10 June 2016

Description / 儀器名稱 : Sound Level Calibrator  
Manufacturer / 製造商 : Rion  
Model No. / 型號 : NC-73  
Serial No. / 編號 : 10997142  
Supplied By / 委託者 : Envirotech Services Co.  
Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun,  
New Territories, Hong Kong

### TEST CONDITIONS / 測試條件

Temperature / 溫度 :  $(23 \pm 2)^{\circ}\text{C}$       Relative Humidity / 相對濕度 :  $(55 \pm 20)\%$   
Line Voltage / 電壓 : ---

### TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 15 June 2016

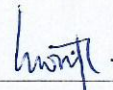
### TEST RESULTS / 測試結果

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).

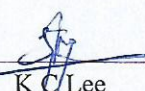
The test equipment used for calibration are traceable to National Standards via :

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

Tested By  
測試

  
H T Wong  
Technical Officer

Certified By  
核證

  
K C Lee  
Project Engineer

Date of Issue : 17 June 2016  
簽發日期

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

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 – 校正及檢測實驗室

c/o 香港新界屯門興安里一號青山灣機樓四樓

Tel/電話: 2927 2606

Fax/傳真: 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com

Page 1 of 2

# Certificate of Calibration

## 校正證書

Certificate No. : C163248  
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

| Equipment ID | Description                       | Certificate No. |
|--------------|-----------------------------------|-----------------|
| CL130        | Universal Counter                 | C153519         |
| CL281        | Multifunction Acoustic Calibrator | PA160023        |
| TST150A      | Measuring Amplifier               | C161175         |

- Test procedure : MA100N.

- Results :

### 5.1 Sound Level Accuracy

| UUT<br>Nominal Value | Measured Value<br>(dB) | Mfr's Spec.<br>(dB) | Uncertainty of Measured Value<br>(dB) |
|----------------------|------------------------|---------------------|---------------------------------------|
| 94 dB, 1 kHz         | 93.7                   | $\pm 0.5$           | $\pm 0.2$                             |

### 5.2 Frequency Accuracy

| UUT Nominal Value<br>(kHz) | Measured Value<br>(kHz) | Mfr's<br>Spec.  | Uncertainty of Measured Value<br>(Hz) |
|----------------------------|-------------------------|-----------------|---------------------------------------|
| 1                          | 0.985                   | 1 kHz $\pm 2\%$ | $\pm 1$                               |

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

### Note :

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.



輝創工程有限公司

Sun Creation Engineering Limited  
Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C164166  
證書編號

**ITEM TESTED / 送檢項目** ( Job No. / 序引編號 : IC16-1465 )      Date of Receipt / 收件日期 : 20 July 2016  
Description / 儀器名稱 : Precision Integrating Sound Level Meter  
Manufacturer / 製造商 : Rion  
Model No. / 型號 : NL-18  
Serial No. / 編號 : 00360030  
Supplied By / 委託者 : Envirotech Services Co.  
Room 113, 1/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 : (55 ± 20)%  
Line Voltage / 電壓 : ---

## TEST SPECIFICATIONS / 測試規範

Calibration check

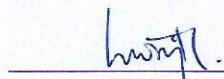
**DATE OF TEST / 測試日期** : 29 July 2016


## 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
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By :   
測試 : H T Wong  
Technical Officer

Certified By :   
核證 : K C Lee  
Project Engineer

Date of Issue : 1 August 2016  
簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.  
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。



# Certificate of Calibration

## 校正證書

Certificate No. : C164166  
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 was performed before the test.
3. The results presented are the mean of 3 measurements at each calibration point.
4. Test equipment :

| <u>Equipment ID</u> | <u>Description</u>                  | <u>Certificate No.</u> |
|---------------------|-------------------------------------|------------------------|
| CL280               | 40 MHz Arbitrary Waveform Generator | C160077                |
| CL281               | Multifunction Acoustic Calibrator   | PA160023               |

5. Test procedure : MA101N.

6. Results :

- 6.1 Sound Pressure Level

- 6.1.1 Reference Sound Pressure Level

| UUT Setting |      |                     |                | Applied Value |             | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|-------------|------|---------------------|----------------|---------------|-------------|------------------|-----------------------------|
| Range (dB)  | Mode | Frequency Weighting | Time Weighting | Level (dB)    | Freq. (kHz) |                  |                             |
| 50 - 110    | LA   | A                   | Fast           | 94.00         | 1           | 94.4             | ± 0.7                       |

- 6.1.2 Linearity

| UUT Setting |      |                     |                | Applied Value |             | UUT Reading (dB) |
|-------------|------|---------------------|----------------|---------------|-------------|------------------|
| Range (dB)  | Mode | Frequency Weighting | Time Weighting | Level (dB)    | Freq. (kHz) |                  |
| 60 - 120    | LA   | A                   | Fast           | 94.00         | 1           | 94.4 (Ref.)      |
|             |      |                     |                | 104.00        |             | 104.4            |
|             |      |                     |                | 114.00        |             | 114.4            |

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

- 6.2 Time Weighting

- 6.2.1 Continuous Signal

| UUT Setting |      |                     |                | Applied Value |             | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|-------------|------|---------------------|----------------|---------------|-------------|------------------|-----------------------------|
| Range (dB)  | Mode | Frequency Weighting | Time Weighting | Level (dB)    | Freq. (kHz) |                  |                             |
| 50 - 110    | LA   | A                   | Fast           | 94.00         | 1           | 94.4             | Ref.                        |
|             |      |                     | Slow           |               |             | 94.4             | ± 0.1                       |

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

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

# Certificate of Calibration

## 校正證書

Certificate No. : C164166  
證書編號

### 6.2.2 Tone Burst Signal (2 kHz)

| UUT Setting |      |                     |                | Applied Value |                | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|-------------|------|---------------------|----------------|---------------|----------------|------------------|-----------------------------|
| Range (dB)  | Mode | Frequency Weighting | Time Weighting | Level (dB)    | Burst Duration |                  |                             |
| 50 -110     | LA   | A                   | Fast           | 106.00        | Continuous     | 106.0            | Ref.                        |
|             | LAmx |                     |                |               | 200 ms         | 105.1            | -1.0 ± 1.0                  |
|             | LA   | Slow                | Continuous     |               | 106.0          | Ref.             |                             |
|             | LAmx |                     | 500 ms         |               | 102.4          | -4.1 ± 1.0       |                             |

### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

| UUT Setting |      |                     |                | Applied Value |         | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|-------------|------|---------------------|----------------|---------------|---------|------------------|-----------------------------|
| Range (dB)  | Mode | Frequency Weighting | Time Weighting | Level (dB)    | Freq.   |                  |                             |
| 50 - 110    | LA   | A                   | Fast           | 94.00         | 31.5 Hz | 54.7             | -39.4 ± 1.5                 |
|             |      |                     |                |               | 63 Hz   | 68.0             | -26.2 ± 1.5                 |
|             |      |                     |                |               | 125 Hz  | 78.0             | -16.1 ± 1.0                 |
|             |      |                     |                |               | 250 Hz  | 85.6             | -8.6 ± 1.0                  |
|             |      |                     |                |               | 500 Hz  | 91.1             | -3.2 ± 1.0                  |
|             |      |                     |                |               | 1 kHz   | 94.4             | Ref.                        |
|             |      |                     |                |               | 2 kHz   | 95.7             | +1.2 ± 1.0                  |
|             |      |                     |                |               | 4 kHz   | 95.5             | +1.0 ± 1.0                  |
|             |      |                     |                |               | 8 kHz   | 93.3             | -1.1 (+1.5 ; -3.0)          |
| 12.5 kHz    | 90.1 | -4.3 (+3.0 ; -6.0)  |                |               |         |                  |                             |

#### 6.3.2 C-Weighting

| UUT Setting |      |                     |                | Applied Value |         | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|-------------|------|---------------------|----------------|---------------|---------|------------------|-----------------------------|
| Range (dB)  | Mode | Frequency Weighting | Time Weighting | Level (dB)    | Freq.   |                  |                             |
| 50 - 110    | LC   | C                   | Fast           | 94.00         | 31.5 Hz | 91.3             | -3.0 ± 1.5                  |
|             |      |                     |                |               | 63 Hz   | 93.5             | -0.8 ± 1.5                  |
|             |      |                     |                |               | 125 Hz  | 94.2             | -0.2 ± 1.0                  |
|             |      |                     |                |               | 250 Hz  | 94.4             | 0.0 ± 1.0                   |
|             |      |                     |                |               | 500 Hz  | 94.5             | 0.0 ± 1.0                   |
|             |      |                     |                |               | 1 kHz   | 94.4             | Ref.                        |
|             |      |                     |                |               | 2 kHz   | 94.3             | -0.2 ± 1.0                  |
|             |      |                     |                |               | 4 kHz   | 93.6             | -0.8 ± 1.0                  |
|             |      |                     |                |               | 8 kHz   | 91.4             | -3.0 (+1.5 ; -3.0)          |
| 12.5 kHz    | 88.1 | -6.2 (+3.0 ; -6.0)  |                |               |         |                  |                             |

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

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

# Certificate of Calibration

## 校正證書

Certificate No. : C164166

證書編號

### 6.4 Time Averaging

| UUT Setting |      |                     |                  | Applied Value |                     |                   |                  |                       | UUT          | IEC 60804         |
|-------------|------|---------------------|------------------|---------------|---------------------|-------------------|------------------|-----------------------|--------------|-------------------|
| Range (dB)  | Mode | Frequency Weighting | Integrating Time | Freq. (kHz)   | Burst Duration (ms) | Burst Duty Factor | Burst Level (dB) | Equivalent Level (dB) | Reading (dB) | Type 1 Spec. (dB) |
| 50 - 110    | LAeq | A                   | 10 sec.          | 4             | 1                   |                   | 110              | 100                   | 100.1        | ± 0.5             |
|             |      |                     | 60 sec.          |               |                     |                   |                  | 90                    | 89.9         | ± 0.5             |
|             |      |                     | 5 min.           |               |                     |                   |                  | 80                    | 79.6         | ± 1.0             |
|             |      |                     |                  |               |                     |                   |                  | 70                    | 69.7         | ± 1.0             |

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 307435

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

|        |                        |   |
|--------|------------------------|---|
| 94 dB  | 31.5 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                                     |
|        | 12.5 kHz               | : ± 0.70 dB                                     |
| 104 dB | : 1 kHz                | : ± 0.10 dB (Ref. 94 dB)                        |
| 114 dB | : 1 kHz                | : ± 0.10 dB (Ref. 94 dB)                        |
|        | Burst equivalent level | : ± 0.2 dB (Ref. 110 dB continuous sound level) |

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

#### Note :

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.

Annex G

## Summary of Event/ Action Plans

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

**Annex G2**     *Event and Action Plan for Continuous Noise Monitoring*

| Event                        | Action  |   |   |   |
|------------------------------|---|---|---|---|
|                              | Works Contract 1109 ET  | IEC   | ER  | Contractor  |
| Exceeding Action/Limit Level | <ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Repeat measurement. If two consecutive measurements exceed Action/Limit Level, the exceedance is then confirmed</li> <li>3. If exceedance is confirmed, notify IEC, ER and Contractor</li> <li>4. Investigate the cause of exceedance and check Contractor's working procedures to determine possible mitigation to be implemented</li> <li>5. Discuss jointly with the IEC, ER and Contractor and formulate remedial measures</li> <li>6. Assess effectiveness of Contractor's remedial actions and keep IEC and ER informed of the results</li> </ol> | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the Works Contract 1109 ET</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ER, Works Contract 1109 ET and Contractor on the potential remedial measures</li> <li>4. Review and advise the Works Contract 1109 ET and ER on the effectiveness of the remedial measures proposed by the Contractor</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing</li> <li>2. Notify the Contractor and IEC</li> <li>3. In consultation with the Works Contract 1109 ET and IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>4. Ensure the proper implementation of remedial measures</li> <li>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</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify source with Works Contract 1109 ET</li> <li>2. If exceedance is confirmed, investigate the cause of exceedance and take immediate action to avoid further exceedance</li> <li>3. Submit proposals for remedial measures to the ER with copy to the IEC and ET of notification</li> <li>4. Implement the agreed proposals</li> <li>5. Liaise with ER to optimize the effectiveness of the agreed mitigation</li> <li>6. Revise and resubmit proposals if problem still not under control</li> <li>7. Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol> |

*Annex G3 Event and Action Plan for Construction Dust Monitoring*

| Event  | Action  |  |  |   |
|--|---|--|--|---|
|  | Contractor's Environmental Team<br>(Contractor's ET)  | Independent Environmental Checker<br>(IEC)   | Engineer Representative (ER)   | The Contractor  |
| <b>Action Level</b>                            |   |  |  |   |
| Exceedance for one sample                      | <ol style="list-style-type: none"> <li>1. Inform the IEC, Contractor and ER;</li> <li>2. Discuss with the Contractor, IEC and ER on the remedial measures required;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase the monitoring frequency</li> </ol>  | <ol style="list-style-type: none"> <li>1. Check the monitoring data submitted by the ET;</li> <li>2. Check the Contractor's working method;</li> <li>3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notifications of exceedance in writing;</li> </ol>  | <ol style="list-style-type: none"> <li>1. Identify reason(s), investigate the causes of exceedance and propose remedial measures;</li> <li>2. Implement remedial measures;</li> <li>3. Amend working methods and agree them with the ER as appropriate.</li> </ol>  |
| Exceedance for two or more consecutive samples | <ol style="list-style-type: none"> <li>1. Inform the IEC, Contractor and ER;</li> <li>2. Discuss with the ER, IEC and Contractor on the remedial measures required;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase the monitoring frequency to daily;</li> <li>5. If exceedance continues, arrange meeting with the IEC, ER and Contractor;</li> <li>6. If exceedance stops, the monitoring frequency will resume normal.</li> </ol> | <ol style="list-style-type: none"> <li>1. Check the monitoring data submitted by the ET;</li> <li>2. Check the Contractor's working method;</li> <li>3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify the Contractor, IEC and ET;</li> <li>3. Review and agree on the remedial measures proposed by the Contractor;</li> <li>4. Supervise the Implementation of remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify reasons and investigate the causes of exceedance;</li> <li>2. Submit proposals of remedial measures to the ER with a copy to the ET and IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend the proposal as appropriate.</li> </ol> |

| Event  | Action   |  |  |   |
|--|--|--|--|---|
|  | Contractor's Environmental Team<br>(Contractor's ET)   | Independent Environmental Checker<br>(IEC)   | Engineer Representative (ER)   | The Contractor  |
| <b>Limit Level</b>                             |  |  |  |   |
| Exceedance for one sample                      | <ol style="list-style-type: none"> <li>1. Inform the IEC, Contractor and ER;</li> <li>2. Repeat measurement to confirm findings;</li> <li>3. Increase the monitoring frequency to daily;</li> <li>4. Discuss with the ER, IEC and contractor on the remedial measures and assess the effectiveness.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Check the monitoring data submitted by the ET;</li> <li>2. Check the Contractor's working method;</li> <li>3. Discuss with the ET, ER and Contractor on possible remedial measures;</li> <li>4. Review and advise the ER and ET on the effectiveness of Contractor's remedial measures.</li> </ol>       | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify the Contractor, IEC and ET;</li> <li>3. Review and agree on the remedial measures proposed by the Contractor;</li> <li>4. Supervise the implementation of remedial measures.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Identify reason(s) and investigate the causes of exceedance;</li> <li>2. Take immediate action to avoid further exceedance;</li> <li>3. Submit proposals of remedial measures to ER with a copy to the ET and IEC within three working days of notification;</li> <li>4. Implement the agreed proposals;</li> <li>5. Amend proposal if appropriate.</li> </ol>  |
| Exceedance for two or more consecutive samples | <ol style="list-style-type: none"> <li>1. Notify the IEC, Contractor and EPD;</li> <li>2. Repeat measurement to confirm findings;</li> <li>3. Increase the monitoring frequency to daily;</li> <li>4. Carry out analysis of the Contractor's working procedures with the ER to determine possible mitigation to be implemented;</li> <li>5. Arrange meeting with the IEC, Contractor and ER to discuss the remedial measures to be taken;</li> <li>6. Review the effectiveness of the Contractor's remedial measures and keep the IEC, EPD and ER informed of the results;</li> <li>7. If exceedance stops, the monitoring frequency will return to normal.</li> </ol> | <ol style="list-style-type: none"> <li>1. Check the monitoring data submitted by the ET;</li> <li>2. Check the Contractor's working method;</li> <li>3. Discuss with the ET, ER, and Contractor on the potential remedial measures;</li> <li>4. Review and advise the ER and ET on the effectiveness of Contractor's remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify the Contractor, IEC and ET;</li> <li>3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures;</li> <li>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.</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify reason(s) and investigate the causes of exceedance;</li> <li>2. Take immediate actions to avoid further exceedance;</li> <li>3. Submit proposals of remedial measures to the ER with a copy to the IEC and ET within three working days of notification;</li> <li>4. Implement the agreed proposals;</li> <li>5. Revise and resubmit proposals if problem still not under control;</li> <li>6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol> |



*Annex G4 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 | <ol style="list-style-type: none"> <li>1. Inform the Contractor, the IEC and the ER.</li> <li>2. Discuss remedial actions with the IEC, ER and Contractor.</li> <li>3. Monitor remedial actions until rectification has been completed.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Check the inspection report.</li> <li>2. Check the Contractor's working method.</li> <li>3. Discuss with the ET, ER and Contractor on possible remedial measures.</li> <li>4. Advise the ER on the effectiveness of proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notifications of nonconformity in writing.</li> <li>2. Review and agree on the remedial measures proposed by the Contractor.</li> <li>3. Supervise the implementation of remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify reasons and investigate the non-conformity.</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods and agree them with the ER as appropriate.</li> <li>4. Rectify the damage and undertake any necessary replacement.</li> </ol>  |
| Repeated Nonconformity         | <ol style="list-style-type: none"> <li>1. Identify Reasons.</li> <li>2. Inform the Contractor, IEC and ER.</li> <li>3. Increase the inspection frequency.</li> <li>4. Discuss remedial actions with the IEC, ER and Contractor.</li> <li>5. Monitor remedial actions until rectification has been completed.</li> <li>6. If non-conformity stops, the inspection frequency return to normal (ie., Once every two weeks)</li> </ol> | <ol style="list-style-type: none"> <li>1. Check the inspection report.</li> <li>2. Check the Contractor's working method.</li> <li>3. Discuss with the ET and Contractor on possible remedial measures.</li> <li>4. Advise the ER on the effectiveness of proposed remedial measures.</li> </ol>     | <ol style="list-style-type: none"> <li>1. Notify the Contractor.</li> <li>2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented.</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Identify Reasons and investigate the non-conformity.</li> <li>2. Implement remedial measures.</li> <li>3. Amend working methods and agree them with the ER as appropriate.</li> <li>4. Rectify the damage and undertake any necessary replacement.</li> <li>5. Stop relevant works as determined by the ER until the non-conformity is abated.</li> </ol> |

Annex H

# Summary of Implementation Status of Environmental Mitigation

**Annex H Environmental Mitigation Implementation Status – SCL Works Contract 1109 (Stations and Tunnels of Kowloon City Section)**

**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 Samsung-Hsin Chong JV
- △ Deficiency of Mitigation Measures but rectified by Samsung-Hsin Chong JV
- N/A Not Applicable in Reporting Period

| EIA Ref.                            | EM&A Log 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 |
|-------------------------------------|---------------|--|---|--------------------------------|--|---|-----------------------|
| <b>Cultural Heritage Impact</b>     |               |  |   |                                |  |   |                       |
| S4.9                                | CH3           | <u>Submit an Archaeological Action Plan</u><br>Conduct survey-cum-excavation and additional boreholes/trenches investigation at the Sacred Hill (North) Study Area prior to construction.  | Salvage cultural remains at the Sacred Hill (North) Study Area    | Contractor                     | Sacred Hill (North) Area                   | Prior to the Construction Phase of TKW and associated tunnels | ✓                     |
| <b>Ecology (Construction Phase)</b> |               |  |   |                                |  |   |                       |
| S5.7                                | E5            | <u>Good Site Practices</u><br>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. | Minimise ecological impacts                                       | Contractor                     | All construction sites                     | Construction Stage  | ✓                     |

| EIA Ref.   | EM&A Log 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 |
|--|---------------|---|---|--------------------------------|--|---------------------------------|-----------------------|
|  |               | <p>The following good site practices should also be implemented:</p> <ul style="list-style-type: none"> <li>• Erection of temporary geotextile silt or sediment fences/oil traps around earth-moving works to trap sediments and prevent them from entering watercourses;</li> <li>• Avoidance of soil storage against trees or close to water bodies;</li> <li>• 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;</li> <li>• No on-site burning of waste;</li> <li>• Store waste and refuse in appropriate receptacles.</li> </ul> |   |                                |  |                                 |                       |
| <b>Landscape &amp; Visual (Construction Phase)</b> |               |   |   |                                |  |                                 |                       |
| S6.9.3   | LV1           | <p>The following good site practices and measures for minimisation and avoidance of potential impacts are recommended:</p> <p><u>Re-use of Existing Soil</u></p> <ul style="list-style-type: none"> <li>• For soil conservation, existing topsoil shall be re-used where possible for new planting areas within the project. The construction program shall consider using the soil removed from one phase for backfilling another. Suitable storage ground, gathering ground and mixing</li> </ul>   | Minimize visual & landscape impact                                | Contractor                     | Within Project Site                        | Construction Stage              | √                     |

| EIA Ref. | EM&A Log 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 |
|----------|---------------|--|---|--------------------------------|--|---------------------------------|-----------------------|
|          |               | ground may be set up on-site as necessary.   |   |                                |  |                                 |                       |
|          |               | <u>No-intrusion Zone</u>   |   |                                |  |                                 |                       |
|          |               | <ul style="list-style-type: none"> <li>To maximize protection to existing trees, ground vegetation and associated understorey habitats, construction contracts may designate "No-intrusion Zone" to various areas within the site boundary with rigid and durable fencing. The contractor should closely monitor and restrict the site working staff from entering the "no-intrusion zone", even for indirect construction activities and storage of equipment.</li> </ul>   |   |                                |  |                                 |                       |
|          |               | <u>Protection of Retained Trees</u>  |   |                                |  |                                 |                       |
|          |               | <ul style="list-style-type: none"> <li>All retained trees including trees in contractor's works sites should be recorded and photographed at the commencement of the Contract, and carefully protected during the construction period. Detailed tree protection specification shall be allowed and included in the Contract Specification, which specifies the tree protection requirement, submission and approval system, and the tree monitoring system.</li> <li>The Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including</li> </ul> |   |                                |  |                                 |                       |

| EIA Ref.                 | EM&A Log 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 |
|--------------------------|---------------|--|---|--------------------------------|--|---------------------------------|-----------------------|
| S6.12                    | LV2           | <p>trees in Contractor's works sites.</p> <p><u>Decorative Hoarding</u></p> <ul style="list-style-type: none"> <li>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.</li> </ul> <p><u>Management of facilities on work sites</u></p> <ul style="list-style-type: none"> <li>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).</li> </ul> <p><u>Tree Transplanting</u></p> <ul style="list-style-type: none"> <li>Trees of high to medium survival rates that would be affected by the works shall be transplanted where possible and practicable. Tree transplanting proposal including the final locations for the transplanted trees shall be submitted separately to seek relevant government department's approval, in accordance with ETWB TCW No 3/2006.</li> </ul> | Minimize visual & landscape impact                                | Contractor                     | Within Project Site                        | Construction Stage              | √                     |
| <b>Construction Dust</b> |               |  |   |                                |  |                                 |                       |
| 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              | √                     |

| EIA Ref. | EM&A Log 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 |
|----------|---------------|--|---|--------------------------------|--|---------------------------------|-----------------------|
| 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 <sup>2</sup> to achieve the dust removal efficiency  | Minimize dust impact at the nearby sensitive receivers            | Contractor                     | All construction sites                     | Construction stage              | √                     |
| S7.6.5   | D3            | <ul style="list-style-type: none"> <li>• Proper watering of exposed spoil should be undertaken throughout the construction phase;</li> <li>• 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;</li> <li>• Any dusty materials remaining after a stockpile has been removed should be wetted with water and cleared from the surface of roads;</li> <li>• A stockpile of dusty materials should not be extended beyond the pedestrian barriers, fencing or traffic cones.</li> <li>• The load of dusty materials on a vehicle leaving a construction site should be covered entirely by an impervious</li> </ul> | Minimize dust impact at the nearby sensitive receivers            | Contractor                     | All construction sites                     | Construction stage              | √                     |

| EIA Ref. | EM&A<br>Log Ref* | Recommended Mitigation Measures  | Objectives of the<br>Recommended Measures &<br>Main Concerns to address | Who to<br>implement<br>the<br>measures? | Location of the<br>implementation of<br>measures | When to implement<br>the measures? | Implementation<br>Status |
|----------|------------------|--|---|---|--|------------------------------------|--------------------------|
|          |                  | <p>sheeting to ensure that the dusty materials do not leak from the vehicle;</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• 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;</li> <li>• 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;</li> <li>• 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;</li> <li>• Any area that involves demolition activities should be sprayed with water or</li> </ul> |   |   |  |                                    |                          |



| EIA Ref. | EM&A<br>Log Ref* | Recommended Mitigation Measures  | Objectives of the<br>Recommended Measures &<br>Main Concerns to address | Who to<br>implement<br>the<br>measures? | Location of the<br>implementation of<br>measures | When to implement<br>the measures? | Implementation<br>Status |
|----------|------------------|--|---|---|--|------------------------------------|--------------------------|
|          |                  | <p>a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain an entirely wet surface</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• Any skip hoist for material transport should be totally enclosed by an impervious sheeting;</li> <li>• 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;</li> <li>• 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;</li> <li>• 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;</li> </ul> |   |   |  |                                    |                          |

| EIA Ref.                             | EM&A Log 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 |
|--------------------------------------|---------------|--|--|--------------------------------|---|---------------------------------|-----------------------|
|                                      |               | and<br><ul style="list-style-type: none"> <li>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.</li> </ul> |  |                                |   |                                 |                       |
| S7.6.5                               | D6            | Implement regular dust monitoring under EM&A programme during the construction stage.  | Monitoring of dust impact  | Contractor                     | Selected representative dust monitoring station | Construction stage              | ✓                     |
| 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              | ✓                     |
| <b>Construction Noise (Airborne)</b> |               |  |  |                                |   |                                 |                       |
| S8.3.6                               | N1            | Implement the following good site practices: <ul style="list-style-type: none"> <li>only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work</li> </ul>   | Control construction airborne noise                                  | Contractor                     | All construction sites                          | Construction stage              | ✓                     |

| EIA Ref. | EM&A Log 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 |
|----------|---------------|--|---|--------------------------------|--|---------------------------------|-----------------------|
|          |               | <p>periods or should be throttled down to a minimum;</p> <ul style="list-style-type: none"> <li>• plant known to emit noise strongly in one direction, where possible, should be orientated so that the noise is directed away from nearby NSRs;</li> <li>• silencers or mufflers on construction equipment should be properly fitted and maintained during the period of construction works;</li> <li>• mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>• material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul> |   |                                |  |                                 |                       |
| 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 construction period.   | Reduce the construction noise levels at low-level zone of NSRs through partial screening. | Contractor                     | All construction sites                     | Construction stage              | ✓                     |
| 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              | ✓                     |
| 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  | Operate sequentially within   | Contractor                     | Contractor All                             | Construction stage              | ✓                     |

| EIA Ref.             | EM&A Log 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 practicable.  | the same work site to reduce the construction airborne noise  |                                | construction sites where practicable             |                                 |                       |
| S8.3.6               | N6            | Implement noise monitoring under EM&A programme.  | Monitor the construction noise levels at the selected representative locations                      | Contractor                     | Selected representative noise monitoring station | Construction stage              | √                     |
| <b>Water Quality</b> |               |   |   |                                |  |                                 |                       |
| S10.7.1              | W1            | In accordance with the Practice Noise for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following:<br><u>Construction Runoffs and Site Drainage</u><br><ul style="list-style-type: none"> <li>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. The design of the temporary on-site drainage system will be undertaken by the Contractor prior to the commencement of construction.</li> <li>The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to</li> </ul> | 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<br>Log Ref* | Recommended Mitigation Measures   | Objectives of the<br>Recommended Measures &<br>Main Concerns to address | Who to<br>implement<br>the<br>measures? | Location of the<br>implementation of<br>measures | When to implement<br>the measures? | Implementation<br>Status |
|----------|------------------|---|---|---|--|------------------------------------|--------------------------|
|          |                  | <p>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.</p> <ul style="list-style-type: none"> <li>• 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<sup>3</sup>/s, a sedimentation basin of 30m<sup>3</sup> would be required and for a flow rate of 0.5 m<sup>3</sup>/s the basin would be 150 m<sup>3</sup>. The detailed design of the sand/silt traps shall be undertaken by the Contractor prior to the commencement of construction.</li> <li>• 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.</li> <li>• 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</li> </ul> |   |   |  |                                    |                          |

| EIA Ref. | EM&A Log 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 |
|----------|---------------|---|---|--------------------------------|--|---------------------------------|-----------------------|
|          |               | <p>coarse stone ballast. An additional advantage from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m<sup>3</sup> 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.</li> <li>• Manholes (including newly constructed</li> </ul> |   |                                |  |                                 |                       |

| EIA Ref. | EM&A<br>Log Ref* | Recommended Mitigation Measures  | Objectives of the<br>Recommended Measures &<br>Main Concerns to address | Who to<br>implement<br>the<br>measures? | Location of the<br>implementation of<br>measures | When to implement<br>the measures? | Implementation<br>Status |
|----------|------------------|--|---|---|--|------------------------------------|--------------------------|
|          |                  | <p>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.</p> <ul style="list-style-type: none"> <li>• 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 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.</li> <li>• 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</li> </ul> |   |   |  |                                    |                          |

| EIA Ref. | EM&A Log 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 |
|----------|---------------|--|---|--------------------------------|--|---------------------------------|-----------------------|
|          |               | <p>silty water to public roads and drains.</p> <ul style="list-style-type: none"> <li>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.</li> <li>Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.</li> <li>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 prevent spilled fuel oils from reaching nearby water sensitive receivers.</li> <li>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.</li> <li>Adopt best management practices</li> </ul> |   |                                |  |                                 |                       |
| S10.7.1  | W2            | <p><u>Tunnelling Works</u></p> <ul style="list-style-type: none"> <li>Uncontaminated discharge should pass through sedimentation tanks prior to off-site discharge.</li> <li>The wastewater with a high concentration</li> </ul>   | To minimize construction water quality impact from tunnelling works | Contractor                     | All tunnelling portion                     | Construction stage              | N/A                   |



| EIA Ref. | EM&A Log 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 |
|----------|---------------|--|---|--------------------------------|--|---------------------------------|-----------------------|
|          |               | <p>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.</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> |   |                                |  |                                 |                       |
| S10.7.1  | W3            | <p><u>Sewage Effluent</u></p> <p>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 appropriate disposal and maintenance.</p>  | To minimize water quality from sewage effluent                    | Contractor                     | All construction sites where practicable       | Construction stage              | ✓                     |
| S10.7.1  | W4            | <p><u>Groundwater from Contaminated Area in case contamination is found:</u></p> <ul style="list-style-type: none"> <li>• No direct discharge of groundwater from</li> </ul>   | To minimize groundwater quality impact from contaminated area     | Contractor                     | Excavation areas where contamination is found. | Construction stage              | N/A                   |

| EIA Ref. | EM&A<br>Log Ref* | Recommended Mitigation Measures  | Objectives of the<br>Recommended Measures &<br>Main Concerns to address | Who to<br>implement<br>the<br>measures? | Location of the<br>implementation of<br>measures | When to implement<br>the measures? | Implementation<br>Status |
|----------|------------------|--|---|---|--|------------------------------------|--------------------------|
|          |                  | <p>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.</p> <ul style="list-style-type: none"> <li>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.</li> </ul> |   |   |  |                                    |                          |

| EIA Ref. | EM&A Log 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 |
|----------|---------------|--|---|--------------------------------|--|---------------------------------|-----------------------|
|          |               | <ul style="list-style-type: none"> <li>If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The 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.</li> </ul> |   |                                |  |                                 |                       |
| S10.7.1  | W7            | In order to prevent accidental spillage of chemicals, the following is recommended:  | To minimize water quality impact from accidental                  | Contractor                     | All construction sites where practicable   | Construction stage              | √                     |

| EIA Ref.                                     | EM&A Log 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 |
|--|---------------|---|---|--------------------------------|--|---------------------------------|-----------------------|
|  |               | <p>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.</p> <ul style="list-style-type: none"> <li>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.</li> <li>Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation.</li> </ul>   | spillage  |                                |  |                                 |                       |
| <b>Waste Management (Construction Waste)</b> |               |   |   |                                |  |                                 |                       |
| S11.4.1.1                                    | WM1           | <p><u>On-site sorting of C&amp;D (Construction and Demolition) material</u></p> <ul style="list-style-type: none"> <li>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</li> </ul> | 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              | √                     |

| EIA Ref. | EM&A Log 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 |
|----------|---------------|---|---|--------------------------------|--|---------------------------------|-----------------------|
|          |               | 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. |   |                                |  |                                 |                       |
| S11.5.1  | WM2           | <p><u>Construction and Demolition (C&amp;D) Material</u></p> <ul style="list-style-type: none"> <li>• Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>• Carry out on-site sorting;</li> <li>• Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> <li>• Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;</li> </ul>   | 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              | √                     |

| EIA Ref. | EM&A Log 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 |
|----------|---------------|--|---|--------------------------------|--|---------------------------------|-----------------------|
|          |               | <ul style="list-style-type: none"> <li>Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified;</li> <li>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&amp;D materials and minimize waste generation during the course of construction.</li> <li>Disposal of the C&amp;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</li> </ul> |   |                                |  |                                 |                       |
| S11.5.1  | WM3           | <p><u>C&amp;D Waste</u></p> <ul style="list-style-type: none"> <li>Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&amp;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.</li> <li>The Contractor should recycle as much of the C&amp;D materials as possible on-site.</li> </ul>   | 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              | √                     |

| EIA Ref. | EM&A Log 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 |
|----------|---------------|---|---|--------------------------------|--|---------------------------------|-----------------------|
| S11.5.1  | WM4           | <p>Public fill and C&amp;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.</p> <p><u>General Refuse</u></p> <ul style="list-style-type: none"> <li>• General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>• 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.</li> <li>• 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.</li> <li>• Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme</li> </ul> | Minimize the production of general refuse and minimise odour, pest and litter impacts | Contractor                     | All construction sites                     | Construction stage              | √                     |

| EIA Ref. | EM&A Log 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 |
|----------|---------------|--|--|--------------------------------|--|---------------------------------|-----------------------|
| S11.5.1  | WM7           | <p>should be considered by the Contractor.</p> <p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> <li>Chemical waste as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, that is produced should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</li> <li>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.</li> <li>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.</li> </ul> | Control the chemical waste and ensure proper storage, handling and disposal. | Contractor                     | All construction sites                     | Construction stage              | √                     |



| EIA Ref. | EM&A<br>Log Ref* | Recommended Mitigation Measures   | Objectives of the<br>Recommended Measures &<br>Main Concerns to address | Who to<br>implement<br>the<br>measures? | Location of the<br>implementation of<br>measures | When to implement<br>the measures? | Implementation<br>Status |
|----------|------------------|---|---|---|--|------------------------------------|--------------------------|
|          |                  | <ul style="list-style-type: none"> <li>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.</li> </ul> |   |   |  |                                    |                          |

Annex I

## Regular Noise Monitoring Results

**Annex I Regular Noise Monitoring Results**

Station NMS-CA-6 No. 16-23 Nam Kok Road

| Date      | Start Time | End Time | Weather | Measured Noise level (dB(A)), L <sub>Aeq</sub> (30 min) | Baseline (dB(A)), L <sub>Aeq</sub> (30 min) | Corrected LAeq(dBA) <sup>(a)</sup> | Major Construction Noise Source(s) Observed | Other Noise Source(s) Observed | Temp. (°C) | Wind Speed (m/s) | Noise Meter Model / ID | Calibrator Model / ID |
|-----------|------------|----------|---------|---|---|------------------------------------|---|--------------------------------|------------|------------------|------------------------|-----------------------|
| 05-May-17 | 11:05      | 11:35    | Cloudy  | 63.2  | 76.1  | -(b)                               | -   | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 11-May-17 | 11:00      | 11:30    | Cloudy  | 62.9  | 76.1  | -(b)                               | -   | Traffic noise                  | 27         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 17-May-17 | 11:12      | 11:42    | Sunny   | 63.1  | 76.1  | -(b)                               | -   | Traffic noise                  | 27         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 23-May-17 | 11:05      | 11:35    | Fine    | 63.2  | 76.1  | -(b)                               | -   | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 29-May-17 | 11:00      | 11:30    | Sunny   | 63.0  | 76.1  | -(b)                               | -   | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |

Station NMS-CA-7 Skytower Tower 2

| Date      | Start Time | End Time | Weather | Measured Noise level (dB(A)), L <sub>Aeq</sub> (30 min) | Baseline (dB(A)), L <sub>Aeq</sub> (30 min) | Corrected LAeq(dBA) <sup>(a)</sup> | Major Construction Noise Source(s) Observed | Other Noise Source(s) Observed | Temp. (°C) | Wind Speed (m/s) | Noise Meter Model / ID | Calibrator Model / ID |
|-----------|------------|----------|---------|---|---|------------------------------------|---|--------------------------------|------------|------------------|------------------------|-----------------------|
| 05-May-17 | 10:12      | 10:42    | Cloudy  | 65.2  | 70.0  | -(b)                               | -   | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 11-May-17 | 10:10      | 10:40    | Cloudy  | 65.8  | 70.0  | -(b)                               | -   | Traffic noise                  | 27         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 17-May-17 | 10:15      | 10:45    | Sunny   | 66.1  | 70.0  | -(b)                               | -   | Traffic noise                  | 27         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 23-May-17 | 10:10      | 10:40    | Fine    | 65.9  | 70.0  | -(b)                               | -   | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 29-May-17 | 10:10      | 10:40    | Sunny   | 65.5  | 70.0  | -(b)                               | -   | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |

Station NMS-CA-8 SKH Good Shepherd Primary School

| Date      | Start Time | End Time | Weather | Measured Noise level (dB(A)), L <sub>Aeq</sub> (30 min) | Baseline (dB(A)), L <sub>Aeq</sub> (30 min) | Corrected LAeq(dBA) <sup>(a)</sup> | Major Construction Noise Source(s) Observed | Other Noise Source(s) Observed | Temp. (°C) | Wind Speed (m/s) | Noise Meter Model / ID | Calibrator Model / ID |
|-----------|------------|----------|---------|---|---|------------------------------------|---|--------------------------------|------------|------------------|------------------------|-----------------------|
| 05-May-17 | 8:00       | 8:30     | Cloudy  | 73.0  | 75.4  | -(b)                               | Crane operation                             | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 11-May-17 | 8:00       | 8:30     | Cloudy  | 72.0  | 75.4  | -(b)                               | Crane operation                             | Traffic noise                  | 27         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 17-May-17 | 8:00       | 8:30     | Sunny   | 72.6  | 75.4  | -(b)                               | Crane operation                             | Traffic noise                  | 27         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 23-May-17 | 8:00       | 8:30     | Fine    | 72.4  | 75.4  | -(b)                               | Crane operation                             | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 29-May-17 | 8:00       | 8:30     | Sunny   | 71.8  | 75.4  | -(b)                               | Crane operation                             | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |

Station NMS-CA-9 Kong Yiu Mansion

| Date      | Start Time | End Time | Weather | Measured Noise level (dB(A)), L <sub>Aeq</sub> (30 min) | Baseline (dB(A)), L <sub>Aeq</sub> (30 min) | Corrected LAeq(dBA) <sup>(a)</sup> | Major Construction Noise Source(s) Observed | Other Noise Source(s) Observed | Temp. (°C) | Wind Speed (m/s) | Noise Meter Model / ID | Calibrator Model / ID |
|-----------|------------|----------|---------|---|---|------------------------------------|---|--------------------------------|------------|------------------|------------------------|-----------------------|
| 05-May-17 | 9:25       | 9:55     | Cloudy  | 69.0  | 69.2  | -(b)                               | Crane operation                             | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 11-May-17 | 9:25       | 9:55     | Cloudy  | 69.2  | 69.2  | -(b)                               | Crane operation                             | Traffic noise                  | 27         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 17-May-17 | 9:30       | 10:00    | Sunny   | 68.7  | 69.2  | -(b)                               | Crane operation                             | Traffic noise                  | 27         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 23-May-17 | 9:25       | 9:55     | Fine    | 68.4  | 69.2  | -(b)                               | Crane operation                             | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 29-May-17 | 9:25       | 9:55     | Sunny   | 68.8  | 69.2  | -(b)                               | Crane operation                             | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |

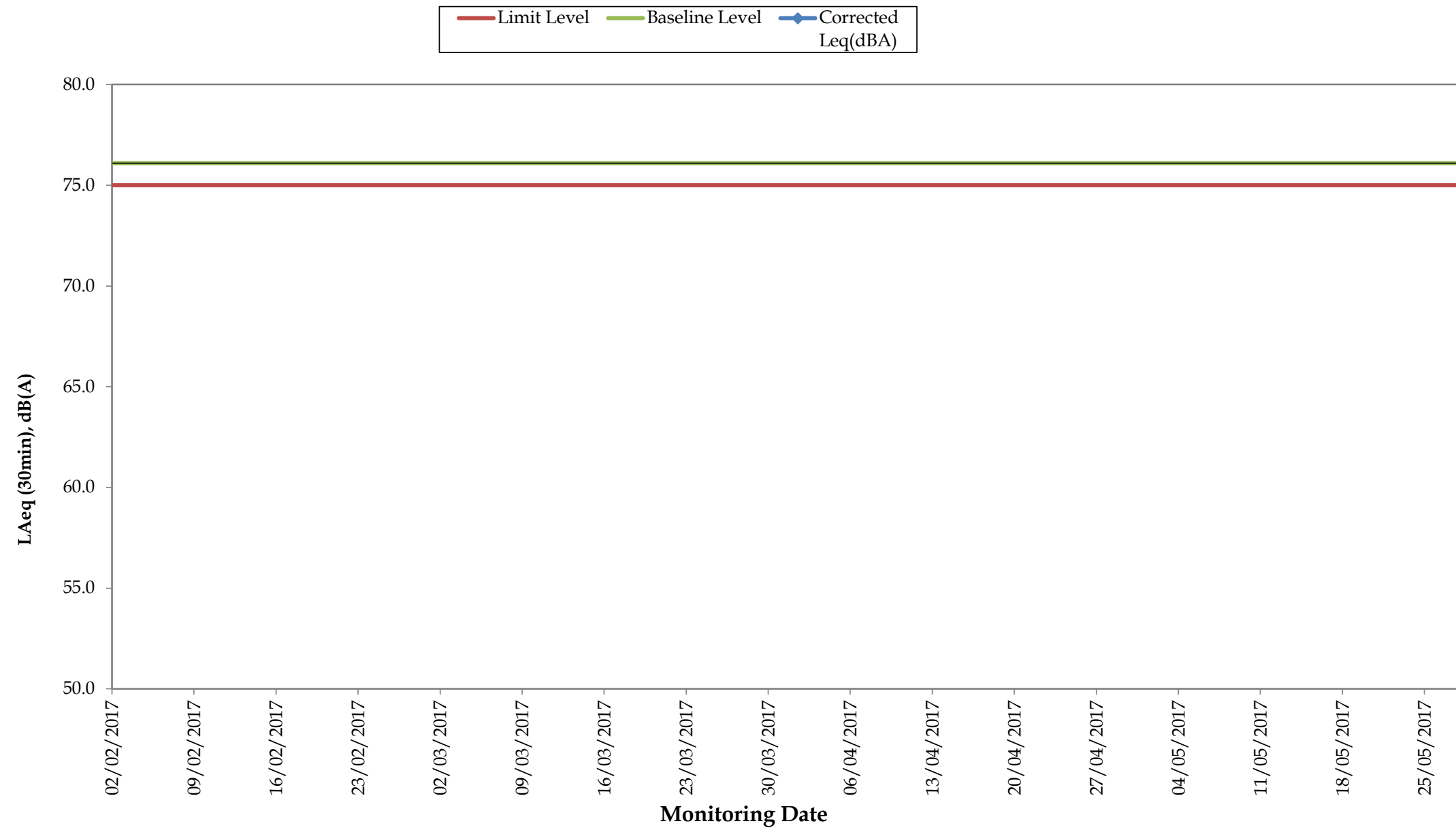
Station NMS-CA-10 Chat Ma Mansion

| Date      | Start Time | End Time | Weather | Measured Noise level (dB(A)), L <sub>Aeq</sub> (30 min) <sup>(c)</sup> | Baseline (dB(A)), L <sub>Aeq</sub> (30 min) | Corrected LAeq(dBA) <sup>(a)</sup> | Major Construction Noise Source(s) Observed | Other Noise Source(s) Observed | Temp. (°C) | Wind Speed (m/s) | Noise Meter Model / ID | Calibrator Model / ID |
|-----------|------------|----------|---------|--|---|------------------------------------|---|--------------------------------|------------|------------------|------------------------|-----------------------|
| 05-May-17 | 8:42       | 9:12     | Cloudy  | 75.9   | 76.6  | -(b)                               | Crane operation                             | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 11-May-17 | 8:43       | 9:13     | Cloudy  | 75.6   | 76.6  | -(b)                               | Breaker                                     | Traffic noise                  | 27         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 17-May-17 | 8:45       | 9:15     | Sunny   | 76.5   | 76.6  | -(b)                               | Crane operation                             | Traffic noise                  | 27         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 23-May-17 | 8:43       | 9:13     | Fine    | 76.8   | 76.6  | 63.3                               | Crane operation                             | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |
| 29-May-17 | 8:45       | 9:15     | Sunny   | 76.4   | 76.6  | -(b)                               | Crane operation                             | Traffic noise                  | 26         | 0.5              | NL-18 00360030         | NC-73 10997142        |

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.
- (c) The noise monitoring results carried out at NMS-CA-8 and NMS-CA-10 on 5, 11, 17, 23 and 29 May 2017 are higher than the daytime construction noise criterion. However, those results are not considered as exceedances as they are below the limit level after deducting the baseline noise level.

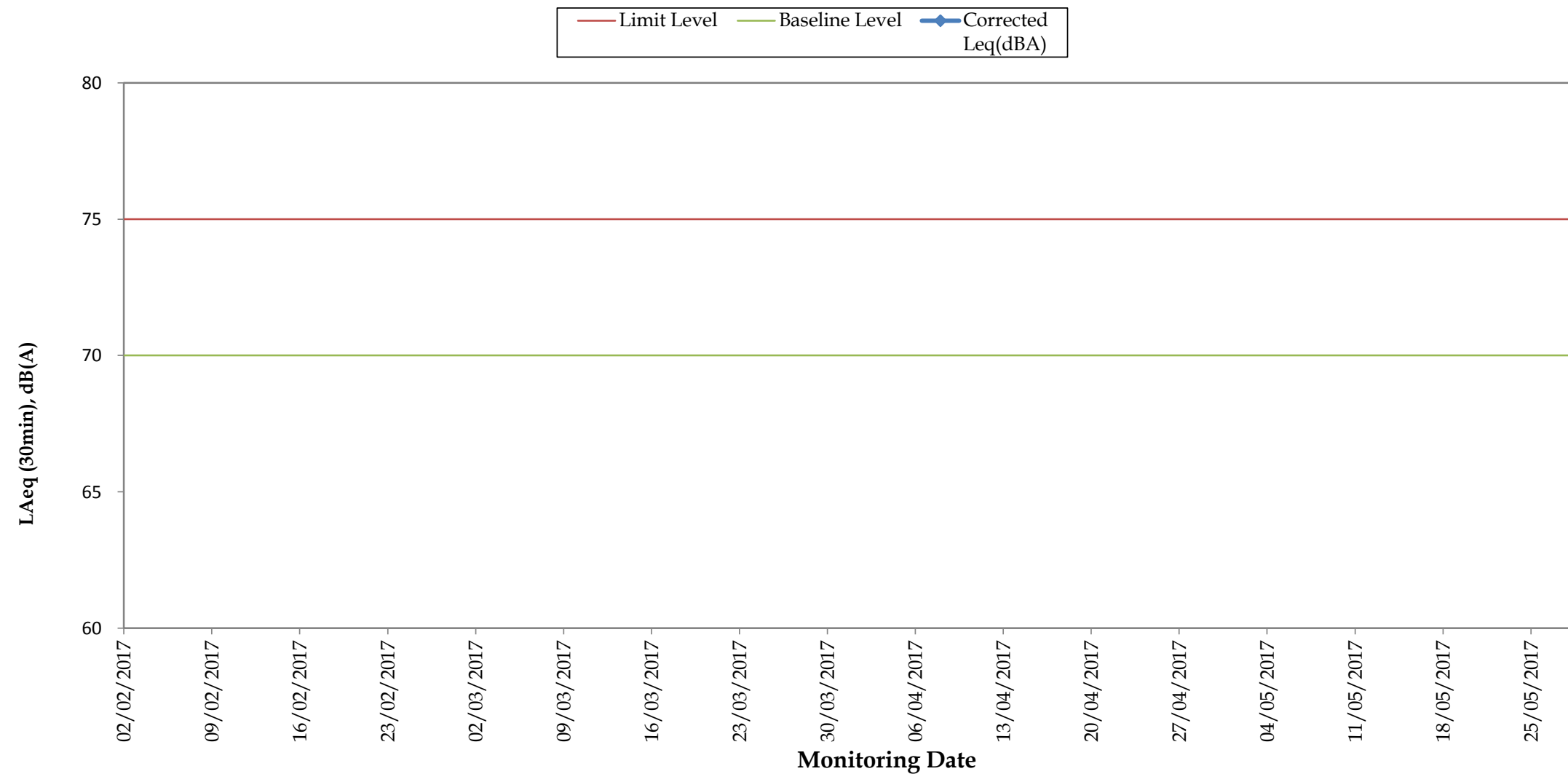
## Regular Noise Monitoring Results at NMS-CA-6 (No. 16-23 Nam Kok Road) (LAeq, 30min) for the Past 4 Months



**Remarks:**

- For those corrected noise levels that are not shown in this graph, the measured noise levels are equal to or below baseline level.

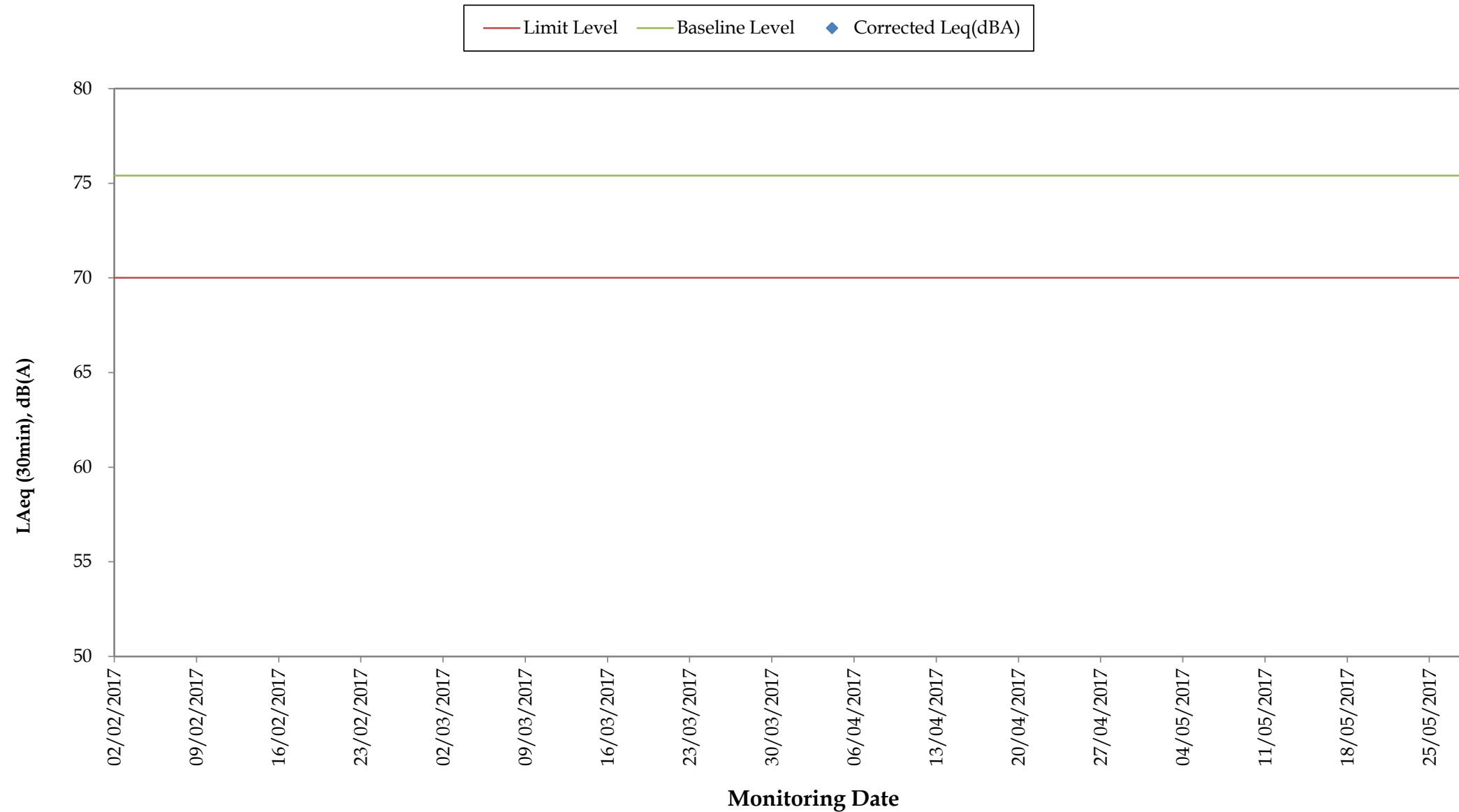
## Regular Noise Monitoring Results at NMS-CA-7 (Skytower Tower 2) (LAeq, 30min) for the Past 4 Months



Remarks:

- For those corrected noise levels that are not shown in this graph, the measured noise levels are equal to or below baseline level.

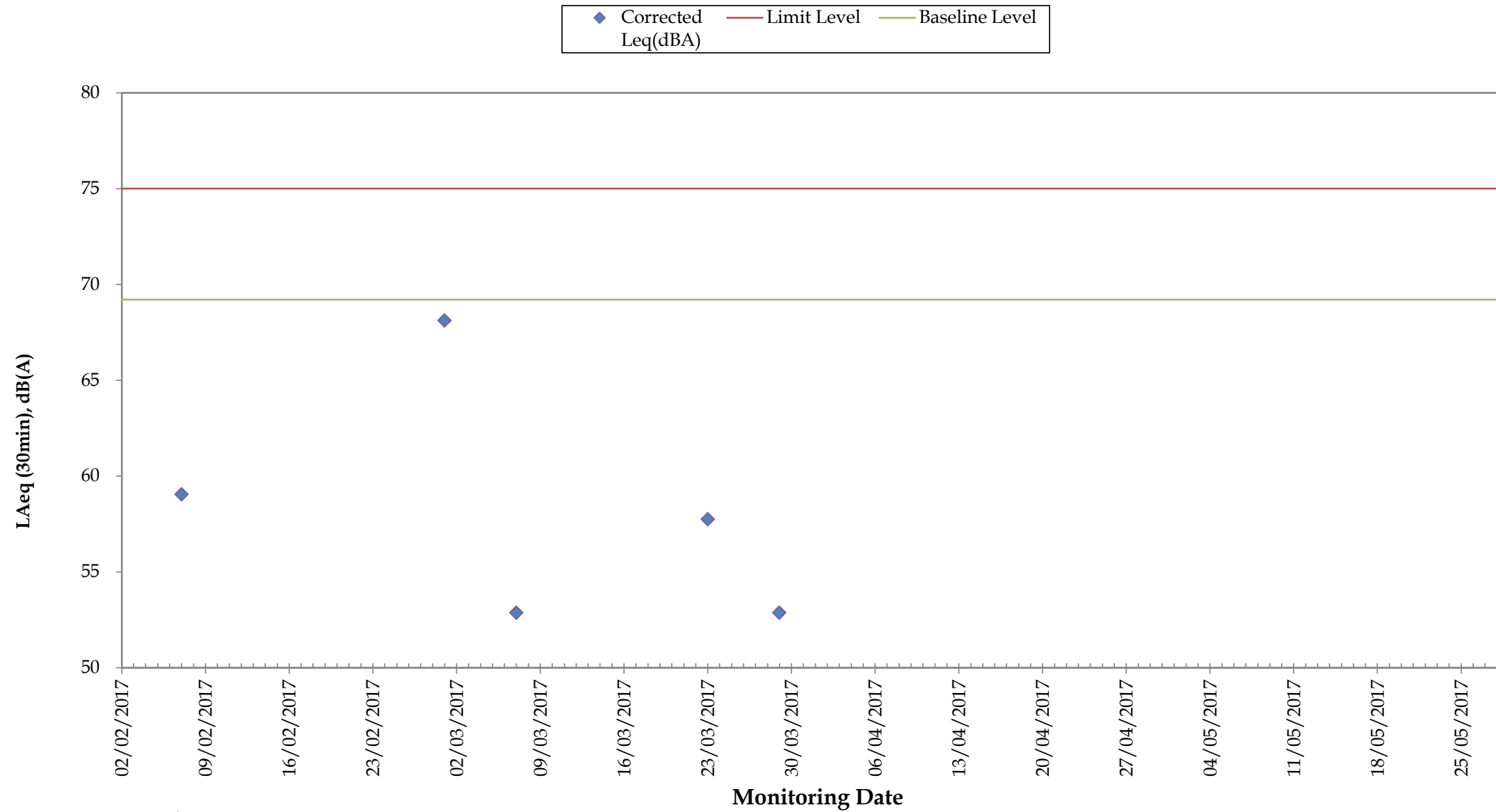
## Regular Noise Monitoring Results at NMS-CA- 8 (SKH Good Shepherd Primary School) (LAeq, 30min) for the Past 4 Months



**Remarks:**

- For those corrected noise levels that are not shown in this graph, the measured noise levels are equal to or below baseline level.
- The limit level was updated from 78dB(A) to 79 dB(A) on 22 Aug 2013 as per the latest CNMP and CNMMP.
- The limit level was updated from 79dB(A) to 70dB(A)/65dB(A) (during normal/examination period) from April 2016, as the continuous noise monitoring was completed in March 2016 according to the latest CNMP

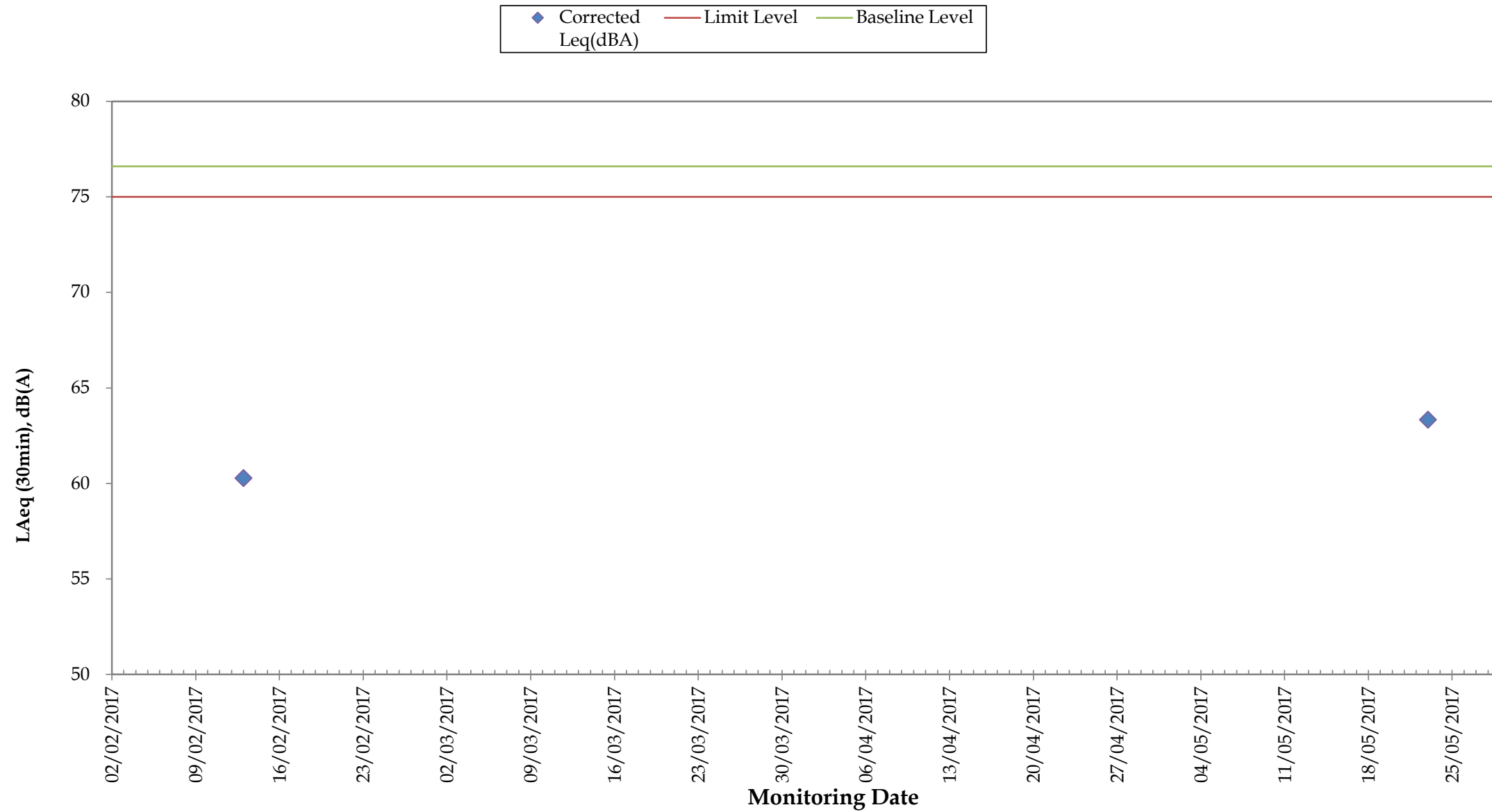
## Regular Noise Monitoring Results at NMS-CA-9 (Kong Yiu Mansion) (LAeq, 30min) ) for the Past 4 Months



Remarks:

- For those corrected noise levels that are not shown in this graph, the measured noise levels are equal to or below baseline level.

## Regular Noise Monitoring Results at NMS-CA-10 (Chat Ma Mansion) (LAeq, 30min) for the Past 4 Months



Remarks:

- For those corrected noise levels that are not shown in this graph, the measured noise levels are equal to or below baseline level.



Annex J

Construction Dust  
Monitoring Results and  
Wind Data Monitoring  
Results

**Annex J Construction Dust Monitoring Results**

Station DMS-6 Katherine Building

| Start     | Finish    | Weather | Filter Weight (g) | Elapsed Time Reading | Sampling Time | Flow Rate (m <sup>3</sup> /min) | Average  | TSP Conc. (µg/m <sup>3</sup> ) | Action Level (µg/m <sup>3</sup> ) | Limit Level (µg/m <sup>3</sup> ) | Observations / Remarks | Sampler ID | Filter ID |
|-----------|-----------|---------|-------------------|----------------------|---------------|---------------------------------|----------|--------------------------------|-----------------------------------|----------------------------------|------------------------|------------|-----------|
| Date      | Date      |         | Initial           | Final                | (hrs)         | Initial                         | Final    |                                |                                   |                                  |                        |            |           |
| 05-May-17 | 06-May-17 | Cloudy  | 2.8202            | 2.9411               | 24.00         | 17240.30                        | 17264.30 | 1.33                           | 1.33                              | 1.33                             | -                      | 0107       | 8648      |
| 11-May-17 | 12-May-17 | Cloudy  | 2.8268            | 2.9500               | 24.00         | 17264.30                        | 17288.30 | 1.33                           | 1.33                              | 1.33                             | -                      | 0107       | 8656      |
| 17-May-17 | 18-May-17 | Sunny   | 2.7914            | 2.9142               | 24.00         | 17288.30                        | 17312.30 | 1.33                           | 1.33                              | 1.33                             | -                      | 0107       | 8662      |
| 23-May-17 | 24-May-17 | Fine    | 2.8413            | 2.9595               | 24.00         | 17312.30                        | 17336.30 | 1.33                           | 1.33                              | 1.33                             | -                      | 0107       | 8668      |
| 29-May-17 | 30-May-17 | Sunny   | 2.8217            | 2.9464               | 24.00         | 17336.30                        | 17360.30 | 1.33                           | 1.33                              | 1.33                             | -                      | 0107       | 8674      |
|           |           |         |                   |                      |               |                                 |          | Minimum                        | 62                                |                                  |                        |            |           |
|           |           |         |                   |                      |               |                                 |          | Average                        | 64                                |                                  |                        |            |           |
|           |           |         |                   |                      |               |                                 |          | Maximum                        | 65                                |                                  |                        |            |           |

Station DMS-7 Parc 22

| Start     | Finish    | Weather | Filter Weight (g) | Elapsed Time Reading | Sampling Time | Flow Rate (m <sup>3</sup> /min) | Average | TSP Conc. (µg/m <sup>3</sup> ) | Action Level (µg/m <sup>3</sup> ) | Limit Level (µg/m <sup>3</sup> ) | Observations / Remarks | Sampler ID | Filter ID |
|-----------|-----------|---------|-------------------|----------------------|---------------|---------------------------------|---------|--------------------------------|-----------------------------------|----------------------------------|------------------------|------------|-----------|
| Date      | Date      |         | Initial           | Final                | (hrs)         | Initial                         | Final   |                                |                                   |                                  |                        |            |           |
| 05-May-17 | 06-May-17 | -       | -                 | -                    | -             | -                               | -       | -                              | 166.7                             | 260                              | -                      | 3574       | -         |
| 11-May-17 | 12-May-17 | -       | -                 | -                    | -             | -                               | -       | -                              | 166.7                             | 260                              | -                      | 3574       | -         |
| 17-May-17 | 18-May-17 | -       | -                 | -                    | -             | -                               | -       | -                              | 166.7                             | 260                              | -                      | 3574       | -         |
| 23-May-17 | 24-May-17 | -       | -                 | -                    | -             | -                               | -       | -                              | 166.7                             | 260                              | -                      | 3574       | -         |
| 29-May-17 | 30-May-17 | -       | -                 | -                    | -             | -                               | -       | -                              | 166.7                             | 260                              | -                      | 3574       | -         |
|           |           |         |                   |                      |               |                                 |         | Minimum                        | -                                 |                                  |                        |            |           |
|           |           |         |                   |                      |               |                                 |         | Average                        | -                                 |                                  |                        |            |           |
|           |           |         |                   |                      |               |                                 |         | Maximum                        | -                                 |                                  |                        |            |           |

Note: 24-hour averaged dust monitoring at DMS-7 (Parc-22) was temporary suspended since 13 December 2016 due to request from the Management Office

Station DMS-8 SKH Good Shepherd Primary School

| Start     |      | Finish    |      | Weather | Filter Weight (g) |        | Elapsed Time Reading |         | Sampling Time (hrs) | Flow Rate (m <sup>3</sup> /min) |       | Average | TSP Conc. (µg/m <sup>3</sup> ) | Action Level (µg/m <sup>3</sup> ) | Limit Level (µg/m <sup>3</sup> ) | Observations / Remarks | Sampler ID | Filter ID |
|-----------|------|-----------|------|---------|-------------------|--------|----------------------|---------|---------------------|---------------------------------|-------|---------|--------------------------------|-----------------------------------|----------------------------------|------------------------|------------|-----------|
| Date      | Time | Date      | Time |         | Initial           | Final  | Initial              | Final   |                     | Initial                         | Final |         |                                |                                   |                                  |                        |            |           |
| 05-May-17 | 8:05 | 06-May-17 | 8:05 | Cloudy  | 2.8162            | 2.9318 | 7445.11              | 7469.11 | 24.00               | 1.20                            | 1.20  | 1.20    | 67                             | 152.2                             | 260                              | -                      | 3572       | 8647      |
| 11-May-17 | 8:05 | 12-May-17 | 8:05 | Cloudy  | 2.8354            | 2.9700 | 7469.11              | 7493.11 | 24.00               | 1.20                            | 1.20  | 1.20    | 78                             | 152.2                             | 260                              | -                      | 3572       | 8655      |
| 17-May-17 | 8:05 | 18-May-17 | 8:05 | Sunny   | 2.8302            | 2.9511 | 7493.11              | 7517.11 | 24.00               | 1.20                            | 1.20  | 1.20    | 70                             | 152.2                             | 260                              | -                      | 3572       | 8661      |
| 23-May-17 | 8:05 | 24-May-17 | 8:05 | Fine    | 2.8129            | 2.9217 | 7517.11              | 7541.11 | 24.00               | 1.20                            | 1.20  | 1.20    | 63                             | 152.2                             | 260                              | -                      | 3572       | 8667      |
| 29-May-17 | 8:05 | 30-May-17 | 8:05 | Sunny   | 2.8143            | 2.9262 | 7541.11              | 7565.11 | 24.00               | 1.20                            | 1.20  | 1.20    | 65                             | 152.2                             | 260                              | -                      | 3572       | 8673      |
|           |      |           |      |         |                   |        |                      |         |                     |                                 |       |         | Minimum                        | 63                                |                                  |                        |            |           |
|           |      |           |      |         |                   |        |                      |         |                     |                                 |       |         | Average                        | 69                                |                                  |                        |            |           |
|           |      |           |      |         |                   |        |                      |         |                     |                                 |       |         | Maximum                        | 78                                |                                  |                        |            |           |

Station DMS-9 No. 12 Pau Chung Street

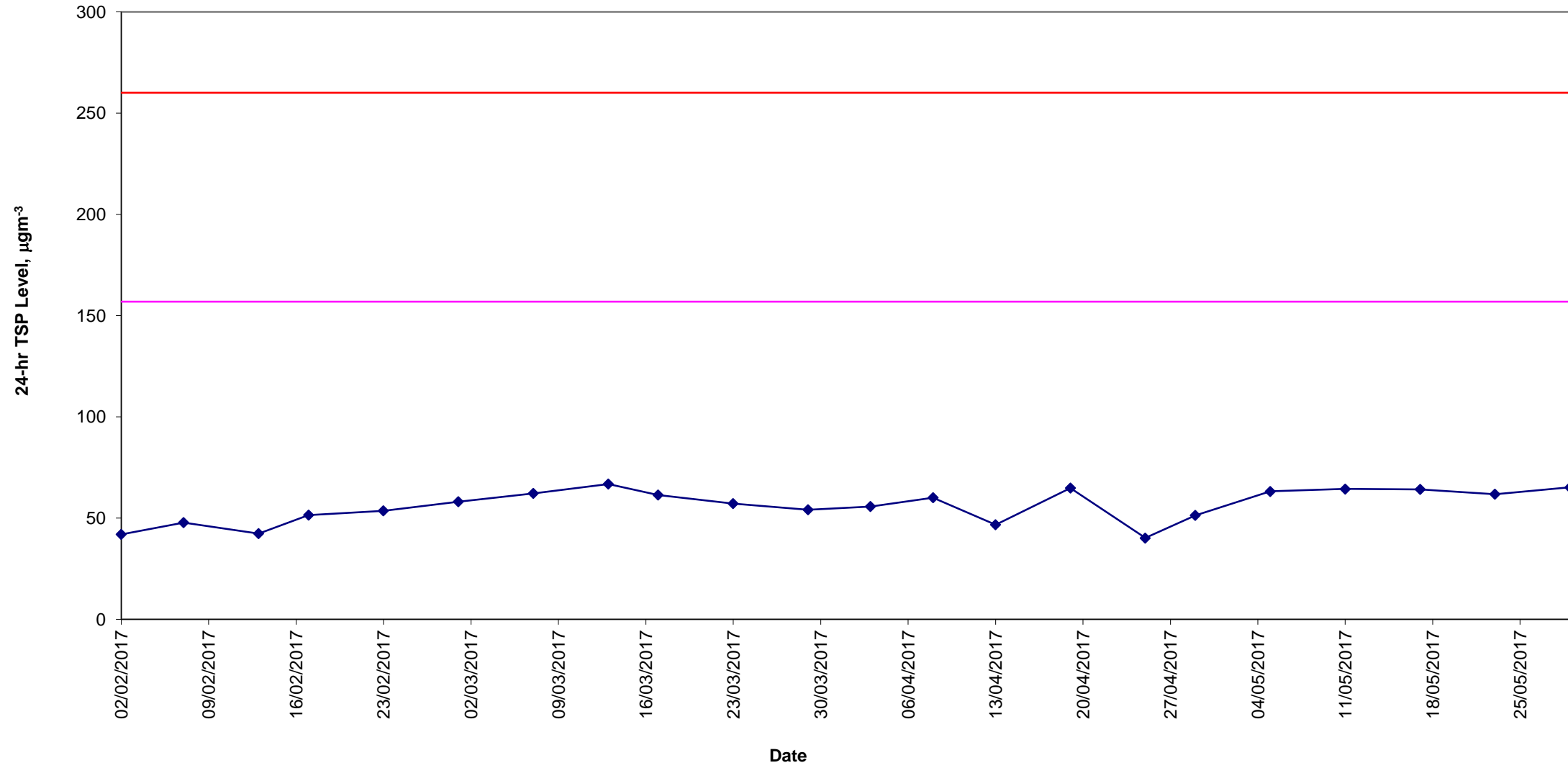
| Start     |      | Finish    |      | Weather | Filter Weight (g) |        | Elapsed Time Reading |          | Sampling Time (hrs) | Flow Rate (m <sup>3</sup> /min) |       | Average | TSP Conc. (µg/m <sup>3</sup> ) | Action Level (µg/m <sup>3</sup> ) | Limit Level (µg/m <sup>3</sup> ) | Observations / Remarks | Sampler ID | Filter ID |
|-----------|------|-----------|------|---------|-------------------|--------|----------------------|----------|---------------------|---------------------------------|-------|---------|--------------------------------|-----------------------------------|----------------------------------|------------------------|------------|-----------|
| Date      | Time | Date      | Time |         | Initial           | Final  | Initial              | Final    |                     | Initial                         | Final |         |                                |                                   |                                  |                        |            |           |
| 05-May-17 | 8:15 | 06-May-17 | 8:15 | Cloudy  | 2.8006            | 2.9467 | 17409.40             | 17433.40 | 24.00               | 1.22                            | 1.22  | 1.22    | 83                             | 160.9                             | 260                              | -                      | 0814       | 8646      |
| 11-May-17 | 8:15 | 12-May-17 | 8:15 | Cloudy  | 2.8356            | 2.9671 | 17433.40             | 17457.40 | 24.00               | 1.22                            | 1.22  | 1.22    | 75                             | 160.9                             | 260                              | -                      | 0814       | 8654      |
| 17-May-17 | 8:15 | 18-May-17 | 8:15 | Sunny   | 2.8147            | 2.9197 | 17457.40             | 17481.40 | 24.00               | 1.22                            | 1.22  | 1.22    | 60                             | 160.9                             | 260                              | -                      | 0814       | 8660      |
| 23-May-17 | 8:15 | 24-May-17 | 8:15 | Fine    | 2.8333            | 2.9271 | 17481.40             | 17505.40 | 24.00               | 1.22                            | 1.22  | 1.22    | 53                             | 160.9                             | 260                              | -                      | 0814       | 8666      |
| 29-May-17 | 8:15 | 30-May-17 | 8:15 | Sunny   | 2.8290            | 2.9417 | 17505.40             | 17529.40 | 24.00               | 1.22                            | 1.22  | 1.22    | 64                             | 160.9                             | 260                              | -                      | 0814       | 8672      |
|           |      |           |      |         |                   |        |                      |          |                     |                                 |       |         | Minimum                        | 53                                |                                  |                        |            |           |
|           |      |           |      |         |                   |        |                      |          |                     |                                 |       |         | Average                        | 67                                |                                  |                        |            |           |
|           |      |           |      |         |                   |        |                      |          |                     |                                 |       |         | Maximum                        | 83                                |                                  |                        |            |           |

Station DMS-10 Chat Ma Mansion

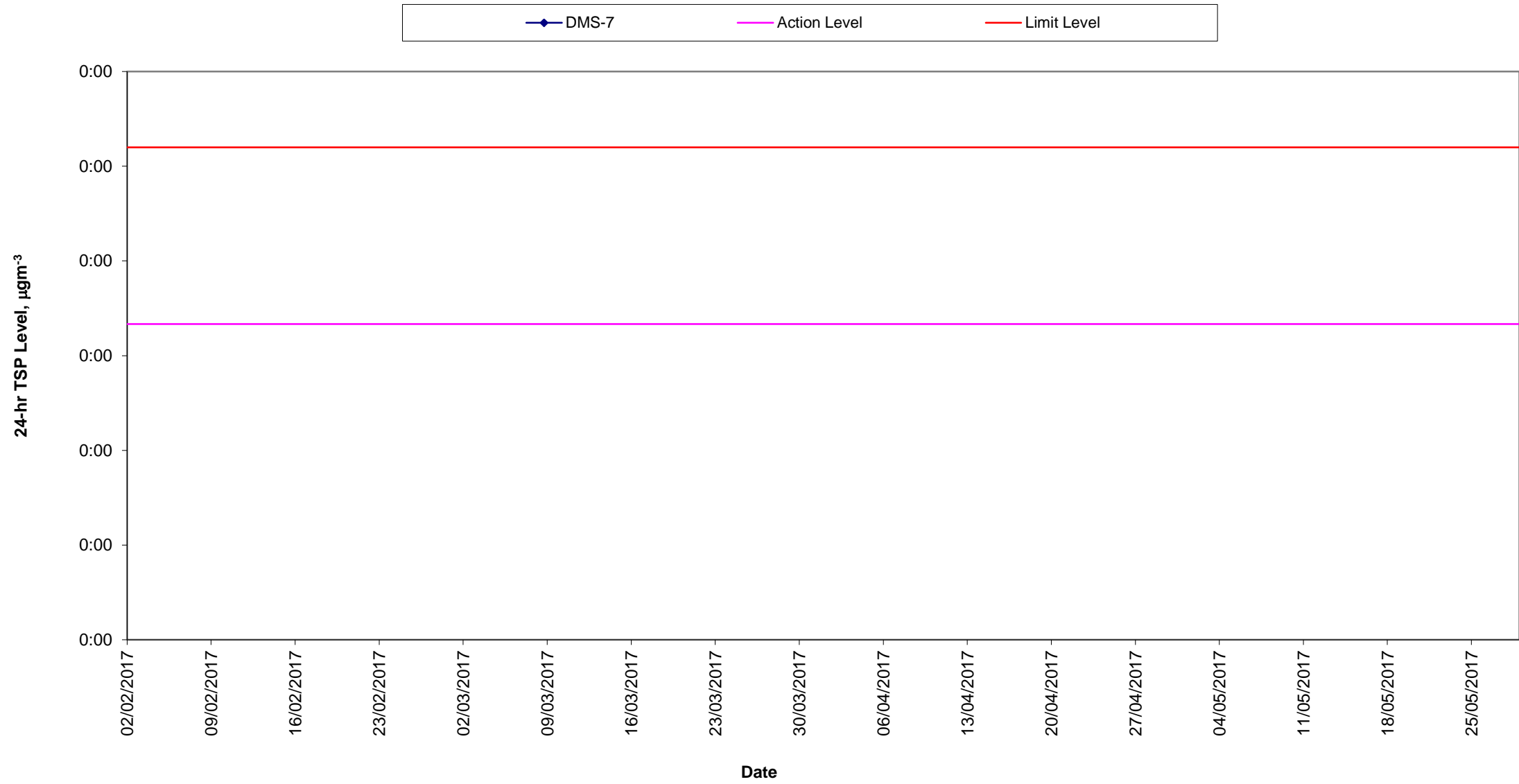
| Start     |      | Finish    |      | Weather | Filter Weight (g) |        | Elapsed Time Reading |         | Sampling Time (hrs) | Flow Rate (m <sup>3</sup> /min) |       | Average | TSP Conc. (µg/m <sup>3</sup> ) | Action Level (µg/m <sup>3</sup> ) | Limit Level (µg/m <sup>3</sup> ) | Observations / Remarks | Sampler ID | Filter ID |
|-----------|------|-----------|------|---------|-------------------|--------|----------------------|---------|---------------------|---------------------------------|-------|---------|--------------------------------|-----------------------------------|----------------------------------|------------------------|------------|-----------|
| Date      | Time | Date      | Time |         | Initial           | Final  | Initial              | Final   |                     | Initial                         | Final |         |                                |                                   |                                  |                        |            |           |
| 05-May-17 | 8:45 | 06-May-17 | 8:45 | Cloudy  | 2.8280            | 2.9500 | 7861.20              | 7885.20 | 24.00               | 1.22                            | 1.22  | 1.22    | 69                             | 170.4                             | 260                              | -                      | 3573       | 8645      |
| 11-May-17 | 8:45 | 12-May-17 | 8:45 | Cloudy  | 2.8321            | 2.9647 | 7885.20              | 7909.20 | 24.00               | 1.22                            | 1.22  | 1.22    | 75                             | 170.4                             | 260                              | -                      | 3573       | 8653      |
| 17-May-17 | 8:48 | 18-May-17 | 8:48 | Sunny   | 2.8212            | 2.9500 | 7909.20              | 7933.20 | 24.00               | 1.22                            | 1.22  | 1.22    | 73                             | 170.4                             | 260                              | -                      | 3573       | 8659      |
| 23-May-17 | 8:45 | 24-May-17 | 8:45 | Fine    | 2.8401            | 2.9415 | 7933.20              | 7957.20 | 24.00               | 1.22                            | 1.22  | 1.22    | 58                             | 170.4                             | 260                              | -                      | 3573       | 8665      |
| 29-May-17 | 8:48 | 30-May-17 | 8:48 | Sunny   | 2.8362            | 2.9469 | 7957.20              | 7981.20 | 24.00               | 1.22                            | 1.22  | 1.22    | 63                             | 170.4                             | 260                              | -                      | 3573       | 8671      |
|           |      |           |      |         |                   |        |                      |         |                     |                                 |       |         | Minimum                        | 58                                |                                  |                        |            |           |
|           |      |           |      |         |                   |        |                      |         |                     |                                 |       |         | Average                        | 68                                |                                  |                        |            |           |
|           |      |           |      |         |                   |        |                      |         |                     |                                 |       |         | Maximum                        | 75                                |                                  |                        |            |           |

### Construction Dust Monitoring Results for the Past 4 Months DMS-6 (Katherine Building)

◆ DMS-6    ◆ Action Level    ◆ Limit Level



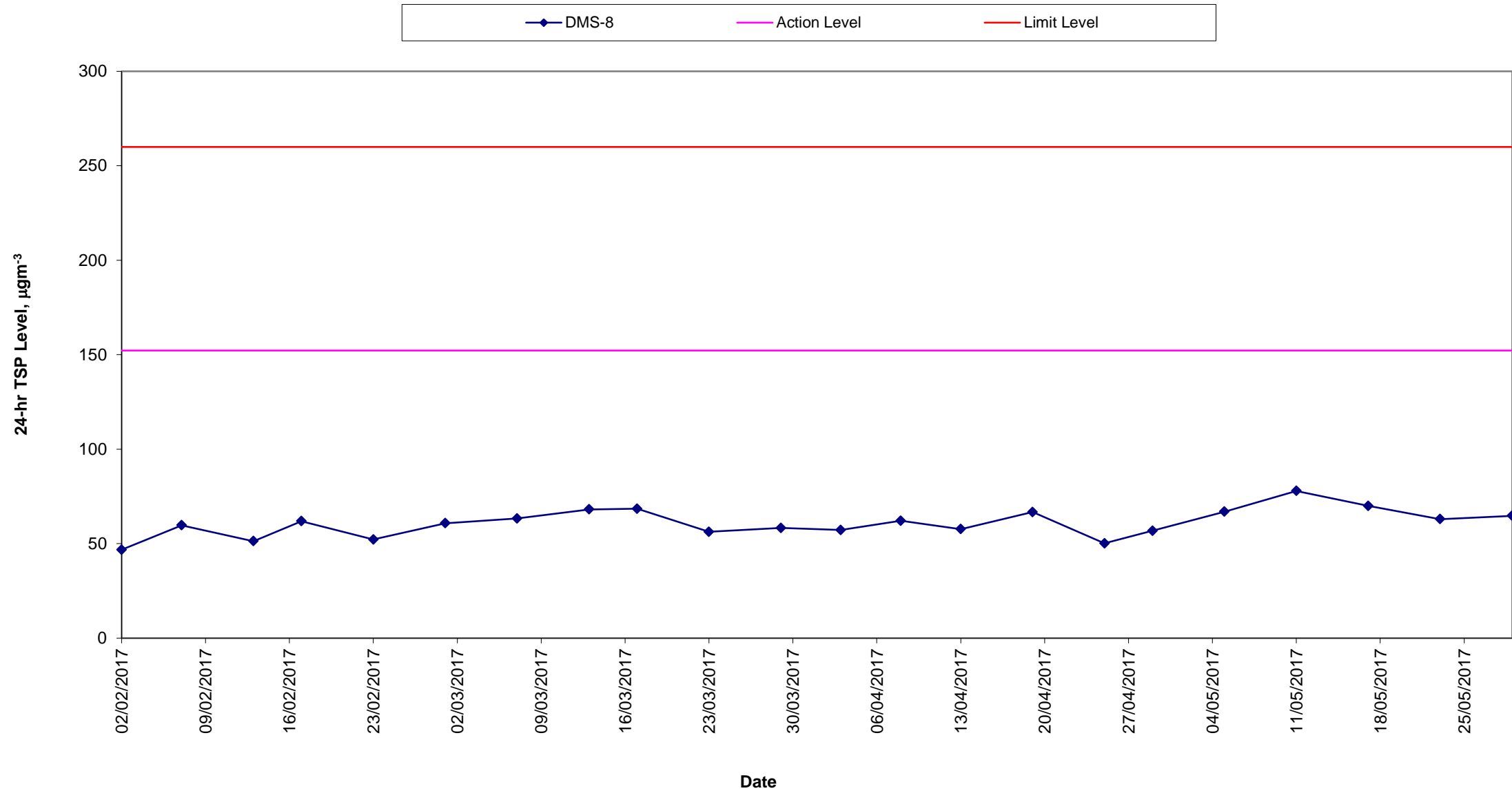
### Construction Dust Monitoring Results for the Past 4 Months DMS- 7 (Parc 22)



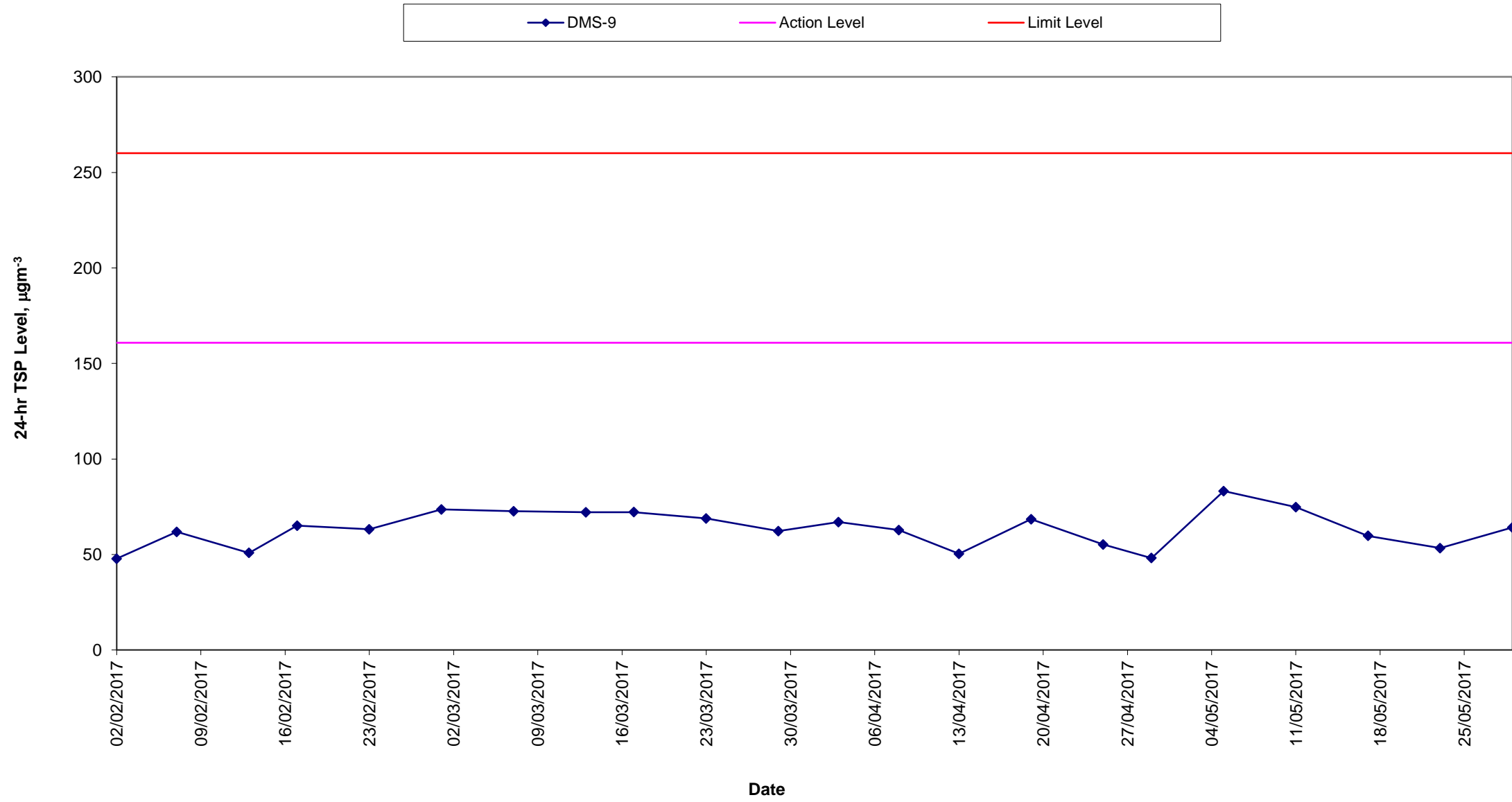
Remark:

- 24-hour averaged dust monitoring at DMS-7 (Parc-22) was temporary suspended since 13 December 2016 due to request from the Management Office.

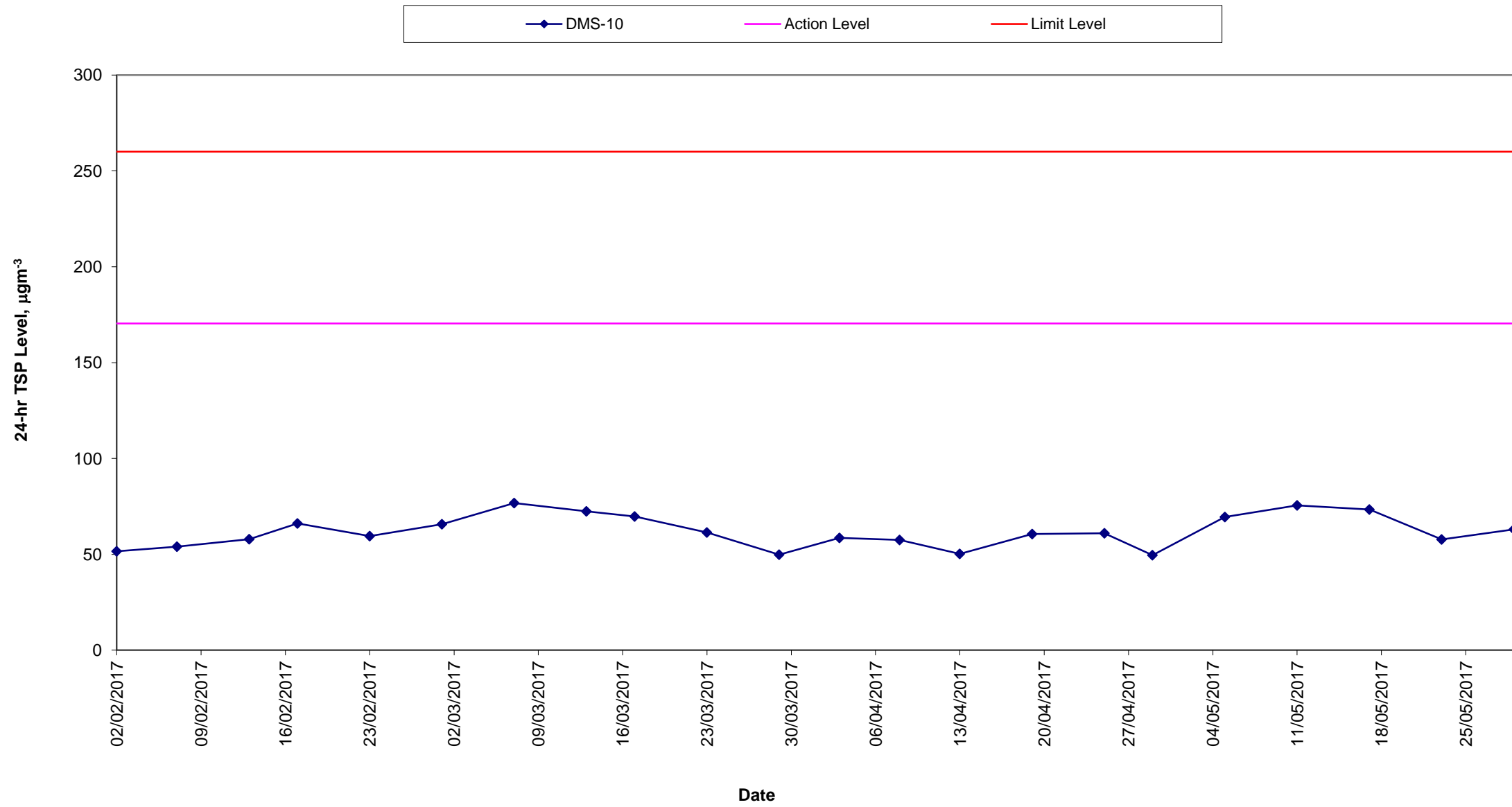
### Construction Dust Monitoring Results for the Past 4 Months DMS-8 (SKH Good Shepherd Primary School)



Construction Dust Monitoring Results for the Past 4 Months  
DMS-9 (No.12 Pau Chung Street)



### Construction Dust Monitoring Results for the Past 4 Months DMS-10 (Chat Ma Mansion)



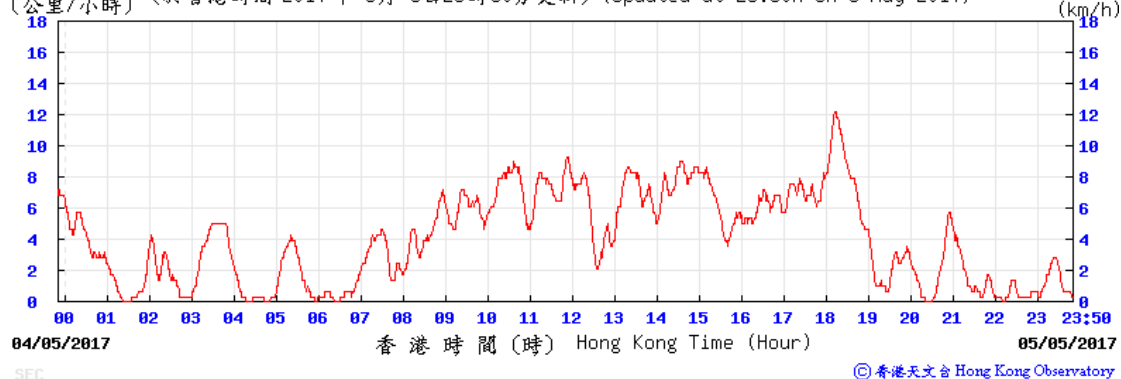


# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

## 5-6 May 2017

Wind Speed:

(公里/小時) (於香港時間 2017 年 5 月 5 日 23 時 50 分更新) (Updated at 23:50H on 5 May 2017)



Wind Speed:

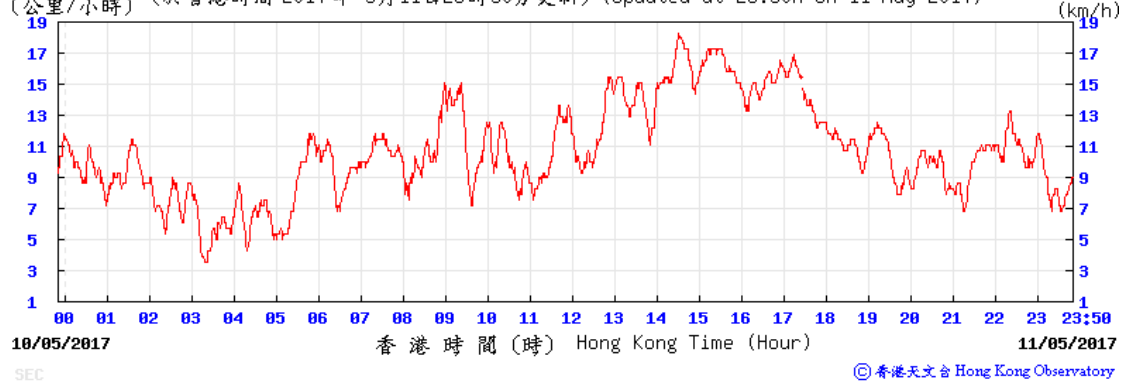
(公里/小時) (於香港時間 2017 年 5 月 6 日 23 時 50 分更新) (Updated at 23:50H on 6 May 2017)



## 11-12 May 2017

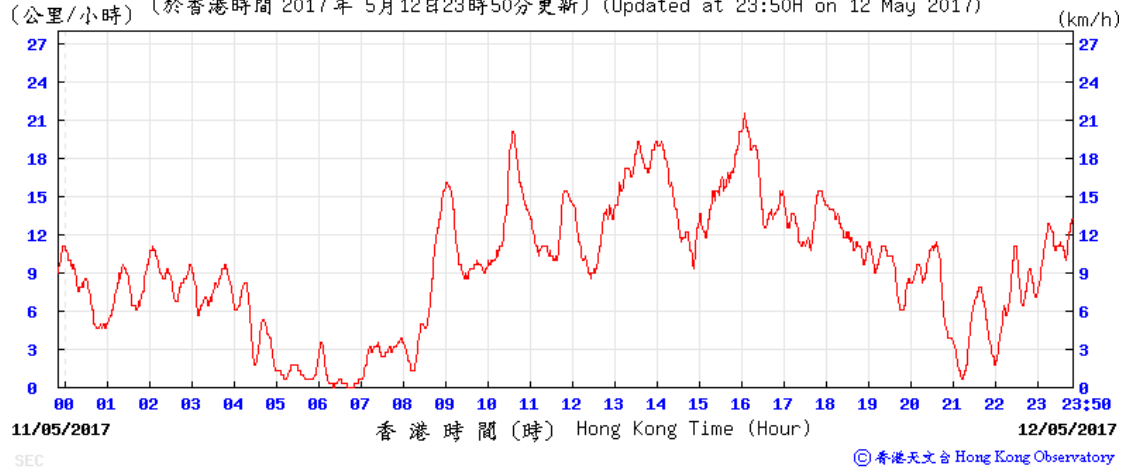
Wind Speed:

(公里/小時) (於香港時間 2017 年 5 月 11 日 23 時 50 分更新) (Updated at 23:50H on 11 May 2017)



Wind Speed:

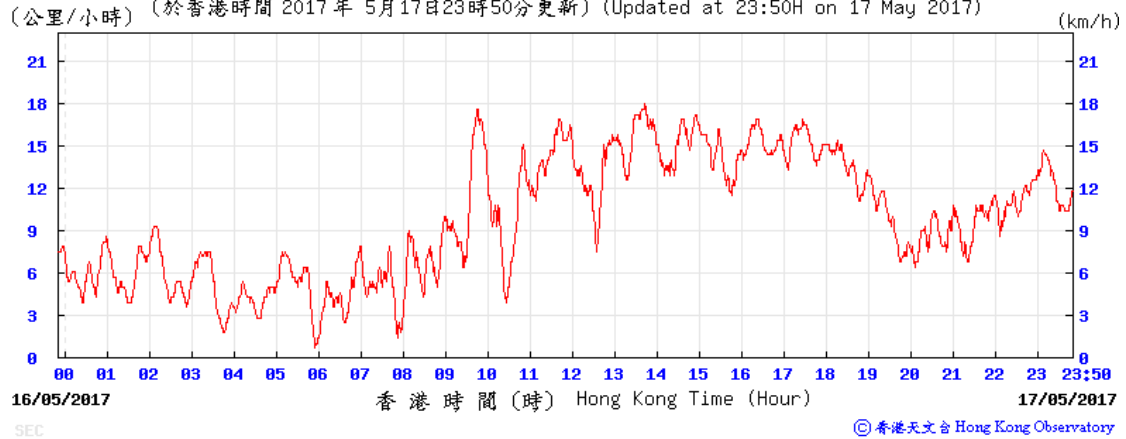
(公里/小時) (於香港時間 2017 年 5 月 12 日 23 時 50 分更新) (Updated at 23:50H on 12 May 2017)



## 17-18 May 2017

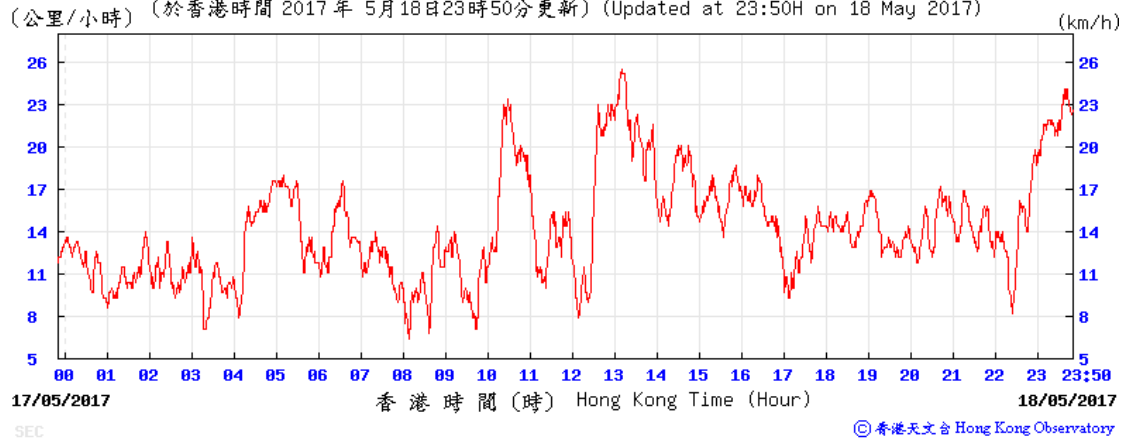
Wind Speed:

(公里/小時) (於香港時間 2017 年 5 月 17 日 23 時 50 分更新) (Updated at 23:50H on 17 May 2017)



Wind Speed:

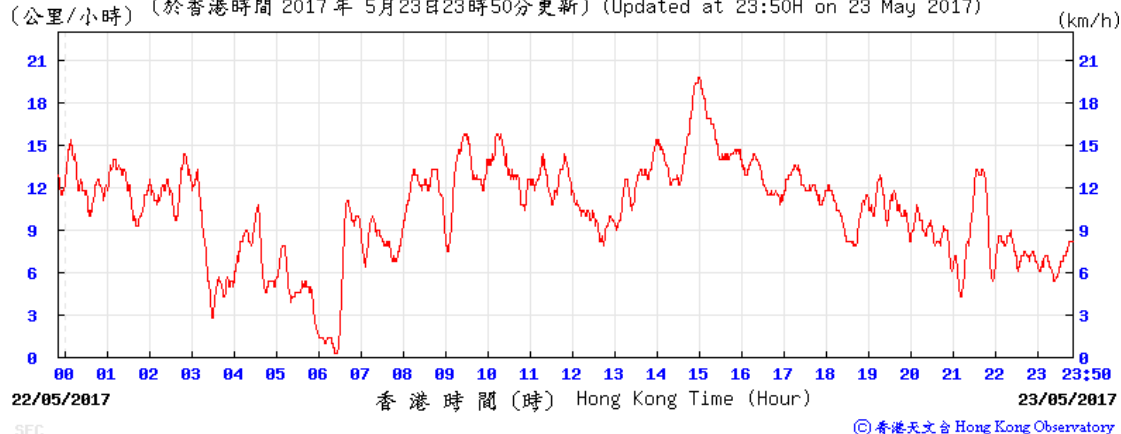
(公里/小時) (於香港時間 2017 年 5 月 18 日 23 時 50 分更新) (Updated at 23:50H on 18 May 2017)



## 23-24 May 2017

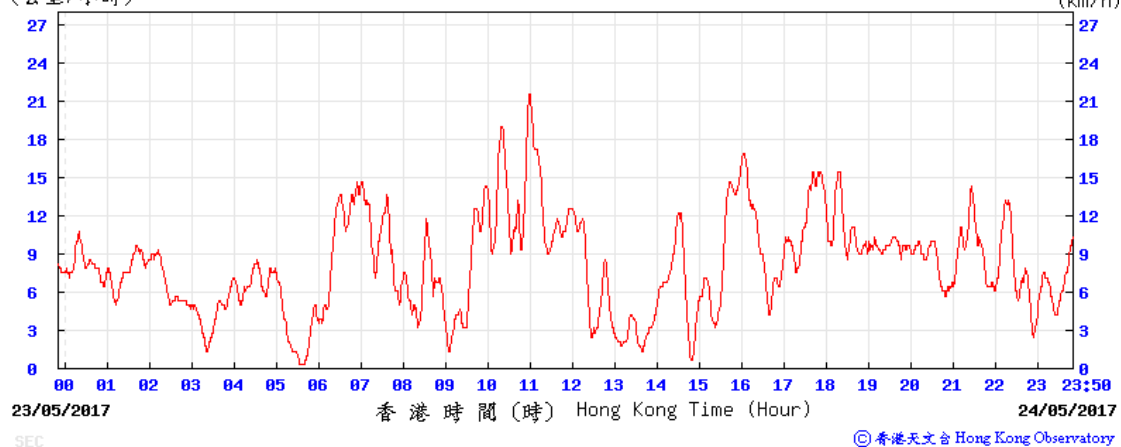
Wind Speed:

(公里/小時) (於香港時間 2017 年 5 月 23 日 23 時 50 分更新) (Updated at 23:50H on 23 May 2017)



Wind Speed:

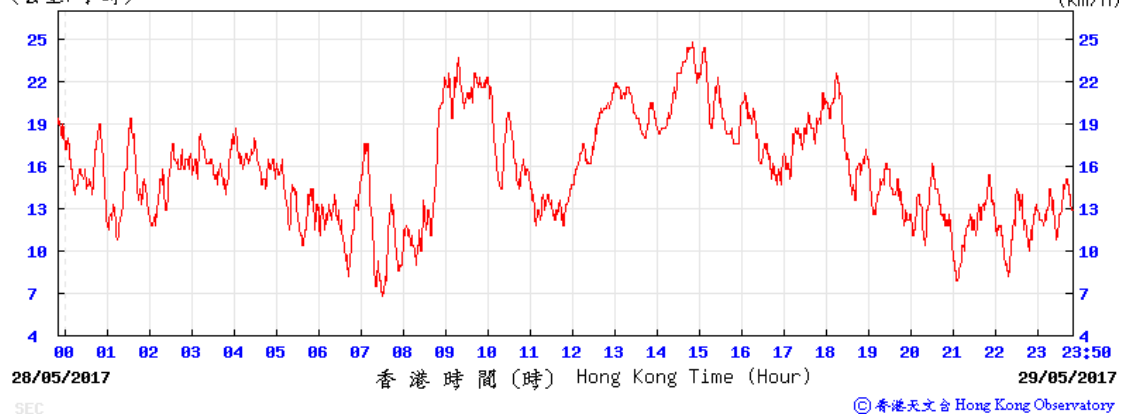
(公里/小時) (於香港時間 2017 年 5 月 24 日 23 時 50 分更新) (Updated at 23:50H on 24 May 2017)



## 29-30 May 2017

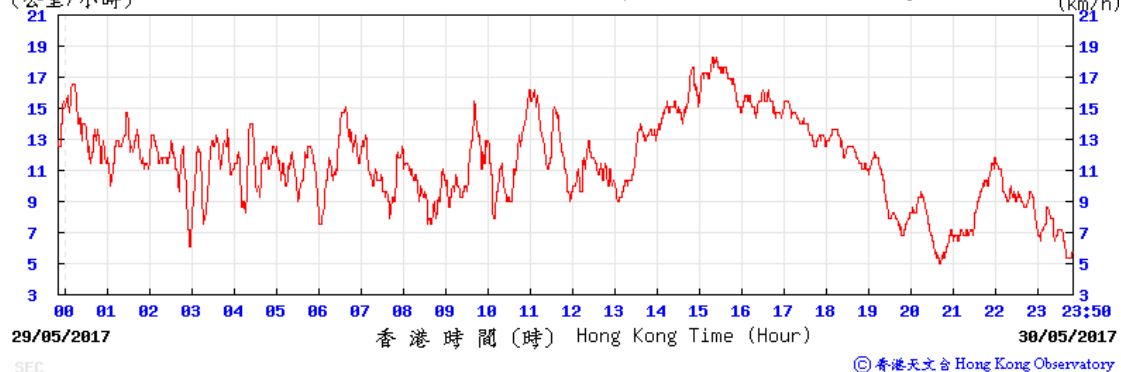
Wind Speed:

(公里/小時) (於香港時間 2017 年 5 月 29 日 23 時 50 分更新) (Updated at 23:50H on 29 May 2017)



Wind Speed:

(公里/小時) (於香港時間 2017 年 5月30日23時50分更新) (Updated at 23:50H on 30 May 2017)

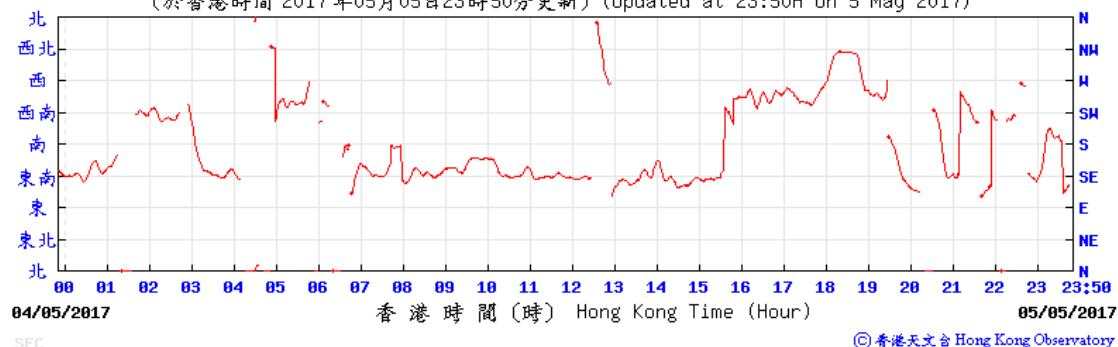


## Average wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

### 5-6 May 2017

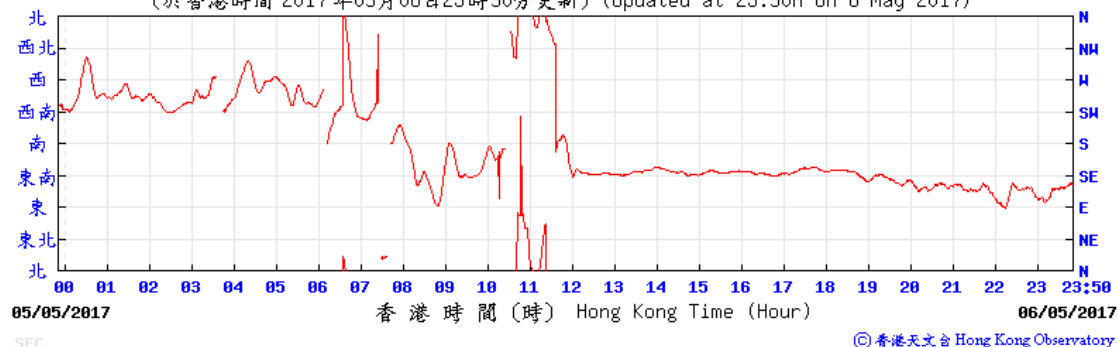
Wind Direction:

(於香港時間 2017 年05月05日23時50分更新) (Updated at 23:50H on 5 May 2017)



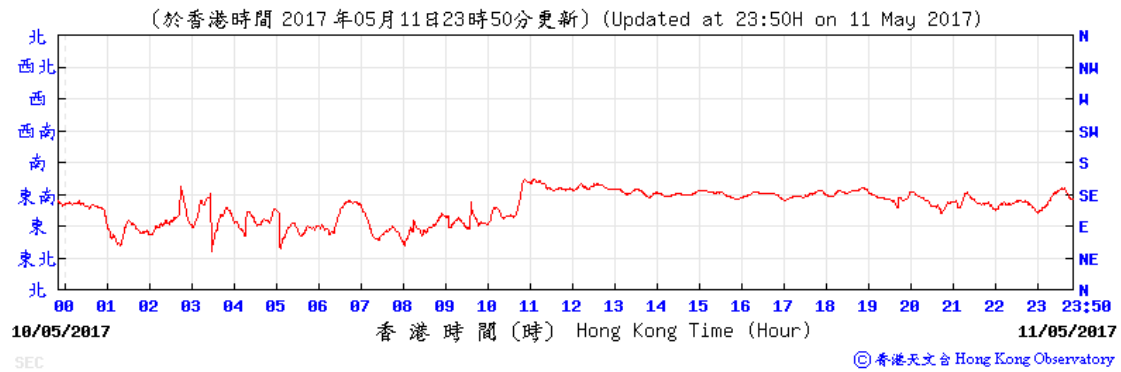
Wind Direction:

(於香港時間 2017 年05月06日23時50分更新) (Updated at 23:50H on 6 May 2017)

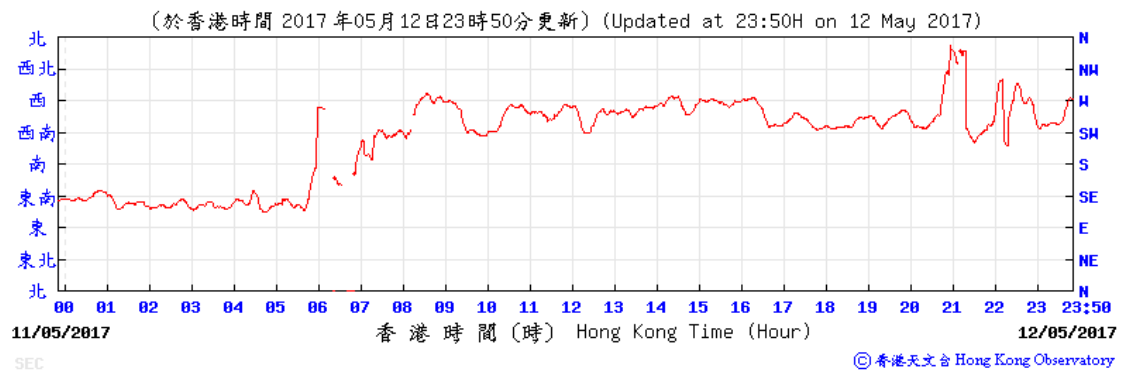


## 11-12 May 2017

Wind Direction:

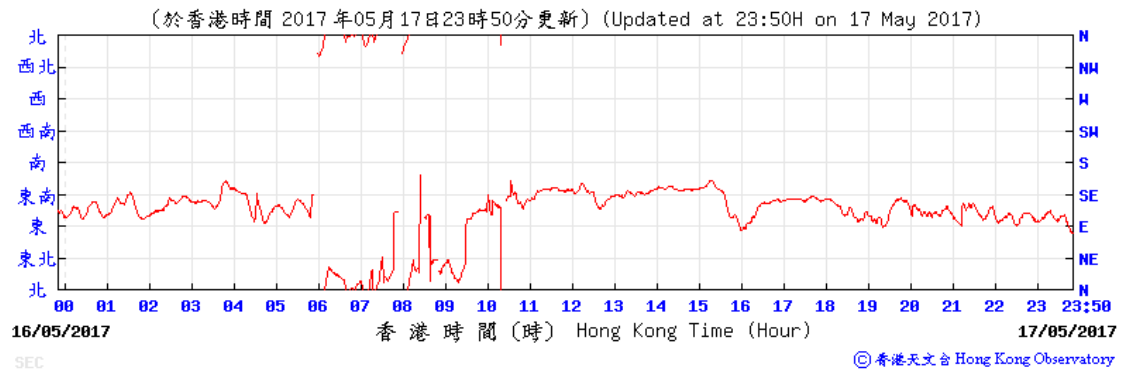


Wind Direction:

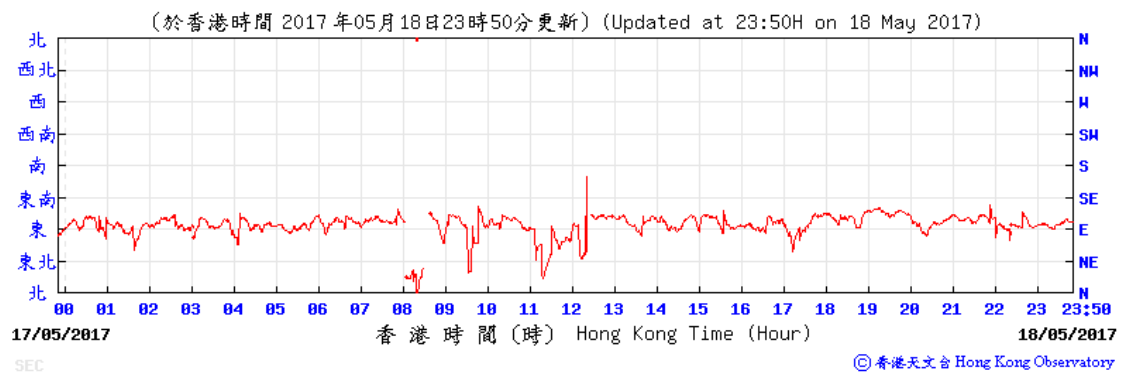


## 17-18 May 2017

Wind Direction:

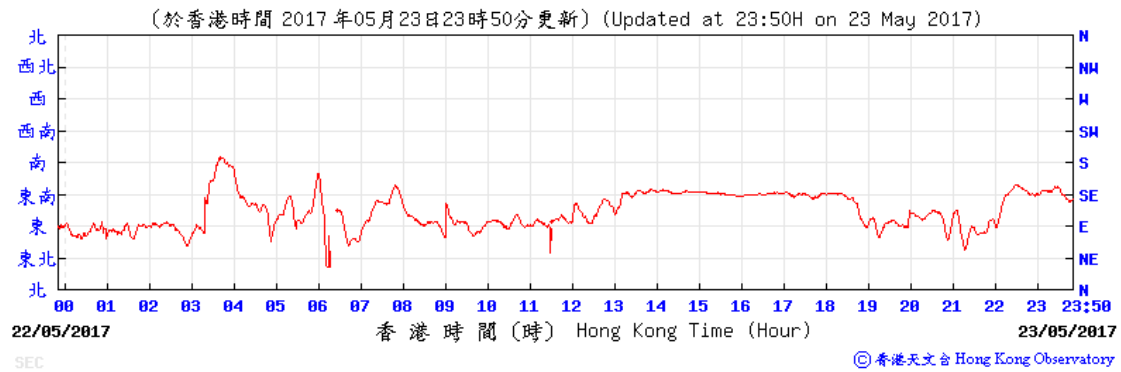


Wind Direction:

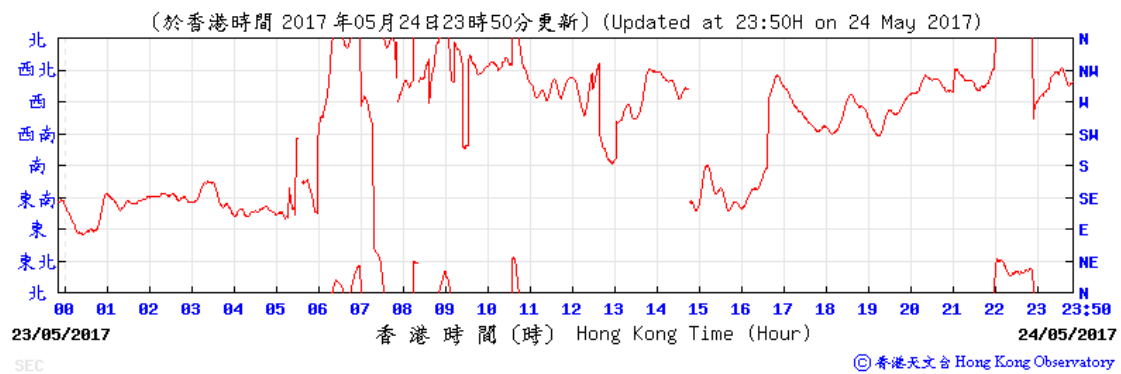


## 23-24 May 2017

Wind Direction:

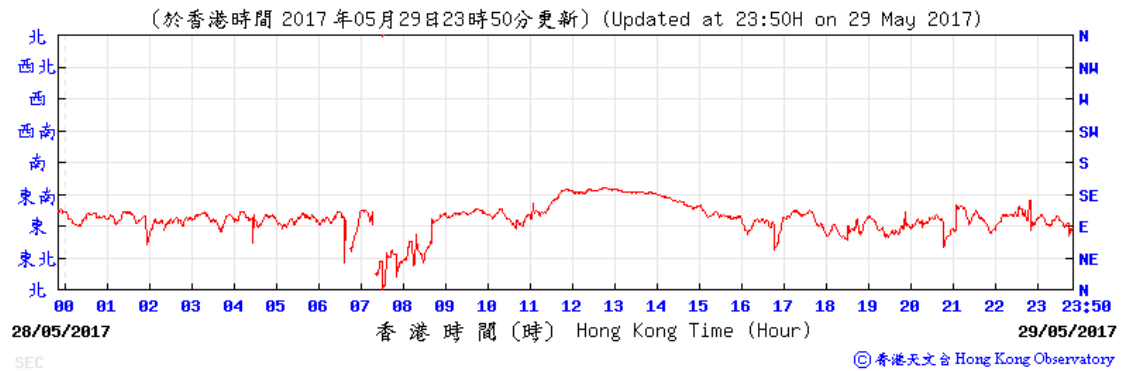


Wind Direction:

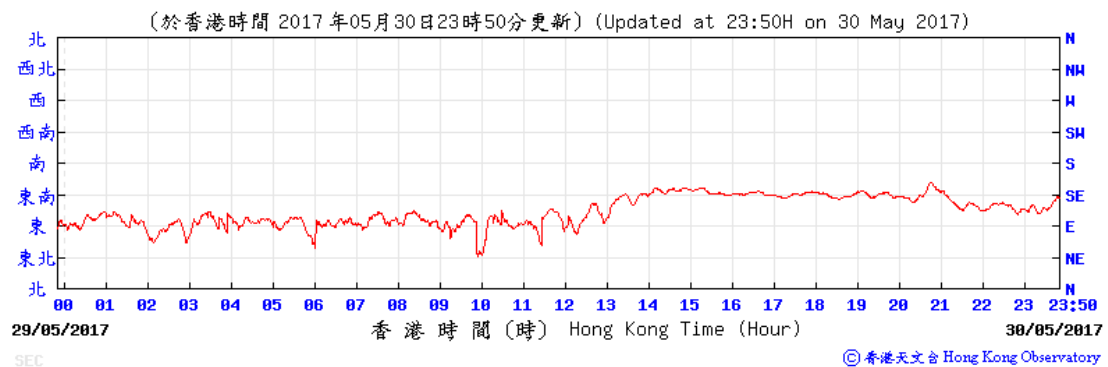


## 29-30 May 2017

Wind Direction:



Wind Direction:



Annex K

## Waste Flow Table

**Annex K – Waste Flow Table**

**Monthly Summary Waste Flow Table for the year 2012-2014**

| Month     | Actual Quantities of Inert C&D Materials Generated Monthly |  |                          |                          |   |  |  | Actual Quantities of Non-inert C&D Wastes Generated Monthly |                            |                          |                                 |   | Imported Fill<br>(in '000m <sup>3</sup> ) |
|-----------|--|--|--------------------------|--------------------------|---|--|--|---|----------------------------|--------------------------|---------------------------------|---|---|
|           | Total Quantity Generated                                   | Hard Rocks and Large Broken Concrete<br>(See Note 3) | Reused in the Contract   | Reused in other Projects | Disposed as Public Fill<br>(See Note 5) | Inert C&D Materials Delivered to 1108A Kai Tai Barging Facilities (See Note 6) | Inert C&D Materials Delivered to 1123 Kai Tai Barging Facilities (See Note 12) | Metals  | Paper/ cardboard packaging | Plastics<br>(See Note 2) | Chemical Waste<br>(See Note 10) | Others, e.g. general refuse<br>(See Note 5) |   |
|           | (in '000m <sup>3</sup> )                                   | (in '000m <sup>3</sup> )                             | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> )                | (in '000m <sup>3</sup> )   | (in '000m <sup>3</sup> )   | (in '000kg)   | (in '000kg)                | (in '000kg)              | (in '000kg)                     | (in '000m <sup>3</sup> )                    |   |
| Sep 2012  | 0.004  | 0.000  | 0.000                    | 0.000                    | 0.004                                   | -  | -  | 0.000   | 0.000                      | 5.300                    | 0.000                           | 0.144                                       | 0.000                                     |
| Oct 2012  | 0.000  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | -  | -  | 12.800  | 0.242                      | 0.013                    | 0.000                           | 0.514                                       | 0.000                                     |
| Nov 2012  | 0.624  | 0.000  | 0.605                    | 0.000                    | 0.019                                   | -  | -  | 0.000   | 0.154                      | 0.002                    | 0.000                           | 0.172                                       | 6.804                                     |
| Dec 2012  | 16.844   | 0.000  | 0.000                    | 0.000                    | 0.005                                   | 16.839   | -  | 0.000   | 0.000                      | 0.000                    | 0.000                           | 0.057                                       | 0.000                                     |
| Sub-total | 17.472   | 0.000  | 0.605                    | 0.000                    | 0.028                                   | 16.839   | 0.000  | 12.800  | 0.396                      | 5.315                    | 0.000                           | 0.887                                       | 6.804                                     |
| Jan 2013  | 19.828   | 0.000  | 0.000                    | 0.000                    | 0.006                                   | 19.822   | -  | 0.000   | 0.036 (See Note 7)         | 0.416                    | 0.000                           | 0.081 (See Note 8)                          | 0.000                                     |
| Feb 2013  | 8.372  | 0.000  | 0.000                    | 0.000                    | 0.005                                   | 8.366  | -  | 0.000   | 0.036                      | 0.443                    | 0.000                           | 0.021                                       | 0.000                                     |
| Mar 2013  | 14.673   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 14.673   | -  | 0.000   | 0.036                      | 0.463                    | 0.000                           | 0.064 (See Note 9)                          | 0.000                                     |
| Apr 2013  | 13.557   | 0.000  | 0.000                    | 0.000                    | 0.025                                   | 13.533   | -  | 0.000   | 0.036                      | 0.148                    | 0.000                           | 0.086                                       | 0.000                                     |
| May 2013  | 9.969  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 9.969  | -  | 0.000   | 0.000                      | 0.481                    | 0.000                           | 0.065                                       | 0.000                                     |
| Jun 2013  | 5.538  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 5.538  | -  | 0.000   | 0.045                      | 0.784                    | 0.32 (See Note 11)              | 0.065                                       | 0.000                                     |
| Jul 2013  | 6.116  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 6.116  | -  | 0.000   | 0.063                      | 0.868                    | 0.400                           | 0.058                                       | 0.000                                     |
| Aug 2013  | 11.537   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 11.537   | -  | 0.000   | 0.068                      | 0.464                    | 0.000                           | 0.071                                       | 0.000                                     |
| Sep 2013  | 4.641  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 4.641  | -  | 0.000   | 0.027                      | 0.522                    | 0.000                           | 0.110                                       | 0.000                                     |
| Oct 2013  | 9.708  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 9.708  | -  | 0.000   | 0.036                      | 0.348                    | 0.000                           | 0.086                                       | 0.000                                     |
| Nov 2013  | 7.199  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 7.199  | -  | 0.000   | 0.068                      | 0.506                    | 0.000                           | 0.678                                       | 0.000                                     |
| Dec 2013  | 6.973  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 6.973  | -  | 0.000   | 0.090                      | 0.383                    | 0.000                           | 1.344                                       | 0.000                                     |
| Sub-total | 118.111  | 0.000  | 0.000                    | 0.000                    | 0.036                                   | 118.075  | 0.000  | 0.000   | 0.541                      | 5.826                    | 0.720                           | 2.729                                       | 0.000                                     |
| Jan 2014  | 11.870   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 11.870   | -  | 0.000   | 0.121                      | 0.270                    | 0.400                           | 0.100                                       | 0.000                                     |
| Feb 2014  | 15.316   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 15.316   | -  | 0.000   | 0.067                      | 0.396                    | 0.000                           | 0.095                                       | 0.000                                     |
| Mar 2014  | 18.734   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 18.734   | -  | 0.000   | 0.067                      | 0.320                    | 0.200                           | 0.107                                       | 0.000                                     |
| Apr 2014  | 23.539   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 23.539   | -  | 0.000   | 0.000                      | 0.344                    | 0.415                           | 0.064                                       | 0.000                                     |
| May 2014  | 11.327   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 11.327   | -  | 0.000   | 0.000                      | 0.371                    | 0.000                           | 0.130                                       | 0.000                                     |
| Jun 2014  | 10.440   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 10.440   | -  | 0.000   | 0.090                      | 0.332                    | 0.000                           | 0.164                                       | 0.000                                     |
| Jul 2014  | 2.103  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 2.103  | -  | 0.000   | 0.099                      | 0.544                    | 0.200                           | 0.131                                       | 0.000                                     |
| Aug 2014  | 1.446  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 1.446  | -  | 0.000   | 0.189                      | 0.584                    | 0.000                           | 0.129                                       | 0.000                                     |
| Sep 2014  | 1.980  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 1.980  | -  | 0.000   | 0.225                      | 0.284                    | 0.000                           | 0.099                                       | 0.000                                     |
| Oct 2014  | 16.902   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 16.902   | -  | 0.000   | 0.050                      | 0.492                    | 1.120                           | 0.109                                       | 0.000                                     |
| Nov 2014  | 27.687   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 27.687   | -  | 0.000   | 0.140                      | 0.352                    | 0.000                           | 0.083                                       | 0.000                                     |
| Dec 2014  | 44.771   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 44.771   | -  | 0.000   | 0.090                      | 0.284                    | 0.400                           | 0.103                                       | 0.000                                     |
| Sub-total | 186.115  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 186.115  | 0.000  | 0.000   | 1.048                      | 4.573                    | 2.335                           | 1.314                                       | 0.000                                     |



| Month     | Actual Quantities of Inert C&D Materials Generated Monthly |  |                          |                          |   |   |   | Actual Quantities of Non-inert C&D Wastes Generated Monthly |                            |                          |                                 |  | Imported Fill |
|-----------|--|--|--------------------------|--------------------------|---|---|---|---|----------------------------|--------------------------|---------------------------------|--|---------------|
|           | Total Quantity Generated                                   | Hard Rocks and Large Broken Concrete<br>(See Note 3) | Reused in the Contract   | Reused in other Projects | Disposed as Public Fill<br>(See Note 5) | Inert C&D Materials Delivered to 1108A Kai Tai Barging Facilities ( See Note 6) | Inert C&D Materials Delivered to 1123 Kai Tai Barging Facilities ( See Note 12) | Metals  | Paper/ cardboard packaging | Plastics<br>(See Note 2) | Chemical Waste<br>(See Note 10) | Others, e.g. general refuse<br>( See Note 5) |               |
|           | (in '000m <sup>3</sup> )                                   | (in '000m <sup>3</sup> )                             | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> )                | (in '000m <sup>3</sup> )  | (in '000m <sup>3</sup> )  | (in '000kg)   | (in '000kg)                | (in '000kg)              | (in'000kg)                      | (in '000m <sup>3</sup> )                     |               |
| Jan 2015  | 64.165   | 0.000  | 0.000                    | 0.266                    | 0.000                                   | 63.899  | -   | 0.000   | 0.077                      | 0.328                    | 0.180                           | 0.150  | 0.000         |
| Feb 2015  | 46.884   | 0.000  | 0.000                    | 2.599                    | 0.000                                   | 44.285  | -   | 0.000   | 0.090                      | 3.102                    | 0.000                           | 0.106  | 0.000         |
| Mar 2015  | 41.498   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 41.498  | -   | 0.000   | 0.072                      | 2.321                    | 0.600                           | 0.126  | 0.000         |
| Apr 2015  | 13.049   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 13.049  | -   | 0.000   | 0.081                      | 1.598                    | 0.000                           | 0.119  | 0.000         |
| May 2015  | 54.559   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 54.559  | -   | 0.000   | 0.063                      | 0.548                    | 0.000                           | 0.099  | 0.000         |
| Jun 2015  | 48.857   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 48.857  | -   | 0.000   | 0.041                      | 0.880                    | 0.000                           | 0.144  | 0.000         |
| Jul 2015  | 34.471   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 34.471  | -   | 0.000   | 0.090                      | 4.972                    | 0.720                           | 0.218  | 0.000         |
| Aug 2015  | 28.330   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 28.330  | -   | 0.000   | 0.077                      | 1.027                    | 1.240                           | 0.244  | 0.000         |
| Sep 2015  | 25.376   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 25.376  | -   | 0.000   | 0.068                      | 0.845                    | 2.080                           | 0.224  | 0.000         |
| Oct 2015  | 45.061   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 45.061  | -   | 0.000   | 0.072                      | 0.743                    | 0.000                           | 0.336  | 0.000         |
| Nov 2015  | 45.607   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 45.607  | -   | 0.000   | 0.085                      | 4.719                    | 1.760                           | 0.344  | 0.000         |
| Dec 2015  | 43.527   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 43.527  | -   | 0.000   | 0.090                      | 0.669                    | 0.048                           | 0.286  | 0.000         |
| Sub-total | 491.384  | 0.000  | 0.000                    | 2.865                    | 0.000                                   | 488.519   | 0.000   | 0.000   | 0.906                      | 21.752                   | 6.628                           | 2.396  | 0.000         |
| Jan 2016  | 28.064   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 28.064  | -   | 0.000   | 0.855                      | 0.494                    | 0.000                           | 0.276  | 0.000         |
| Feb 2016  | 4.768  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 4.768   | -   | 0.000   | 0.230                      | 0.327                    | 0.000                           | 0.280  | 0.000         |
| Mar 2016  | 13.662   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 13.662  | -   | 0.000   | 0.000                      | 0.316                    | 0.000                           | 0.232  | 0.000         |
| Apr 2016  | 21.282   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 21.282  | -   | 0.000   | 0.167                      | 0.674                    | 4.000                           | 0.378  | 0.000         |
| May 2016  | 28.466   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 28.466  | -   | 0.000   | 0.072                      | 0.580                    | 0.000                           | 0.315  | 0.000         |
| Jun 2016  | 29.018   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 29.018  | -   | 0.000   | 0.045                      | 1.480                    | 3.360                           | 0.292  | 0.000         |
| Jul 2016  | 3.727  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 3.727   | -   | 0.000   | 0.045                      | 0.860                    | 0.000                           | 0.347  | 0.000         |
| Aug 2016  | 0.197  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.197   | -   | 0.000   | 0.140                      | 1.648                    | 0.000                           | 0.382  | 0.000         |
| Sep 2016  | 0.000  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.000   | -   | 0.000   | 0.122                      | 0.680                    | 0.000                           | 0.443  | 0.000         |
| Oct 2016  | 0.000  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.000   | -   | 0.000   | 0.144                      | 0.575                    | 0.000                           | 0.435  | 0.000         |
| Nov 2016  | 0.000  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.000   | -   | 0.000   | 0.133                      | 0.900                    | 9.600                           | 0.589  | 0.000         |
| Dec 2016  | 0.000  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.000   | -   | 0.000   | 0.063                      | 0.562                    | 0.000                           | 0.696  | 0.000         |
| Sub-total | 129.184  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 129.184   | 0.000   | 0.000   | 2.016                      | 9.096                    | 16.960                          | 4.665  | 0.000         |
| Jan 2017  | 0.000  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.000   | -   | 0.000   | 0.126                      | 0.276                    | 0.000                           | 0.769  | 0.000         |
| Feb 2017  | 0.000  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.000   | -   | 0.000   | 0.059                      | 0.417                    | 0.000                           | 0.745  | 0.000         |
| Mar 2017  | 0.000  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.000   | -   | 0.000   | 0.077                      | 0.448                    | 0.000                           | 0.618  | 0.000         |
| Apr 2017  | 0.000  | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.000   | -   | 0.000   | 0.108                      | 0.504                    | 0.000                           | 0.618  | 0.000         |
| May 2017  | 10.676   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.000   | 10.676  | 0.000   | 0.158                      | 0.296                    | 0.000                           | 0.619  | 0.000         |
| Sub-total | 10.676   | 0.000  | 0.000                    | 0.000                    | 0.000                                   | 0.000   | 10.676  | 0.000   | 0.528                      | 1.941                    | 0.000                           | 3.369  | 0.000         |
| Total     | 952.943  | 0.000  | 0.605                    | 2.865                    | 0.064                                   | 938.732   | 10.676  | 12.800  | 5.435                      | 48.503                   | 26.643                          | 15.360                                       | 6.804         |

Notes:

- 1 The performance targets are given below:
  - All excavated materials to be sorted for recovering the inert portion of C&D materials, e.g. hard rocks, soil and broken concrete, for reuse on the Site or disposal to designated outlets;
  - All metallic waste to be recovered for collection by recycling contractors;
  - All cardboard and paper packaging (for plant, equipment and materials) to be recovered, properly stockpiled in dry and covered condition to prevent cross contamination;
  - All chemical wastes to be collected and properly disposed of by specialist contractors; and
  - All demolition debris to be stored to recover broken concrete, reinforcement bars, mechanical and electrical fittings, hardware as well as other fitting / materials that have established recycling outlets.
- 2 Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- 3 Broken concrete for recycling into aggregates.
- 4 The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- 5 Density Assumption: 1.6(kg/l) for Public Fill and 0.9(kg/l) for General Refuse
- 6 Inert C&D Material was delivered to contract 1108A from 10-Dec-2012.
- 7 The quantity of paper/ cardboard packaging generated in January 2013 was updated by the Contractor in March 2013.
- 8 The quantity of general refuse generated in January 2013 was updated by the Contractor in March 2013.
- 9 The quantity of general refuse generated in March 2013 was updated by the Contractor in April 2013.
- 10 Chemical waste includes waste oil. It is assumed density of waste oil to be 0.8 kg/L.
- 11 The quantity of chemical waste generated in June 2013 was updated by the Contractor in August 2013.
- 12 Inert C&D Material was delivered to contract SCL1123 from 20-May-2017.

Annex L

(Not Used)

Annex M

Environmental Complaint,  
Environmental Summon  
and Prosecution Log

*Annex M Environmental Complaint, Environmental Summon and Prosecution Log*

| <b>Reporting Month</b> | <b>Number of Complaints in Reporting Month</b> | <b>Number of Summons/Prosecutions in Reporting Month</b> |
|------------------------|--|--|
| September 2012         | 0  | 0  |
| October 2012           | 0  | 0  |
| November 2012          | 0  | 0  |
| December 2012          | 0  | 0  |
| January 2013           | 0  | 0  |
| February 2013          | 0  | 0  |
| March 2013             | 0  | 0  |
| April 2013             | 0  | 0  |
| May 2013               | 0  | 0  |
| June 2013              | 0  | 0  |
| July 2013              | 0  | 0  |
| August 2013            | 0  | 0  |
| September 2013         | 0  | 0  |
| October 2013           | 0  | 0  |
| November 2013          | 0  | 0  |
| December 2013          | 0  | 0  |
| January 2014           | 0  | 0  |
| February 2014          | 0  | 0  |
| March 2014             | 0  | 0  |
| April 2014             | 0  | 0  |
| May 2014               | 0  | 0  |
| June 2014              | 0  | 0  |

| Reporting Month | Number of Complaints in Reporting Month | Number of Summons/Prosecutions in Reporting Month |
|-----------------|---|---|
| July 2014       | 0                                       | 0   |
| August 2014     | 0                                       | 0   |
| September 2014  | 1                                       | 0   |
| October 2014    | 0                                       | 0   |
| November 2014   | 0                                       | 0   |
| December 2014   | 0                                       | 0   |
| January 2015    | 3                                       | 0   |
| February 2015   | 0                                       | 0   |
| March 2015      | 0                                       | 0   |
| April 2015      | 3                                       | 0   |
| May 2015        | 2                                       | 0   |
| June 2015       | 7                                       | 0   |
| July 2015       | 0                                       | 0   |
| August 2015     | 1                                       | 0   |
| September 2015  | 2                                       | 0   |
| October 2015    | 2                                       | 0   |
| November 2015   | 0                                       | 0   |
| December 2015   | 0                                       | 0   |
| January 2016    | 2                                       | 0   |
| February 2016   | 0                                       | 0   |
| March 2016      | 1                                       | 0   |
| April 2016      | 2                                       | 0   |
| May 2016        | 1                                       | 0   |
| June 2016       | 2                                       | 0   |

| Reporting Month | Number of Complaints in Reporting Month | Number of Summons/Prosecutions in Reporting Month |
|-----------------|---|---|
| July 2016       | 0                                       | 0   |
| August 2016     | 0                                       | 0   |
| September 2016  | 0                                       | 0   |
| October 2016    | 1                                       | 0   |
| November 2016   | 0                                       | 0   |
| December 2016   | 2                                       | 0   |
| January 2017    | 0                                       | 0   |
| February 2017   | 0                                       | 0   |
| March 2017      | 1                                       | 0   |
| April 2017      | 0                                       | 0   |
| May 2017        | 0                                       | 0   |
| Overall Total   | 33                                      | 0   |

---

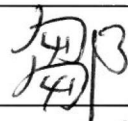

**Appendix B**

**53<sup>rd</sup> EM&A Report for Works Contract 1111 –  
Hung Hom North Approach Tunnel**

---

**Gammon-Kaden SCL 1111 Joint Venture****Shatin to Central Link -  
Tai Wai to Hung Hom Section and  
Mong Kok East to Hung Hom Section****Works Contract 1111 -  
Hung Hom North Approach Tunnels****Monthly EM&A Report for  
May 2017**

[June 2017]

|                                 | Name  | Signature   |
|---------------------------------|---|---|
| Prepared & Checked:             | Ray Chow  |  |
| Reviewed, Approved & Certified: | Y T Tang<br>(Contractor's Environmental<br>Team Leader) |  |

Version: 0

Date: 9 June 2017

**Disclaimer**

This Monthly EM&A Report is prepared for Gammon-Kaden SCL1111 JV and is given for its sole benefit in relation to and pursuant to SCL1111 and may not be disclosed to, quoted to or relied upon by any person other than Gammon-Kaden SCL1111 JV without our prior written consent. No person (other than Gammon-Kaden SCL1111 JV) into whose possession a copy of this report comes may rely on this report without our express written consent and Gammon-Kaden SCL1111 JV may not rely on it for any purpose other than as described above.

AECOM Asia Co. Ltd.

15/F, Grand Central Plaza, Tower 1, 138 Shatin Rural Committee Road, Shatin, NT, Hong Kong

Tel: (852) 3922 9000

Fax: (852) 2317 7609

www.aecom.com



**Table of Contents**

|   | Page      |
|---|-----------|
| <b>EXECUTIVE SUMMARY4 .....</b>   | <b>1</b>  |
| <b>1 INTRODUCTION .....</b>   | <b>3</b>  |
| 1.1 Purpose of the Report.....  | 3         |
| 1.2 Report Structure .....  | 3         |
| <b>2 PROJECT INFORMATION .....</b>  | <b>4</b>  |
| 2.1 Background .....  | 4         |
| 2.2 Site Description .....  | 4         |
| 2.3 Construction Programme and Activities.....                            | 5         |
| 2.4 Project Organisation .....  | 5         |
| 2.5 Status of Environmental Licences, Notification and Permits .....      | 6         |
| <b>3 ENVIRONMENTAL MONITORING REQUIREMENTS .....</b>                      | <b>8</b>  |
| 3.1 Construction Dust Monitoring.....                                     | 8         |
| 3.2 Regular Construction Noise Monitoring.....                            | 10        |
| 3.3 Continuous noise monitoring.....                                      | 12        |
| 3.4 Landscape and Visual .....  | 13        |
| <b>4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES .....</b> | <b>14</b> |
| <b>5 MONITORING RESULTS .....</b>   | <b>15</b> |
| 5.1 Construction Dust Monitoring.....                                     | 15        |
| 5.2 Regular Construction Noise Monitoring.....                            | 15        |
| 5.3 Continuous Noise Monitoring.....                                      | 15        |
| 5.4 Waste Management .....  | 16        |
| 5.5 Landscape and Visual .....  | 16        |
| <b>6 ENVIRONMENTAL SITE INSPECTION AND AUDIT .....</b>                    | <b>17</b> |
| <b>7 ENVIRONMENTAL NON-CONFORMANCE .....</b>                              | <b>18</b> |
| 7.1 Summary of Monitoring Exceedances.....                                | 18        |
| 7.2 Summary of Environmental Non-Compliance.....                          | 18        |
| 7.3 Summary of Environmental Complaints .....                             | 18        |
| 7.4 Summary of Environmental Summon and Successful Prosecutions .....     | 18        |
| <b>8 FUTURE KEY ISSUES .....</b>  | <b>19</b> |
| 8.1 Construction Programme for the Project .....                          | 19        |
| 8.2 Key Issues for the Coming Month .....                                 | 19        |
| 8.3 Monitoring Schedule for the Next Two Month.....                       | 19        |
| <b>9 CONCLUSIONS AND RECOMMENDATIONS.....</b>                             | <b>20</b> |
| 9.1 Conclusions.....  | 20        |
| 9.2 Recommendations.....  | 20        |

**List of Tables**

|           |  |
|-----------|--|
| Table 1.1 | Contact Information of Key Personnel                               |
| Table 2.1 | Status of Environmental Licenses, Notifications and Permits        |
| Table 3.1 | Air Quality Monitoring Equipment                                   |
| Table 3.2 | Locations of Air Quality Monitoring Stations                       |
| Table 3.3 | Air Quality Monitoring Parameters, Frequency and Duration          |
| Table 3.4 | Noise Monitoring Parameters, Frequency and Duration                |
| Table 3.5 | Noise Monitoring Equipment for Regular Noise Monitoring            |
| Table 3.6 | Locations of Impact Noise Monitoring Stations                      |
| Table 3.7 | Summary of Proposed Continuous Noise Monitoring Location           |
| Table 3.8 | Noise Monitoring Equipment for Continuous Noise Monitoring         |
| Table 3.9 | Summary of Proposed Continuous Noise Monitoring Plan               |
| Table 4.1 | Status of Required Submission under Environmental Permit           |
| Table 5.1 | Summary of 24-hour TSP Monitoring Results in the Reporting Period  |
| Table 5.2 | Summary of Impact Noise Monitoring Results in the Reporting Period |
| Table 6.1 | Observations and Recommendations of Site Audit                     |

**List of Figures**

|            |   |
|------------|---|
| Figure 1.1 | General Layout Plan                           |
| Figure 2.1 | Location of Air Quality Monitoring Station    |
| Figure 3.1 | Locations of Impact Noise Monitoring Stations |

**List of Appendices**

|            |  |
|------------|--|
| Appendix A | Construction Programme   |
| Appendix B | Project Organisation Structure   |
| Appendix C | Implementation Schedule of Environmental Mitigation Measures                             |
| Appendix D | Summary of Action and Limit Levels   |
| Appendix E | Calibration Certificates of Equipment  |
| Appendix F | EM&A Monitoring Schedules  |
| Appendix G | Air Quality Monitoring Results and their Graphical Presentations                         |
| Appendix H | Noise Monitoring Results and their Graphical Presentations                               |
| Appendix I | Event and Action Plan  |
| Appendix J | Cumulative Statistics on Complaints, Notification of Summons and Successful Prosecutions |
| Appendix K | Monthly Summary Waste Flow Table   |

## EXECUTIVE SUMMARY

Shatin to Central Link Contract 1111 – Hung Hom North Approach Tunnels (hereafter called “the Project”) covers part of the construction of the Shatin to Central Link (SCL) which aimed to convey a total of 17km extension of the existing Ma On Shan Line (MOL) through east Kowloon to West Rail Line and also East Rail Line (EAL) through Hung Hom across the harbour to Admiralty Station (ADM). The Project covers construction activities at Mong Kok Freight Terminal and part of the construction activities located at Hung Hom Area for SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS).

The EM&A programme commenced in January 2013. The impact EM&A for the Project includes air quality and noise monitoring.

This report documents the findings of EM&A works conducted in the period between 1 and 31 May 2017. As informed by the Contractor, major activities in the reporting period were:

| Location            | Site Activities  |
|---------------------|--|
| Ho Man Tin          | EVA construction   |
| NSL (South) + HHBP  | Concreting works, form work erection, reinforcement fixing, backfill, road & drainage construction, excavation, pipe laying  |
| OB2                 | Backfill, TB1 dismantling, watermain diversion, upstand wall modification, OB2 bridge jacking and bearing replacement and parapet wall construction                                |
| OB2A                | OB2A bridge reinstatement, precast parapet installation, bearing replacement, backfilling  |
| NSL 9 & Oi Sen Path | Backfilling, drainage work, Scaffolding platform erection, dismantling of scaffolding, lifting works, temporary working platform removal, ELS removal, tunnel works, rock breaking |
| EWL 7 - 9           | Reinstatement, road diversion, backfilling, steel deck dismantling   |

### Breaches of Action and Limit Levels for Air Quality

No exceedance of Action and Limit Level of 24-hour TSP monitoring was recorded at the monitoring location in the reporting month.

### Breaches of Action and Limit Levels for Noise

#### Regular Noise Monitoring

No Action Level exceedance was recorded since no noise related complaint during 0700 to 1900 hours on normal weekdays was received in the reporting month.

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

#### Continuous Noise Monitoring

As the construction works identified by the Construction Noise Mitigation Measures Plan (CNMMP) to be potentially causing exceedance of noise criteria have been completed, no continuous noise monitoring was carried out during this reporting month.

### Complaint, Notification of Summons and Successful Prosecution

An environmental noise complaint was referred by EPD on 8 May 2017. An environmental complaint was received by EPD on 1 May 2017. The complainant alleged to be a driver who was particularly annoyed by dust from the subject sites while driving a car on Chatham Road North towards To Kwa Wan on 29 April 2017 at 2 – 4 pm. The investigation report was submitted to EPD on 16 May 2017.

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

### Future Key Issues

Key issues to be considered in the coming month included:

| Location            | Site Activities  |
|---------------------|--|
| Ho Man Tin          | EVA construction, hoarding removal   |
| NSL (South) + HHBP  | Concreting works, form work erection, reinforcement fixing, backfill, road & drainage construction, excavation, pipe laying, hoarding removal  |
| OB2                 | Backfill, TB1 dismantling, watermain diversion, upstand wall modification, OB2 bridge jacking and bearing replacement and parapet wall construction  |
| OB2A                | OB2A bridge reinstatement, precast parapet installation, bearing replacement, backfilling  |
| NSL 9 & Oi Sen Path | Backfilling, drainage work, Scaffolding platform erection, dismantling of scaffolding, lifting works, temporary working platform removal, ELS removal, tunnel works, rock breaking, hoarding removal |
| EWL 7 - 9           | Reinstatement, road diversion, backfilling, steel deck dismantling   |

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

## **1 INTRODUCTION**

Gammon-Kaden SCL1111 Joint Venture (GKSCLJV) was commissioned by MTR as the Civil Contractor for Works Contract 1111. AECOM Asia Company Limited (AECOM) was appointed by GKSCLJV as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the Project.

### **1.1 Purpose of the Report**

1.1.1 This is the fifty-third monthly EM&A Report which summaries the impact monitoring results and audit findings for the Project during the reporting period from 1 to 31 May 2017.

### **1.2 Report Structure**

1.1.2 This monthly EM&A Report is organised as follows:

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

## 2 PROJECT INFORMATION

### 2.1 Background

- 2.1.1 The Shatin to Central Link (SCL) is a 17km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH); and (ii) The North-South Corridor which is an extension of the East Rail Line (EAL) at Hung Hom across the harbour to Admiralty Station (ADM).
- 2.1.2 The Environmental Impact Assessment (EIA) Reports for SCL – Tai Wai to Hung Hom Section [SCL (TAW-HUH)] (Register No.: AEIAR-167/2012), SCL – Mong Kok East to Hung Hom Section [SCL (MKK-HUH)] (Register No.: AEIAR-165/2012) and SCL - Stabling Sidings at Hung Hom Freight Yard [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) was subsequently applied for EP-438/2012 and the latest Environmental Permit (EP No: EP-438/2012/K) was issued by Director of Environmental Protection (DEP) on 4 October 2016.
- 2.1.3 The construction of the SCL is divided into different civil construction works contracts and Works Contract 1111 – Hung Hom North Approach Tunnels (hereafter referred to as “the Project”) covers construction activities at Mong Kok Freight Terminal and part of the construction activities located at Hung Hom under the two EPs.

### 2.2 Site Description

- 2.2.1 The major construction activities under Works Contract 1111 include:
- SCL (MKK-HUH) – (i) Construction of an realigned and modified railway from Portal 1A near Oi Man Estate to Hung Hom Station; (ii) Construction of Noise Enclosure at Portal 1A; (iii) modification works on the existing Homantin Siding; and (iv) new EVA near Hung Hom Station.
  - SCL (TAW-HUH) – Part of the railway tunnel from Ho Man Tin Station to Hung Hom.
  - SCL (HHS) – Construction of tracks and noise barrier of Hung Hom Stabling Sidings.
- 2.2.2 **Figure 1.1** shows the works areas for the Works Contract 1111.

## 2.3 Construction Programme and Activities

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

| Location            | Site Activities  |
|---------------------|--|
| Ho Man Tin          | EVA construction   |
| NSL (South) + HHBP  | Concreting works, form work erection, reinforcement fixing, backfill, road & drainage construction, excavation, pipe laying  |
| OB2                 | Backfill, TB1 dismantling, watermain diversion, upstand wall modification, OB2 bridge jacking and bearing replacement and parapet wall construction                                |
| OB2A                | OB2A bridge reinstatement, precast parapet installation, bearing replacement, backfilling  |
| NSL 9 & Oi Sen Path | Backfilling, drainage work, Scaffolding platform erection, dismantling of scaffolding, lifting works, temporary working platform removal, ELS removal, tunnel works, rock breaking |
| EWL 7 - 9           | Reinstatement, road diversion, backfilling, steel deck dismantling   |

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

## 2.4 Project Organisation

2.4.1 The project organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project are summarised in **Table 1.1**.

**Table 1.1 Contact Information of Key Personnel**

| Party     | Role                                 | Position                              | Name               | Telephone | Fax       |
|-----------|--------------------------------------|---------------------------------------|--------------------|-----------|-----------|
| MTR       | Residential Engineer (ER)            | Construction Manager                  | Mr. Michael Fu     | 3127 6201 | 3124 6422 |
|           |                                      | SCL Project Environmental Team Leader | Ms. Felice Wong    | 2688 1283 | 2993 7577 |
| Meinhardt | Independent Environmental Checker    | Independent Environmental Checker     | Mr. Fredrick Leong | 2859 1739 | 2540 1580 |
| GKSCKJV   | Contractor                           | Project Manager                       | Mr. Alan Yan       | 9855 0361 | 3904 9630 |
|           |                                      | Environmental Manager                 | Ms. Michelle Tang  | 3904 9663 |           |
| AECOM     | Contractor's Environmental Team (ET) | ET Leader                             | Mr. Y T Tang       | 3922 9393 | 2317 7609 |

## 2.5 Status of Environmental Licences, Notification and Permits

2.5.1 Relevant environmental licenses, permits and/or notifications on environmental protection for this Project and valid in the reporting month are summarized in **Table 2.1**.

**Table 2.1 Status of Environmental Licenses, Notifications and Permits**

| Permit / License No. /<br>Notification/<br>Reference No. | Valid Period |             | Status  | Remarks  |
|--|--------------|-------------|---|--|
|  | From         | To          |   |  |
| <b>Environmental Permit</b>                              |              |             |   |  |
| EP-437/2012  | 22 Mar 2012  | -           | Valid   | -  |
| EP-438/2012/K  | 4 Oct 2016   | -           | Valid   | -  |
| <b>Construction Noise Permit</b>                         |              |             |   |  |
| GW-RE1149-16   | 21 Dec 2016  | 20 Jun 2017 | Valid   | CNP for General Works at NSL 9   |
| GW-RE1152-16   | 2 Dec 2016   | 25 May 2017 | Valid until<br>25 May 2017                                    | CNP for Foul Water Diversion Works at EWL7   |
| GW-RE0004-17   | 12 Jan 2017  | 11 Jul 2017 | Valid   | CNP for Dewatering System at EWL 7   |
| GW-RE0014-17   | 10 Jan 2017  | 4 Jul 2017  | Valid   | CNP for General Works at EWL 9   |
| GW-RE0048-17   | 27 Jan 2017  | 26 Jul 2017 | Valid   | CNP for Dewatering and welding at NSL6   |
| GW-RE0055-17   | 27 Jan 2017  | 26 Jul 2017 | Valid   | CNP for General and Re-provisioning Works at Hung Hom Station                          |
| GW-RE0116-17   | 16 Feb 2017  | 15 Aug 2017 | Valid   | CNP for General Work at Oi Sen Path and Ho Man Tin Siding                              |
| GW-RE0114-17   | 23 Feb 2017  | 22 Aug 2017 | Valid   | CNP for General Works for steel decking at EWL8  |
| GW-RE0112-17   | 23 Feb 2017  | 22 Aug 2017 | Valid   | CNP for General Works at NSL 7- 8  |
| GW-RE0115-17   | 24 Feb 2017  | 23 May 2017 | Valid until<br>23 May 2017                                    | CNP for Hoarding Erection at NSL 3 - 6   |
| GW-RE0111-17   | 24 Feb 2017  | 23 May 2017 | Valid until<br>23 May 2017                                    | CNP for 6m Hoarding and Scaffolding Platform Modification Works at NSL 9 & Oi Sen Path |
| GW-RE0139-17   | 10 Mar 2017  | 9 May 2017  | Valid until<br>9 May 2017                                     | CNP for Parapet Modification Work at Hung Hom Bypass                                   |
| GW-RE0155-17   | 11 Mar 2017  | 10 May 2017 | Valid until<br>10 May 2017                                    | CNP for Noise Enclosure and Steel Platform Erection Work at Oi Sen Path                |
| GW-RE0167-17   | 15 Mar 2017  | 14 Sep 2017 | Valid   | CNP for General Work at NSL 3 - 6  |
| GW-RE0178-17   | 16 Mar 2017  | 15 Jun 2017 | Valid until<br>Superseded by<br>GW-RE0372-17<br>on 8 May 2017 | CNP for OB2 & OB2A Maintenance Work at Chatham Rd North                                |
| GW-RE0175-17   | 21 Mar 2017  | 18 Jun 2017 | Valid   | CNP for Scaffolding and 2.4m Hoarding Modification Works at Ho Man Tin and Oi Sen Path |
| GW-RE0372-17   | 8 May 2017   | 7 Aug 2017  | Valid   | CNP for OB2 & OB2A Maintenance Work at Chatham Rd North                                |
| GW-RE0377-17   | 17 May 2017  | 30 Jun 2017 | Valid   | CNP for Parapet Modification Work at Hung Hom Bypass                                   |



| Permit / License No. /<br>Notification/<br>Reference No.                       | Valid Period |                | Status         | Remarks  |
|--|--------------|----------------|----------------|--|
|  | From         | To             |                |  |
| GW-RE0380-17   | 17 May 2017  | 16 Jul 2017    | Valid          | CNP for Noise Enclosure and Steel Platform Erection Work at Oi Sen Path                |
| GW-RE0401-17   | 27 May 2017  | 26 Aug 2017    | Valid          | CNP for 6m Hoarding and Scaffolding Platform Modification Works at NSL 9 & Oi Sen Path |
| GW-RE0406-17   | 27 May 2017  | 26 Aug 2017    | Valid          | CNP for Hoarding Erection at NSL 3-6   |
| <b>Wastewater Discharge License</b>  |              |                |                |  |
| WT00015644-2013  | 16 Apr 2013  | 30 Apr 2018    | Valid          | For MTR Ho Man Tin Sidings   |
| WT00016090-2013  | 14 Jun 2013  | 30 Jun 2018    | Valid          | For alongside On Wan Road, MTR Hung Hom Station  |
| WT00016108-2013  | 14 Jun 2013  | 30 Jun 2018    | Valid          | For Hong Chong Park and Slip road from Chatham Road North and underneath               |
| WT00016435-2013  | 23 Jul 2013  | 31 Jul 2018    | Valid          | For Hong Chong Slip Rd and Slip Rd at Princess Margaret Road Link & Chatham Road North |
| WT00018688-2014  | 14 Apr 2014  | 30 Apr 2019    | Valid          | For inside Hung Hom Freight Terminal at Cheong Tung Road                               |
| WT00019068-2014  | 25 Jun 2014  | 30 Jun 2019    | Valid          | For Oi Sen Path  |
| WT00019895-2014  | 24 Sep 2014  | 30 Sep 2019    | Valid          | For near Hong Chong Road, Hung Hom at MTRC Ho Man Tin Sidings                          |
| WT00020525-2014  | 30 Dec 2014  | 31 Dec 2019    | Valid          | For Chatham Road North   |
| WT00020727-2015  | 6 Feb 2015   | 28 Feb 2020    | Valid          | For Chatham Road North above the railway   |
| WT00020759-2015  | 15 May 2013  | 31 May 2018    | Valid          | For near Chatham Road North  |
| WT00022080-2015  | 13 Aug 2015  | 31 Aug 2020    | Valid          | For near Chatham Road North, EWL 9   |
| WT00022793-2015  | 23 Nov 2015  | 31 Jul 2018    | Valid          | For Winslow Street Slope (near Wa Fung Street)   |
| WT00022802-2015  | 23 Nov 2015  | 28 Feb 2018    | Valid          | For near Winslow Street  |
| <b>Chemical Waste Producer Registration</b>                                    |              |                |                |  |
| 5213-641-G2618-01  | 22 Mar 2013  | End of Project | Valid          | For Winslow Street Playground Works  |
| 5213-641-G2618-03  | 8 Apr 2013   | End of Project | Valid          | For Hung Hom Station Works   |
| 5213-213-G2618-06  | 16 Apr 2013  | End of Project | Valid          | For Ho Man Tin Sidings Works   |
| 5213-236-G2618-10  | 14 Jun 2013  | End of Project | Valid          | For Chatham Road North - Hong Chong Road Works   |
| 5213-236-G2618-11  | 27 May 2013  | End of Project | Valid          | For Chatham Road North-NSL8 & EWL8 Works   |
| 5213-213-G2618-12  | 14 Apr 2014  | End of Project | Valid          | For Hung Hom Freight Terminal - NSL 3-5 Works  |
| 5213-236-G2618-14  | 8 May 2014   | End of Project | Valid          | For Oi Sen Path Works  |
| 5213-236-G2618-15  | 9 Feb 2015   | End of Project | Valid          | For NSL7 & EWL7 Works  |
| 5213-236-G2618-16  | 3 Aug 2015   | End of Project | Valid          | For EWL9 Works   |
| <b>Billing Account for Construction Waste Disposal</b>                         |              |                |                |  |
| 7016658  | 24 Jan 2013  | End of Project | Account Active |  |
| <b>Notification Under Air Pollution Control (Construction Dust) Regulation</b> |              |                |                |  |
| 353991   | 02 Jan 2013  | 18 Apr 2018    | Notified       |  |
| <b>Clinical Waste Producer Premises Code</b>                                   |              |                |                |  |
| PC01/RE/00362644   | 30 Jan 2014  | End of Project | Valid          | For Hung Hom Freight Yard Works  |

### 3 ENVIRONMENTAL MONITORING REQUIREMENTS

#### 3.1 Construction Dust Monitoring

##### *Monitoring Requirements*

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

##### *Monitoring Equipment*

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

**Table 3.1 Air Quality Monitoring Equipment**

| Equipment                            | Brand and Model   |
|--------------------------------------|---|
| High Volume Sampler<br>(24-hour TSP) | Andersen Total Suspended Particulate Mass Flow<br>Controlled High Volume Air Sampler<br>(Model No. GS 2310 (S/N:8259) ) |
| Calibration Kit                      | TISCH Environmental Orifice<br>(Model TE-5025A (Orifice I.D.: 0988))  |

##### *Monitoring Locations*

- 3.1.3 One monitoring station was set up at the proposed location in accordance with the approved EM&A Manuals for SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS) as well as the works areas of the Project. The location of the construction dust monitoring station is summarised in **Table 3.2** and shown in **Figure 2.1**.

**Table 3.2 Locations of Construction Dust Monitoring Stations**

| ID  | Location                            | Monitoring Station                                    |
|-----|-------------------------------------|---|
| AM1 | No. 234 – 238 Chatham<br>Road North | Roof top of the premises facing Chatham Road<br>North |

Note:

- (1) Permission of access could not be obtained from Wing Fung Building (originally proposed in the approved EM&A Manuals) and hence the monitoring location was relocated to No. 234-248 Chatham Road North. The alternative monitoring location has been approved by IEC and EPD.

##### *Monitoring Methodology*

#### 3.1.4 24-hour TSP Monitoring

- (a) The HVS was installed in the vicinity of the air sensitive receivers. The following criteria were considered in the installation of the HVS as far as practicable:-
- (i) A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
  - (ii) The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
  - (iii) A minimum of 2 meters separation from walls, parapets and penthouse for rooftop sampler.
  - (iv) A minimum of 2 meters separation from any supporting structure, measured horizontally is required.
  - (v) No furnace or incinerator flues nearby.
  - (vi) Airflow around the sampler was unrestricted.
  - (vii) Permission was obtained to set up the samplers and access to the monitoring stations.
  - (viii) A secured supply of electricity was obtained to operate the samplers.
  - (ix) The sampler was located more than 20 meters from any dripline.

- (x) Any wire fence and gate, required to protect the sampler, did not obstruct the monitoring process.
  - (xi) Flow control accuracy was kept within  $\pm 2.5\%$  deviation over 24-hour sampling period.
- (b) Preparation of Filter Papers
- (i) Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.
  - (ii) All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than  $\pm 3$  °C; the relative humidity (RH) was < 50% and not variable by more than  $\pm 5\%$ . A convenient working RH was 40%.
  - (iii) All filter papers were prepared and analysed by ALS Technichem (HK) Pty Ltd., which is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes.
- (c) Field Monitoring
- (i) The power supply was checked to ensure the HVS works properly.
  - (ii) The filter holder and the area surrounding the filter were cleaned.
  - (iii) The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
  - (iv) The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
  - (v) The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied was sufficient to avoid air leakage at the edges.
  - (vi) Then the shelter lid was closed and was secured with the aluminium strip.
  - (vii) The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
  - (viii) A new flow rate record sheet was set into the flow recorder.
  - (ix) On site temperature and atmospheric pressure readings were taken and the flow rate of the HVS was checked and adjusted at around 1.3 m<sup>3</sup>/min, and complied with the range specified in the EM&A Manual (i.e. 0.6-1.7 m<sup>3</sup>/min).
  - (x) The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
  - (xi) The initial elapsed time was recorded.
  - (xii) At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
  - (xiii) The final elapsed time was recorded.
  - (xiv) The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
  - (xv) It was then placed in a clean envelope and sealed.
  - (xvi) All monitoring information was recorded on a standard data sheet.
  - (xvii) Filters were then sent to ALS Technichem (HK) Pty Ltd. for analysis.
- (d) Maintenance and Calibration
- (i) The HVS and its accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
  - (ii) HVSs were calibrated using TE-5025A Calibration Kit upon installation and thereafter at bi-monthly intervals.
  - (iii) Calibration certificate of the TE-5025A Calibration Kit and the HVSs are provided in **Appendix E**.

***Monitoring Schedule for the Reporting Month***

3.1.5 The schedule for environmental monitoring in May 2017 is provided in **Appendix F**.

### 3.2 Regular Construction Noise Monitoring

#### *Monitoring Requirements*

- 3.2.1 In accordance with the EM&A Manuals, impact noise monitoring should be conducted for at least once a week during the construction phase of the Project. **Table 3.4** summarises the monitoring parameters, frequency and duration of impact noise monitoring. The Action and Limit level of the noise monitoring is provided in **Appendix D**.

**Table 3.4 Noise Monitoring Parameters, Frequency and Duration**

| Parameter and Duration   | Frequency              |
|--|------------------------|
| 30-mins measurement at each monitoring station between 0700 and 1900 on normal weekdays. Leq, L10 and L90 would be recorded. | At least once per week |

#### *Monitoring Equipment*

- 3.2.2 Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in **Table 3.5**.

**Table 3.5 Noise Monitoring Equipment for Regular Noise Monitoring**

| Equipment                    | Brand and Model  |
|------------------------------|--|
| Integrated Sound Level Meter | B&K (Model No. B&K2238 (S/N: 2800927), Model No. B&K2270 (S/N: 2644597), Model No. B&K2250-L (S/N: 2681366)) |
| Acoustic Calibrator          | Rion (Model No. NC-73 (S/N: 10307223)), B&K (Model No. 4231 (S/N: 3006428))                                  |

#### *Monitoring Locations*

- 3.2.3 Two monitoring stations were set up at the proposed locations in accordance with the approved EM&A Manuals for SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS) as well as the works areas of the Project. Locations of the noise monitoring stations are summarised in **Table 3.6** and shown in **Figure 3.1**.

**Table 3.6 Locations of Regular Construction Noise Monitoring Stations**

| ID  | Location  | Monitoring Station   | Type of Measurement |
|-----|---|--|---------------------|
| NM1 | Carmel Secondary School (South Block)           | 1m from the exterior of the roof top façade of the premises facing Oi Sen Path | Façade              |
| NM2 | No. 234 – 238 Chatham Road North <sup>(1)</sup> | Free-field on the rooftop of the premise                                       | Free Field          |

Note:

- (1) Permission of access could not be obtained from Wing Fung Building (originally proposed in the approved EM&A Manuals) and hence the monitoring location was relocated to No. 234-248 Chatham Road North. The alternative monitoring location has been approved by IEC and EPD.

**Monitoring Methodology**

## 3.2.4 Monitoring Procedure

- (a) The sound level meter was set on a tripod at a height of 1.2 m above the ground for free-field measurements at NM2. A correction of +3 dB(A) shall be made to the free field measurements.
- (b) Façade measurements were made at NM1.
- (c) The battery condition was checked to ensure the correct functioning of the meter.
- (d) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - (i) frequency weighting: A
  - (ii) time weighting: Fast
  - (iii) time measurement:  $L_{eq(30\text{-minutes})}$  during non-restricted hours i.e. 0700 – 1900 on normal weekdays.
- (e) Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator for 94 dB(A) at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- (f) During the monitoring period, the  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- (g) Noise measurement was paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations were recorded when intrusive noise was unavoidable.
- (h) Noise monitoring was cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind with gusts exceeding 10m/s.

## 3.2.5 Maintenance and Calibration

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

**Monitoring Schedule for the Reporting Month**

- 3.2.6 The schedule for environmental monitoring in May 2017 is provided in **Appendix F**.

### 3.3 Continuous noise monitoring

#### **Monitoring Requirements**

- 3.3.1 According to EP conditions under EP-437/2012 (Condition 2.8) and EP-438/2012/K (Condition 2.10), continuous noise monitoring should be conducted at the NSRs as identified by the Construction Noise Mitigation Measures Plan (CNMMP) to have residual air-borne noise impacts. A CNMMP and Continuous Noise Monitoring Plan (CNMP) were submitted to EPD on 20 January 2014.

#### **Monitoring Locations**

- 3.3.2 With reference to the CNMP, continuous noise monitoring should be conducted during period at which the predicted airborne construction noise levels exceed the relevant noise criteria at the respective NSRs. The proposed continuous noise monitoring locations are presented in **Table 3.7** and shown in **Figure 2.1**.

**Table 3.7 Summary of Proposed Continuous Noise Monitoring Location**

| NSR ID | NSR Description                       | Uses        | Proposed Continuous Noise Monitoring Location | Alternative Noise Monitoring Location         |
|--------|---------------------------------------|-------------|---|---|
| OM4a   | Carmel Secondary School (South Block) | Educational | NM1   | -   |
| HH2    | Wing Fung Building                    | Residential | NM2   | No. 234-238 Chatham Road North <sup>(1)</sup> |

Note:

(1) Permission of access could not be obtained from Wing Fung Building (originally proposed in the approved EM&A Manuals) and hence the monitoring location was relocated to No. 234-248 Chatham Road North. The alternative monitoring location is considered as an appropriate alternative noise monitoring station in the CNMP.

#### **Monitoring Equipment**

- 3.3.3 Continuous noise monitoring will be performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator will be deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in **Table 3.8**.

**Table 3.8 Noise Monitoring Equipment for Continuous Noise Monitoring**

| Equipment                    | Brand and Model        |
|------------------------------|------------------------|
| Integrated Sound Level Meter | B&K (Model No. 2238)   |
| Acoustic Calibrator          | Rion (Model No. NC-74) |

#### **Monitoring Parameters, Frequency and Duration**

- 3.3.4 Continuous noise level will be measured in terms of the A-weighted equivalent continuous sound pressure level for 30 minutes ( $L_{eq, 30 \text{ min}}$ ) for time period between 0700 and 1900 hours on normal working hours (i.e. Mondays to Saturdays) during the construction period that the predicted noise levels exceed the relevant noise criteria at the identified NSRs. The recommended measurement period for the continuous noise monitoring programme in the CNMP is summarised in **Table 3.9**.

**Monitoring Methodology**

- 3.3.5 Immediately prior to the noise measurement, the accuracy of the sound level meter will be checked using an acoustic calibrator, which generated a known sound pressure level at a known frequency. The accuracy of the sound level meter will also be checked on an annual-basis. Measurement will be accepted as valid only if the calibration level before and after the noise measurement agrees to within 1.0dB. Noise measurement will be made in accordance with standard acoustical principles and practices in relation to weather conditions.

**Event and Action Plan**

- 3.3.6 Summary of the proposed continuous noise monitoring programme are presented in **Table 3.9**. The Event and Action Plan for the continuous noise monitoring programme recommended in the CNMP is presented in **Appendix I**.

**Table 3.9 Summary of Proposed Continuous Noise Monitoring Programme**

| Monitoring Location | NSR Description                               | Action/Limit Level, dB(A) | Measurement Period  |
|---------------------|---|---------------------------|---|
| NM1                 | Carmel Secondary School (South Block)         | 68 <sup>(1)</sup>         | Feb and Jun 2014, Jan and Feb 2015 <sup>(3)</sup> Mar 2015 <sup>(4)</sup> |
| NM2                 | No. 234-238 Chatham Road North <sup>(2)</sup> | 77                        | Sep to Dec of 2014 Jan / Mar to May 2015                                  |

Note:

- (1) Action/Limit level will only be applicable during the examination period.  
 (2) Permission of access could not be obtained from Wing Fung Building (originally proposed in the approved EM&A Manuals) and hence the monitoring location was relocated to No. 234-248 Chatham Road North. The alternative monitoring location is considered as an appropriate alternative noise monitoring station in the CNMP.  
 (3) Based on 2014-2015 Calendar of Carmel Secondary School, the examination periods are scheduled in January and February 2015. The continuous noise monitoring was conducted in January and February 2015.  
 (4) Additional continuous noise monitoring was conducted in March 2015 according to the latest 2014-2015 Calendar of Carmel Secondary School.

**3.4 Landscape and Visual**

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

**4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES**

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

**Table 4.1 Status of Required Submission under Environmental Permit**

| <b>EP Condition</b>  | <b>Submission</b>                     | <b>Submission Date</b> |
|--|---------------------------------------|------------------------|
| Condition 3.4 (EP-437/2012) &<br>Condition 3.4 (EP-438/2012/K) | Monthly EM&A Report for<br>April 2017 | 12 May 2017            |



## 5 MONITORING RESULTS

### 5.1 Construction Dust Monitoring

5.1.1 The monitoring results for 24-hour TSP are summarised in **Table 5.1**. Detailed air quality monitoring results and wind monitoring data extracted from the nearest Automatic Weather Station are presented in **Appendix G**.

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

| ID  | Average ( $\mu\text{g}/\text{m}^3$ ) | Range ( $\mu\text{g}/\text{m}^3$ ) | Action Level ( $\mu\text{g}/\text{m}^3$ ) | Limit Level ( $\mu\text{g}/\text{m}^3$ ) |
|-----|--------------------------------------|------------------------------------|---|--|
| AM1 | 49.4                                 | 30.5 – 91.1                        | 183.9                                     | 260                                      |

5.1.2 No Action and Limit Level exceedance was recorded for 24-hour TSP monitoring at the monitoring location in the reporting month.

5.1.3 The event and action plan is annexed in **Appendix I**.

5.1.4 Major dust sources during the monitoring included construction dust from the Project site and other nearby construction sites and also nearby traffic emission.

### 5.2 Regular Construction Noise Monitoring

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

**Table 5.2 Summary of Impact Noise Monitoring Results in the Reporting Period**

| ID                  | Range, dB(A),<br>$L_{\text{eq}}$ (30 mins) | Limit Level, dB(A),<br>$L_{\text{eq}}$ (30 mins) |
|---------------------|--|--|
| NM 1 <sup>(2)</sup> | <Baseline                                  | 70 (65) <sup>(1)</sup>                           |
| NM 2 <sup>(2)</sup> | <Baseline                                  | 75   |

Note:

(1) Daytime noise Limit Level of 70dB(A) applies to education institutions while 65dB(A) applies during school examination period.

(2) Baseline correction will be made to the measured  $L_{\text{eq}}$  when the measured noise level exceeded the corresponding baseline noise level and presented in the table. No correction was made to NM2 as all measured noise levels were below the baseline noise level.

5.2.2 No noise complaint was received in the reporting month during 0700 to 1900 hours on normal weekdays; hence, no Action Level exceedance was recorded.

5.2.3 No Limit Level exceedance of noise was recorded at all monitoring stations in the reporting month.

5.2.4 The event and action plan is annexed in **Appendix I**.

5.2.5 Major noise sources during the monitoring included construction noise from the Project site and other nearby construction sites, nearby traffic noise and noise from school activities and the community.

### 5.3 Continuous Noise Monitoring

5.3.1 As the construction works that have been identified by the CNMMP to be potentially causing exceedance of noise criteria have not commenced during this reporting month, no continuous noise monitoring was carried out.

#### 5.4 Waste Management

- 5.4.1 C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.
- 5.4.2 As advised by the Contractor, 507 m<sup>3</sup> of inert C&D material was generated. 94 m<sup>3</sup> and 11 m<sup>3</sup> were disposed as public fills at TKO137 and TM38 respectively. 402 m<sup>3</sup> of public fills was delivered to Hung Hom Barging Point and handled by other project. No public fills was reused in the Contract. While 113,400 kg of general refuse was disposed at NENT landfill in the reporting month, 900 kg of plastic was collected by recycling contractor in the reporting month. No paper and metal were collected by recycling contractor in the reporting month. No Type 1 marine dumping was delivered to Hung Hom Barging Point. No chemical waste was collected by licensed contractor in the reporting period. The waste flow table is annexed in **Appendix K**.
- 5.4.3 The Contractor is advised to properly maintain on site C&D materials and wastes collection, sorting and recording system and maximize reuse / recycle of C&D materials and wastes. The Contractor is reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.
- 5.4.4 The Contractor is reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

#### 5.5 Landscape and Visual

- 5.5.1 Bi-weekly inspection of the implementation of landscape and visual mitigation measures were conducted on 11 and 25 May 2017. A summary of the site inspection is provided in **Appendix C**. The observations and recommendations made during the site inspections are presented in **Table 6.1**.
- 5.5.2 The event and action plan is annexed in **Appendix I**.

## 6 ENVIRONMENTAL SITE INSPECTION AND AUDIT

6.1.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the site inspection is provided in **Appendix C**.

6.1.2 In the reporting month, 4 site inspections were carried out on 4, 11, 18 and 25 May 2017. The one held on 18 May 2017 was a joint inspection with the IEC, ER, the Contractor and the ET. No non-compliance was recorded during the site inspections. Details of observations recorded during the site inspections are presented in **Table 6.1**.

**Table 6.1 Observations and Recommendations of Site Audit**

| Parameters                       | Date        | Observations and Recommendations   | Follow up  |
|----------------------------------|-------------|--|--|
| Water Quality                    | 25 May 2017 | <ul style="list-style-type: none"> <li>The Contractor was reminded to provide bunding to discharge point to avoid muddy runoff entering drainage. (Reminder)</li> </ul>  | The item was rectified by the Contractor on 29 May 2017. |
| Air Quality                      | 18 May 2017 | <ul style="list-style-type: none"> <li>The Contractor was reminded to provide dust mitigation measures to stockpile at OB2 and NSL6. (Reminder)</li> </ul>   | The item was rectified by the Contractor on 18 May 2017. |
|                                  |             | <ul style="list-style-type: none"> <li>The Contractor was reminded to provide water during concrete breaking at NSL7. (Reminder)</li> </ul>  | The item was rectified by the Contractor on 18 May 2017. |
|                                  |             | <ul style="list-style-type: none"> <li>The Contractor was reminded to properly wheel wash any vehicle exiting the exit of NSL6. (Reminder)</li> </ul>  | The item was rectified by the Contractor on 18 May 2017. |
| Noise                            | 18 May 2017 | <ul style="list-style-type: none"> <li>The Contractor was reminded to provide noise emission label for hand-held breaker at NSL7. (Reminder)</li> </ul>  | The item was rectified by the Contractor on 18 May 2017. |
| Waste/<br>Chemical<br>Management | 27 Apr 2017 | <ul style="list-style-type: none"> <li>Chemical containers were placed at OB2 without secondary containment. The Contractor was advised to provide drip tray to chemical containers to prevent chemical spillage.</li> </ul> | The item was rectified by the Contractor on 4 May 2017.  |
|                                  | 4 May 2017  | <ul style="list-style-type: none"> <li>The Contractor was reminded to remove rain water in a drip tray at NSL9 to maintain its capacity. (Reminder)</li> </ul>   | The item was rectified by the Contractor on 11 May 2017. |
|                                  | 11 May 2017 | <ul style="list-style-type: none"> <li>The Contractor was reminded to remove general refuse more frequently at OB2 to avoid over-accumulation. (Reminder)</li> </ul>   | The item was rectified by the Contractor on 11 May 2017. |
|                                  | 18 May 2017 | <ul style="list-style-type: none"> <li>Oil Stain on ground was observed at OSP. The Contractor was advised to clean up the stain and dispose any impacted material of as chemical waste.</li> </ul>                          | The item was rectified by the Contractor on 19 May 2017. |
| Landscape & Visual               | 18 May 2017 | <ul style="list-style-type: none"> <li>Material was placed near the tree at EWL. The Contractor was advised to remove material stacking near the tree for tree protection.</li> </ul>  | The item was rectified by the Contractor on 20 May 2017  |
| Permits/<br>Licenses             | N/A         | N/A  | N/A  |

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

6.1.4 The items of which their inspection for follow-up actions were outstanding as recorded in the last reporting month have already been rectified by the Contractor as confirmed by the ET during the reporting period.

## **7 ENVIRONMENTAL NON-CONFORMANCE**

### **7.1 Summary of Monitoring Exceedances**

- 7.1.1 All 24-hour TSP results were below the Action and Limit level at all monitoring locations in the reporting month.
- 7.1.2 No noise complaint during 0700 to 1900 hours on normal weekdays was received in the reporting month; hence, no Action Level exceedance was recorded.
- 7.1.3 No Limit Level exceedance for noise was recorded at all monitoring stations in the reporting month.
- 7.1.4 As the construction works that have been identified by the CNMMP to be potentially causing exceedance of noise criteria have not commenced during this reporting month, no continuous noise monitoring was carried out.

### **7.2 Summary of Environmental Non-Compliance**

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

### **7.3 Summary of Environmental Complaints**

- 7.3.1 An environmental noise complaint was referred by EPD on 8 May 2017. An environmental complaint was received by EPD on 1 May 2017. The complainant alleged to be a driver who was particularly annoyed by dust from the subject sites while driving a car on Chatham Road North towards To Kwa Wan on 29 April 2017 at 2 – 4 pm. The investigation report was submitted to EPD on 16 May 2017. Cumulative statistics on environmental complaints is provided in **Appendix J**.

### **7.4 Summary of Environmental Summon and Successful Prosecutions**

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

## 8 FUTURE KEY ISSUES

### 8.1 Construction Programme for the Project

#### *Construction Programme for the Next Two Month*

8.1.1 The major construction works in June and July 2017 will be:

| Location            | Site Activities  |
|---------------------|--|
| Ho Man Tin          | EVA construction, hoarding removal   |
| NSL (South) + HHBP  | Concreting works, form work erection, reinforcement fixing, backfill, road & drainage construction, excavation, pipe laying, hoarding removal  |
| OB2                 | Backfill, TB1 dismantling, watermain diversion, upstand wall modification, OB2 bridge jacking and bearing replacement and parapet wall construction  |
| OB2A                | OB2A bridge reinstatement, precast parapet installation, bearing replacement, backfilling  |
| NSL 9 & Oi Sen Path | Backfilling, drainage work, Scaffolding platform erection, dismantling of scaffolding, lifting works, temporary working platform removal, ELS removal, tunnel works, rock breaking, hoarding removal |
| EWL 7 - 9           | Reinstatement, road diversion, backfilling, steel deck dismantling   |

### 8.2 Key Issues for the Coming Month

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

### 8.3 Monitoring Schedule for the Next Two Month

8.3.1 The tentative schedule for environmental monitoring in June and July 2017 is provided in **Appendix F**.

## 9 CONCLUSIONS AND RECOMMENDATIONS

### 9.1 Conclusions

- 9.1.1 24-hour TSP and noise monitoring were carried out in the reporting month.
- 9.1.2 All 24-hour TSP monitoring results complied with the Action / Limit Level at in the reporting month.
- 9.1.3 No noise complaint during 0700 to 1900 hours on normal weekdays was received in the reporting month; hence, no Action Level exceedance was recorded.
- 9.1.4 No Limit Level exceedance for noise was recorded at all monitoring stations in the reporting month.
- 9.1.5 As the construction works that have been identified by the CNMMP to be potentially causing exceedance of noise criteria have not commenced during this reporting month, no continuous noise monitoring was carried out.
- 9.1.6 4 nos. of environmental site inspections were carried out in May 2017. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audit.
- 9.1.7 An environmental noise complaint was referred by EPD on 8 May 2017. An environmental complaint was received by EPD on 1 May 2017. The complainant alleged to be a driver who was particularly annoyed by dust from the subject sites while driving a car on Chatham Road North towards To Kwa Wan on 29 April 2017 at 2 – 4 pm. The investigation report was submitted to EPD on 16 May 2017.
- 9.1.8 Referring to the Contractor's information, no notification of summons and successful prosecution was received in the reporting month.

### 9.2 Recommendations

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

#### Air Quality Impact

- Implement effective dust mitigation measures such as wheel washing and watering on exposed surface and during breaking process

#### Construction Noise Impact

- Provision of Noise Emission Label for hand-held breaker (>10 kg).

#### Water Quality Impact

- Ensure wastewater to be collected and treated to avoid water quality impact.

#### Chemical/ Waste Management

- Prevent leakage of chemical by providing secondary containment; and
- Provide proper waste and chemical management;

#### Landscape and Visual Impact

- Provide protection for retained tree.

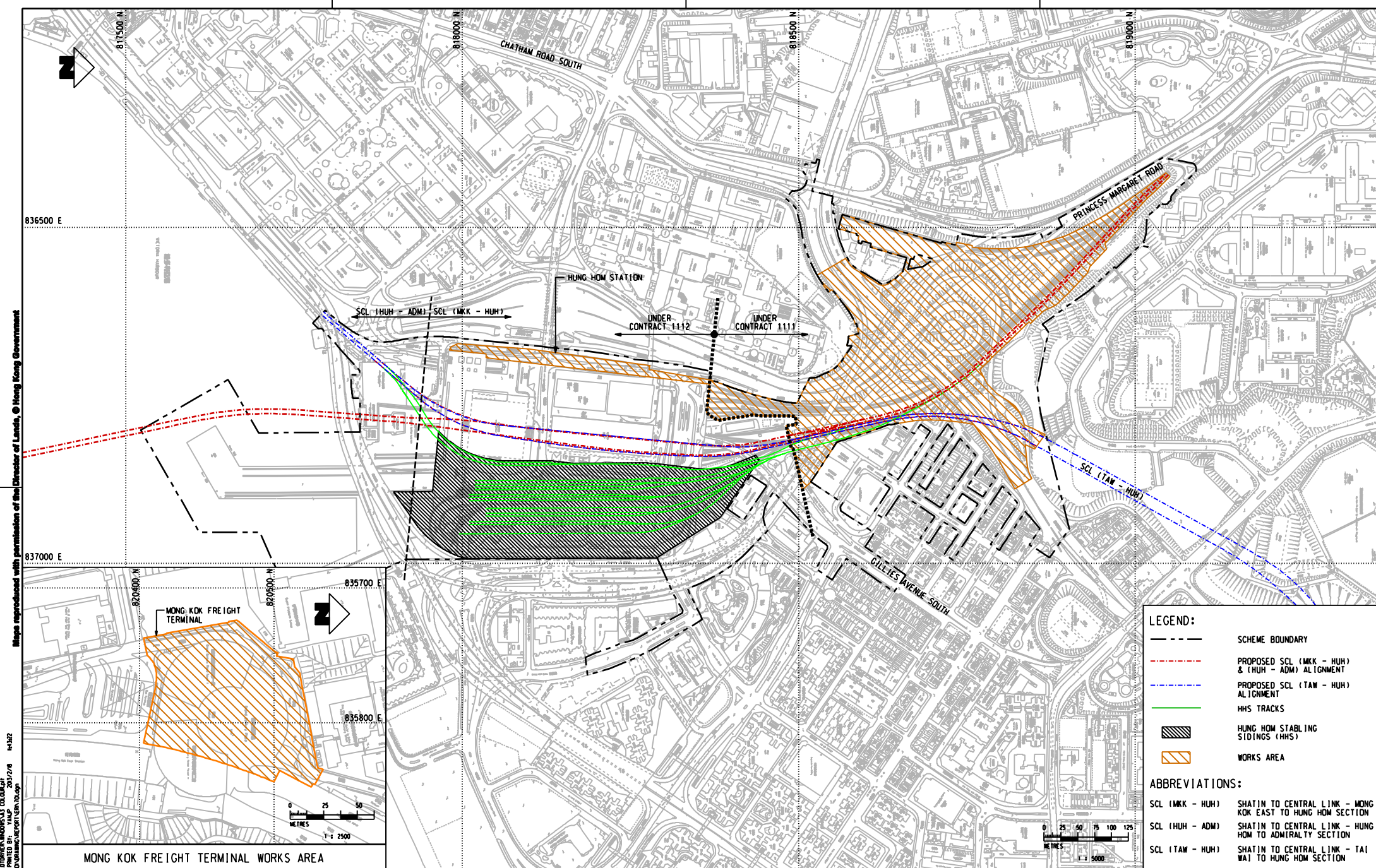
#### Permits/Licenses

- No specific observation was identified in the reporting month.

---

## FIGURES

---



Maps reproduced with permission of the Director of Lands, © Hong Kong Government

PLOT DATE: 15/01/2013  
 FILE NAME: P:\PROJECTS\2012\20120204\MK-KO\1111\1111\_01.dgn  
 NO. 1111

**LEGEND:**

- SCHEME BOUNDARY
- PROPOSED SCL (MKK - HUH) & (HUH - ADM) ALIGNMENT
- PROPOSED SCL (TAW - HUH) ALIGNMENT
- HHS TRACKS
- HUNG HOM STABLES SIDINGS (HHS)
- WORKS AREA

**ABBREVIATIONS:**

- SCL (MKK - HUH) SHATIN TO CENTRAL LINK - MONG KOK EAST TO HUNG HOM SECTION
- SCL (HUH - ADM) SHATIN TO CENTRAL LINK - HUNG HOM TO ADMIRALTY SECTION
- SCL (TAW - HUH) SHATIN TO CENTRAL LINK - TAI WAI TO HUNG HOM SECTION

MONG KOK FREIGHT TERMINAL WORKS AREA

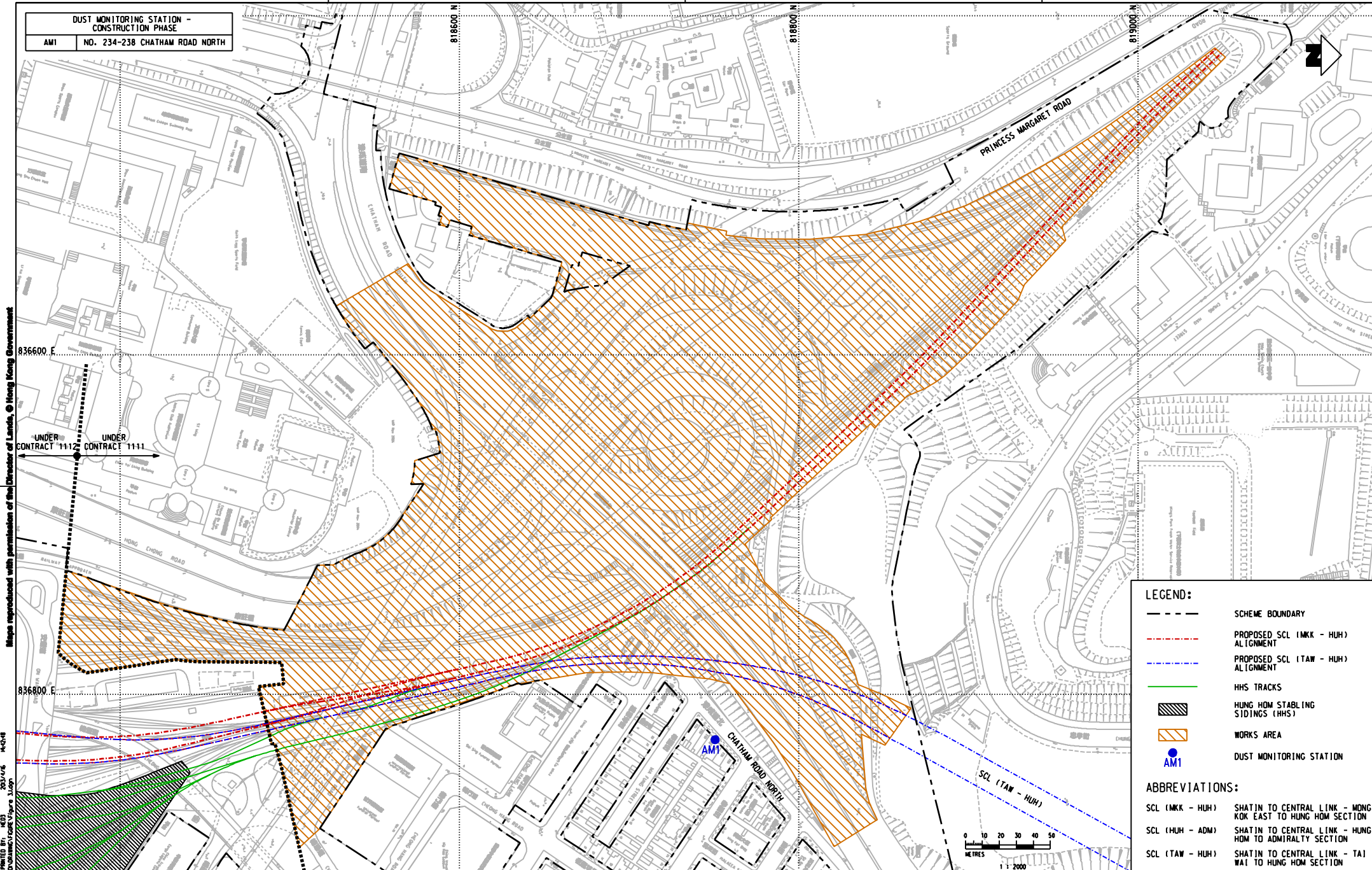
| REV | DESCRIPTION | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|------|----------|-----|-------------|----|------|----------|
|     |             |    |      |          |     |             |    |      |          |

|   |             |                              |                               |
|---|-------------|------------------------------|-------------------------------|
| DRAWN   | HD          |                              | <b>SHATIN TO CENTRAL LINK</b> |
| DESIGNED  | L.C.L.L.    |                              |                               |
| CHECKED   | L.C.L.L.    | CONTRACTOR:                  |                               |
| APPROVED  | [Signature] | ORIGINATOR:                  |                               |
| DATE  | 08/FEB/2013 | SCALE: A3 AS SHOWN           |                               |
| ON THE SCALE SHOWN, ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE SPECIFIED.<br>THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE RELEVANT AUTHORITIES AND FOR OBTAINING ALL NECESSARY INFORMATION FROM THE RELEVANT AUTHORITIES AND FOR OBTAINING ALL NECESSARY INFORMATION FROM THE RELEVANT AUTHORITIES. |             |                              |                               |
| CADD REF.   | 701.dgn     | FIGURE NO. <b>FIGURE 1.1</b> |                               |

|  |  |
|--|--|
| TITLE<br><b>CONTRACT 1111</b><br><b>HUNG HOM NORTH APPROACH TUNNELS</b><br><b>WORKS AREAS OF THE PROJECT</b> | SCALE: A3 AS SHOWN<br>FIGURE NO. <b>FIGURE 1.1</b><br>REV. - |
|--|--|



DUST MONITORING STATION - CONSTRUCTION PHASE  
 AM1 NO. 234-238 CHATHAM ROAD NORTH



**LEGEND:**

- SCHEME BOUNDARY
- - - - PROPOSED SCL (MKK - HUH) ALIGNMENT
- - - - PROPOSED SCL (TAW - HUH) ALIGNMENT
- HHS TRACKS
- ▨ HUNG HOM STABLING SIDINGS (HHS)
- ▨ WORKS AREA
- AM1 DUST MONITORING STATION

**ABBREVIATIONS:**

- SCL (MKK - HUH) SHATIN TO CENTRAL LINK - MONG KOK EAST TO HUNG HOM SECTION
- SCL (HUH - ADM) SHATIN TO CENTRAL LINK - HUNG HOM TO ADMIRALTY SECTION
- SCL (TAW - HUH) SHATIN TO CENTRAL LINK - TAI WAI TO HUNG HOM SECTION

Maps reproduced with permission of the Director of Lands, © Hong Kong Government

PLOT D/W: MTR CONTRACT 1111/16  
 FILE NAME: P:\PROJECTS\G08\HW\AM1\FIGURE 2.1.dgn  
 H4C-14

| REV | DESCRIPTION | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|------|----------|-----|-------------|----|------|----------|
|     |             |    |      |          |     |             |    |      |          |

|  |                             |  |   |
|--|-----------------------------|--|---|
| DRAWN    HD<br>DESIGNED    L.C.L.L.<br>CHECKED    L.C.L.L.<br>APPROVED    L.M.V.<br>DATE    08/JAN/2013  |                             | <b>SHATIN TO CENTRAL LINK</b><br>CONTRACTOR<br>Gammon - Kaden SCL 1111 Joint Venture | ORIGINATOR<br>  |
| NO WORK SHALL BE DONE WITHOUT THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER OR ARCHITECT.<br>THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND SERVICES.<br>THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT PROPERTIES.<br>THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT ROADS AND HIGHWAYS.<br>THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT UTILITIES AND SERVICES.<br>THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT PROPERTIES. | CADD REF.    Figure 2.1.dgn | SCALE    1 : 2000 (A3)   | TITLE<br><b>CONTRACT 1111</b><br><b>HUNG HOM NORTH APPROACH TUNNELS</b><br>LOCATION OF AIR QUALITY MONITORING STATION |

|                        |                          |           |
|------------------------|--------------------------|-----------|
| SCALE<br>1 : 2000 (A3) | FIGURE NO.<br>FIGURE 2.1 | REV.<br>- |
|------------------------|--------------------------|-----------|



---

**APPENDIX A**

**Construction Programme**

---





















Activity ID, Activity Name, Dur, Start, Finish, 2015, 2016, 2017, 2018. Includes activity details for Bay N8B-20, Bay N8B-19, Bay N8B-18, Bay N8B-17, Bay N8B-16, Bay N8B-15, Bay N8B-14, Bay N8B-13, Bay N8B-12, and Bay N8B-11.

NON-DEMOLITION MASTER PROGRAMME

REVISION B

Table with 4 columns: Date, Revision, Checked, Approved. Contains revision history from 15-Jul-15 to 17-Sep-15.



Gammon - Kaden SCL 1111 Joint Venture

NDMPB-35

P 10 of 16















---

**APPENDIX B**

**Project Organization Structure**

---



---

**APPENDIX C**

**Implementation Schedule of Environmental Mitigation  
Measures**

---

**Appendix C - Implementation Schedule of Environmental Mitigation Measures**

| EIA Ref.   | Environmental Mitigation Measures  | Location   | Implementation Status  |     |
|--|------------------------------------|--|------------------------|-----|
| <b>Landscape and Visual Impact</b>   |                                    |  |                        |     |
| S6.9.3 (TAW-HUH) , S6.12 (HHS), S6.12 (TAW-HUH), Table 6.9 (HHS) & Table 4.9 (MKK-HUH) | Minimize visual & landscape impact | <ul style="list-style-type: none"> <li>Existing topsoil shall be re-used where possible for new planting areas within the Project.</li> </ul>  | All construction sites | N/A |
|  |                                    | <ul style="list-style-type: none"> <li>Ground vegetation and the associated under storey habitats, construction contracts may designate "No-intrusion Zone" to various areas within the site boundary with rigid and durable fencing for each individual no-intrusion zone.</li> </ul> | All construction sites | N/A |
|  |                                    | <ul style="list-style-type: none"> <li>All retained trees should be recorded photographically at the commencement of the Contract, and carefully protected during the construction period.</li> </ul>  | All construction sites | @   |
|  |                                    | <ul style="list-style-type: none"> <li>Erection of decorative screen during construction stage to screen off undesirable views of the construction site for visual and landscape sensitive areas.</li> </ul>   | All construction sites | V   |
|  |                                    | <ul style="list-style-type: none"> <li>Giving control on the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs.</li> </ul>  | All construction sites | V   |
|  |                                    | <ul style="list-style-type: none"> <li>Trees of medium to high survival rate that would be affected by the works shall be transplanted where possible and practicable.</li> </ul>  | All construction sites | N/A |
|  |                                    | <ul style="list-style-type: none"> <li>Compensatory tree &amp; shrub planting shall be provided to compensate for the loss of shrub planting in amenity areas.</li> </ul>  | All construction sites | N/A |
|  |                                    | <ul style="list-style-type: none"> <li>Control of night-time lighting glare.</li> </ul>  | All construction sites | N/A |
|  |                                    | <ul style="list-style-type: none"> <li>All hard and soft landscape areas disturbed temporarily during construction shall be reinstated to equal or better quality, to the satisfaction of the relevant Government Departments.</li> </ul>  | All construction sites | N/A |

| <b>Construction Noise Impact</b>              |  |   |                            |     |
|---|--|---|----------------------------|-----|
| 8.3.6 (TAW-HUH) , S8.5.6 (HHS) & S6 (MKK-HUH) | To control construction airborne noise | <ul style="list-style-type: none"> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme.</li> </ul>   | All construction sites     | V   |
|   |  | <ul style="list-style-type: none"> <li>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.</li> </ul>  | All construction sites     | V   |
|   |  | <ul style="list-style-type: none"> <li>Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs.</li> </ul>   | All construction sites     | V   |
|   |  | <ul style="list-style-type: none"> <li>Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works.</li> </ul>   | All construction sites     | V   |
|   |  | <ul style="list-style-type: none"> <li>Mobile plant should be sited as far away from NSRs as possible and practicable.</li> </ul>   | All construction sites     | V   |
|   |  | <ul style="list-style-type: none"> <li>Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>   | All construction sites     | V   |
|   |  | The following quiet PME should be used: <ul style="list-style-type: none"> <li>Asphalt Paver (SWL=101dB(A))</li> <li>Backhoe (SWL=106dB(A))</li> <li>Backhoe with Hydraulic Breaker (SWL=110dB(A))</li> <li>Concrete lorry mixer (SWL=96dB(A))</li> <li>Concrete mixer truck (SWL=96dB(A))</li> <li>Concrete Pump (SWL=106dB(A))</li> <li>Concrete Pump Truck (SWL=106dB(A))</li> <li>Crane, mobile (SWL=94dB(A))</li> <li>Crawler Crane (SWL=102dB(A))</li> <li>Drill, hand-held (SWL=98dB(A))</li> <li>Dump truck (SWL=104dB(A))</li> <li>Excavator (SWL=106dB(A))</li> <li>Flat Bed Lorry (SWL=102dB(A))</li> <li>Generator (SWL=95dB(A))</li> <li>Giken Piler and Power-pack (SWL=94dB(A))</li> <li>Hydraulic breaker (SWL=110dB(A))</li> </ul> | Works areas where required | N/A |



| <b>Construction Noise Impact</b> |  |  |  |   |
|----------------------------------|--|--|--|---|
|                                  |  | <ul style="list-style-type: none"> <li>• Hydraulic excavator (SWL=106dB(A))</li> <li>• Lorry (SWL=102dB(A))</li> <li>• Lorry with crane/ grab (SWL=94dB(A))</li> <li>• Mini Piling Rig (SWL=112dB(A))</li> <li>• Piling Rig (SWL=112dB(A))</li> <li>• Poker, vibrator, hand-held (SWL=98dB(A))</li> <li>• Road Roller (SWL=101dB(A))</li> <li>• Rock Drill (SWL = 108dB(A))</li> <li>• Roller (SWL = 101dB(A))</li> <li>• Truck (SWL=103dB(A))</li> <li>• Vibratory Hammer (SWL=118dB(A))</li> </ul> |  |   |
|                                  |  | <ul style="list-style-type: none"> <li>• Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs.</li> </ul>  | All construction sites                       | √ |
|                                  |  | <ul style="list-style-type: none"> <li>• Install movable noise barriers, acoustic mat or full enclosure, screen the noisy plants</li> </ul>  | All construction sites                       | √ |
|                                  |  | <ul style="list-style-type: none"> <li>• Sequencing operation of construction plants where practicable.</li> </ul>   | All construction sites                       | √ |
|                                  |  | <ul style="list-style-type: none"> <li>• Particularly noisy construction activities will be scheduled to avoid school examination period as far as practicable.</li> </ul>   | Works areas near the Carmel Secondary School | √ |
| /                                | To control construction airborne noise | <ul style="list-style-type: none"> <li>• Hand held breakers having a mass of above 10 kg and air compressor capable of supplying compressed air at 500 kPa or above for carrying out construction work shall be fitted with valid noise emission labels during operation</li> </ul>  | All construction sites                       | @ |

| <b>Construction Air Quality Impact</b>                                   |  |  |                        |     |
|--|--|--|------------------------|-----|
| S7.6.5 (TAW-HUH) ,<br>S7.6.6 (HHS),<br>S5.50, 5.51<br>&5.57<br>(MKK-HUH) | Minimize dust impact at nearby sensitive receivers | <ul style="list-style-type: none"> <li>Watering once per hour on exposed worksites and haul road should be conducted to achieve dust removal efficiencies of 91.7%.</li> </ul>   | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet.</li> </ul>   | All construction sites | @   |
|  |  | <ul style="list-style-type: none"> <li>Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads</li> </ul>   | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones.</li> </ul>   | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle</li> </ul>                                       | All construction sites | N/A |
|  |  | <ul style="list-style-type: none"> <li>Vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point.</li> </ul>  | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>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.</li> </ul>  | All construction sites | @   |
|  |  | <ul style="list-style-type: none"> <li>When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided.</li> </ul>  | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials.</li> </ul>  | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously.</li> </ul>                       | All construction sites | @   |
|  |  | <ul style="list-style-type: none"> <li>Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet.</li> </ul>         | All construction sites | N/A |
|  |  | <ul style="list-style-type: none"> <li>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.</li> </ul> | All construction sites | V   |

| <b>Construction Air Quality Impact</b> |  |   |                        |     |
|--|--|---|------------------------|-----|
|  |  | <ul style="list-style-type: none"> <li>Any skip hoist for material transport should be totally enclosed by impervious sheeting.</li> </ul>  | All construction sites | N/A |
|  |  | <ul style="list-style-type: none"> <li>Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.</li> </ul>   | All construction sites | N/A |
| /                                      | Minimize dust impact at nearby sensitive receivers | <ul style="list-style-type: none"> <li>Every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.</li> </ul>  | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>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.</li> </ul>  | All construction sites | N/A |
|  |  | <ul style="list-style-type: none"> <li>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.</li> </ul>          | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>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.</li> </ul> | All construction sites | N/A |
|  |  | <ul style="list-style-type: none"> <li>Imposition of speed controls for vehicles on site haul roads.</li> </ul>   | All construction sites | N/A |
|  |  | <ul style="list-style-type: none"> <li>Open burning shall be prohibited.</li> </ul>   | All construction sites | V   |
|  |  |   |                        |     |
| /                                      | Emission from Vehicles and Plants                  | <ul style="list-style-type: none"> <li>All vehicles shall be shut down in intermittent use.</li> </ul>  | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.</li> </ul>  | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD).</li> </ul>  | All construction sites | V   |

| <b>Construction Water Quality Impact</b>  |  |  |                        |     |
|---|--|--|------------------------|-----|
| S10.7.1 (TAW-HUH) , S10.7.1 (HHS) & S8 (MKK-HUH)  | To minimize construction water quality impactt | <ul style="list-style-type: none"> <li>Construction Site Drainage should be implemented to control site run-off and drainage as well as any site effluents generated from the works areas, and to prevent run-off and construction wastes from entering nearby water environment.</li> </ul> | Site drainage system   | V   |
|   |  | <ul style="list-style-type: none"> <li>Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins.</li> </ul>   | Site drainage system   | V   |
|   |  | <ul style="list-style-type: none"> <li>Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities.</li> </ul>   | All works area         | V   |
|   |  | <ul style="list-style-type: none"> <li>Perimeter channels at site boundaries should be provided on site boundaries where necessary to intercept storm run-off from outside the site so that it will not wash across the site.</li> </ul>   | All works area         | V   |
|   |  | <ul style="list-style-type: none"> <li>Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly.</li> </ul>   | All construction sites | V   |
|   |  | <ul style="list-style-type: none"> <li>Construction works should be programmed to minimize soil excavation works in rainy seasons.</li> </ul>  | All construction sites | N/A |
|   |  | <ul style="list-style-type: none"> <li>Temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds.</li> </ul>   | All construction sites | V   |
|   |  | <ul style="list-style-type: none"> <li>Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms.</li> </ul>                  | All construction sites | N/A |
|   |  | <ul style="list-style-type: none"> <li>Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms.</li> </ul>   | All construction sites | V   |
| <ul style="list-style-type: none"> <li>Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.</li> </ul> | All construction sites                         | V  |                        |     |

| <b>Construction Water Quality Impact</b> |  |   |  |     |
|--|--|---|--|-----|
|  |  | <ul style="list-style-type: none"> <li>Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers.</li> </ul>   | All construction sites                   | @   |
|  |  | <ul style="list-style-type: none"> <li>Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area.</li> </ul>   | All construction sites                   | V   |
|  |  | <ul style="list-style-type: none"> <li>All vehicles and plant should be cleaned before they leave a construction site to minimize the deposition of earth, mud, debris on roads.</li> </ul>   | All construction sites                   | V   |
|  |  | <ul style="list-style-type: none"> <li>Bentonite slurries used in diaphragm wall construction should be reconditioned and used again wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the used slurry should either be dewatered or mixed with inert fill material for disposal to a public filling area.</li> </ul> | All construction sites                   | V   |
|  |  | <ul style="list-style-type: none"> <li>A cofferdam wall should be built as necessary to limit groundwater inflow to the excavation works areas.</li> </ul>  | Excavation works areas                   | N/A |
|  |  | <ul style="list-style-type: none"> <li>Wastewater generated should not be discharged into the stormwater drainage system.</li> </ul>  | All construction sites                   | V   |
|  |  | <ul style="list-style-type: none"> <li>Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers.</li> </ul>   | All construction sites                   | N/A |
|  |  | <ul style="list-style-type: none"> <li>Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site.</li> </ul>  | All construction sites                   | V   |
|  |  | <ul style="list-style-type: none"> <li>The Contractor should apply for a discharge license under the WPCO through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater.</li> </ul>   | All construction sites where practicable | N/A |
|  |  | <ul style="list-style-type: none"> <li>Appropriate measures will be deployed to minimize the intrusion of groundwater into excavation works areas.</li> </ul>   | All construction sites                   | N/A |
|  |  | <ul style="list-style-type: none"> <li>Measures should be put in place in order to mitigate any drawdown effects to the groundwater table during the operation of the temporary dewatering works.</li> </ul>  | All construction sites                   | N/A |

| <b>Waste Management</b>  |  |  |                        |     |
|--|--|--|------------------------|-----|
| S11.5.1 (TAW-HUH), S11.5.1(HHS) & S9 (MKK-HUH)   | Good site practice to minimize the generation and impact of the waste. | <ul style="list-style-type: none"> <li>Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement.</li> </ul>   | All construction sites | N/A |
|  |  | <ul style="list-style-type: none"> <li>Sorting of demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions.</li> </ul>   | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.</li> </ul>                 | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>Proper storage and site practices to minimize the potential for damage or contamination of construction materials.</li> </ul>   | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.</li> </ul>   | All construction sites | N/A |
|  |  | <ul style="list-style-type: none"> <li>Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution.</li> </ul>   | All construction sites | @   |
|  |  | <ul style="list-style-type: none"> <li>Maintain and clean storage areas routinely.</li> </ul>  | All construction sites | @   |
|  |  | <ul style="list-style-type: none"> <li>Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away.</li> </ul>   | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>Waste should be removed in timely manner.</li> </ul>  | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>Waste collectors should only collect wastes prescribed by their permits.</li> </ul>   | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>Waste should be disposed of at licensed waste disposal facilities.</li> </ul>   | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified.</li> </ul>  | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>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.</li> </ul> | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>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.</li> </ul>                                       | All construction sites | V   |
|  |  | <ul style="list-style-type: none"> <li>The Contractor should register as a chemical waste producer if chemical wastes would be generated.</li> </ul>   | All construction sites | V   |
| <ul style="list-style-type: none"> <li>Disposal of chemical waste should be via a licensed waste collector.</li> </ul> | All construction sites   | V  |                        |     |

| Waste Management |  |  |                        |     |
|------------------|--|--|------------------------|-----|
|                  |  | <ul style="list-style-type: none"> <li>Stockpiling of contaminated sediments should be avoided as far as possible.</li> </ul>  | All construction sites | N/A |
|                  |  | <ul style="list-style-type: none"> <li>All storage of asbestos waste should be carried out properly in a secure place isolated from other substances so as to prevent any possible release of asbestos fibres into the atmosphere and contamination of other substances.</li> <li>The storage area should bear warning panels to alert people of the presence of asbestos waste. Collection, transportation and disposal of asbestos waste should follow the trip-ticket system.</li> <li>Licensed asbestos waste collectors should be appointed to collect the asbestos waste and deliver to the designated landfill for disposal.</li> </ul> | All construction sites | N/A |

| Contaminated Land          |   |  |  |     |
|----------------------------|---|--|--|-----|
| S10.24– 10.34<br>(MKK-HUH) | To act as a general precautionary measure to screen soils for the presence contamination during construction. | <ul style="list-style-type: none"> <li>Precautionary measures such as visual inspection are recommended to be undertaken during construction activities that disturb soil.</li> </ul>  | Within Project Boundary where signs of contamination is identified | N/A |
|                            |   | <ul style="list-style-type: none"> <li>If soil discolouration or the presence of oil/unnatural odour is noted during visual inspection, sampling and testing should also be undertaken to verify the presence of contamination.</li> </ul>   |  | N/A |
|                            | To remediate contaminated soil  | <ul style="list-style-type: none"> <li>If land contamination is identified, CAR and RAP detailing the proposed remediation works should be prepared. RR should then be prepared and submitted to EPD to demonstrate that the decontamination work is adequate and has been carried out in accordance with the endorsed CAR and RAP.</li> </ul> |  | N/A |

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

---

**APPENDIX D**

**Summary of Action and Limit Levels**

---



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

| ID  | Location                         | Action Level                   | Limit Level                    |
|-----|----------------------------------|--------------------------------|--------------------------------|
| AM1 | No. 234 – 238 Chatham Road North | 183.9 $\mu\text{g}/\text{m}^3$ | 260.0 $\mu\text{g}/\text{m}^3$ |

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

| ID  | Location                              | Action Level   | Limit Level                  |
|-----|---------------------------------------|--|------------------------------|
| NM1 | Carmel Secondary School (South Block) | When one documented complaint, related to 0700 – 1900 hours on normal weekdays, is received from any one of the sensitive receivers. | 65 / 70 dB(A) <sup>(1)</sup> |
| NM2 | No. 234 – 238 Chatham Road North      |  | 75 dB(A)                     |

Note:

- (1) Daytime noise Limit Level of 70dB(A) applies to education institutions while 65dB(A) applies during school examination period.

**Table 3 Action and Limit Levels for Continuous Noise**

| ID  | Location                              | Action/Limit Level      |
|-----|---------------------------------------|-------------------------|
| NM1 | Carmel Secondary School (South Block) | 68 dB(A) <sup>(1)</sup> |
| NM2 | No. 234-238 Chatham Road North        | 77 dB(A)                |

Note:

- (1) Action/Limit level will only be applicable during the examination period.

---

**APPENDIX E**

**Calibration Certificates of Equipments**

---



TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE  
 VILLAGE OF CLEVELAND, OH  
 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 31, 2016 Rootmeter S/N 0438320 Ta (K) - 298  
 Operator Tisch Orifice I.D. - 0988 Pa (mm) - 754.38

| PLATE OR Run # | VOLUME START (m3) | VOLUME STOP (m3) | DIFF VOLUME (m3) | DIFF TIME (min) | METER        | ORFICE         |
|----------------|-------------------|------------------|------------------|-----------------|--------------|----------------|
|                |                   |                  |                  |                 | DIFF Hg (mm) | DIFF H2O (in.) |
| 1              | NA                | NA               | 1.00             | 1.3670          | 3.2          | 2.00           |
| 2              | NA                | NA               | 1.00             | 0.9750          | 6.4          | 4.00           |
| 3              | NA                | NA               | 1.00             | 0.8700          | 7.9          | 5.00           |
| 4              | NA                | NA               | 1.00             | 0.8260          | 8.7          | 5.50           |
| 5              | NA                | NA               | 1.00             | 0.6830          | 12.7         | 8.00           |

DATA TABULATION

| Vstd                               | (x axis) Qstd | (y axis) | Va                        | (x axis) Qa | (y axis) |
|------------------------------------|---------------|----------|---------------------------|-------------|----------|
| 0.9884                             | 0.7230        | 1.4090   | 0.9957                    | 0.7284      | 0.8888   |
| 0.9842                             | 1.0094        | 1.9926   | 0.9915                    | 1.0170      | 1.2570   |
| 0.9821                             | 1.1289        | 2.2278   | 0.9894                    | 1.1373      | 1.4054   |
| 0.9811                             | 1.1878        | 2.3365   | 0.9884                    | 1.1967      | 1.4740   |
| 0.9758                             | 1.4288        | 2.8179   | 0.9831                    | 1.4394      | 1.7777   |
| Qstd slope (m) = 1.99349           |               |          | Qa slope (m) = 1.24829    |             |          |
| intercept (b) = -0.02737           |               |          | intercept (b) = -0.01727  |             |          |
| coefficient (r) = 0.99988          |               |          | coefficient (r) = 0.99988 |             |          |
| y axis = SQRT[H2O(Pa/760)(298/Ta)] |               |          | y axis = SQRT[H2O(Ta/Pa)] |             |          |

CALCULATIONS

$$Vstd = \text{Diff. Vol} [(Pa - \text{Diff. Hg}) / 760] (298 / Ta)$$

$$Qstd = Vstd / \text{Time}$$

$$Va = \text{Diff Vol} [(Pa - \text{Diff Hg}) / Pa]$$

$$Qa = Va / \text{Time}$$

For subsequent flow rate calculations:

$$Qstd = 1/m \{ [\text{SQRT} (H2O (Pa/760) (298/Ta))] - b \}$$

$$Qa = 1/m \{ [\text{SQRT} H2O (Ta/Pa)] - b \}$$

# AECOM Asia Company Limited

## TSP High Volume Sampler

### Field Calibration Report

Station : 234 - 238 Chatham Road North; SCL - DMS - 11      Operator: Shum Kam Yuen  
 Cal. Date: 24-Apr-17      Next Due Date: 24-Jun-17  
 Equipment No.: ---      Serial No. 8259

| Ambient Condition   |     |                     |       |
|---------------------|-----|---------------------|-------|
| Temperature, Ta (K) | 296 | Pressure, Pa (mmHg) | 759.5 |

| Orifice Transfer Standard Information |           |   |         |               |          |
|---------------------------------------|-----------|---|---------|---------------|----------|
| Serial No:                            | 988       | Slope, mc   | 1.99349 | Intercept, bc | -0.02737 |
| Last Calibration Date:                | 31-May-16 | $mc \times Qstd + bc = [H \times (Pa/760) \times (298/Ta)]^{1/2}$ |         |               |          |
| Next Calibration Date:                | 31-May-17 |   |         |               |          |

| Calibration of TSP Sampler |                            |   |                                   |                             |  |
|----------------------------|----------------------------|---|-----------------------------------|-----------------------------|--|
| Resistance Plate No.       | Orifice                    |   |                                   | HVS Flow Recorder           |  |
|                            | DH (orifice), in. of water | [DH x (Pa/760) x (298/Ta)] <sup>1/2</sup> | Qstd (m <sup>3</sup> /min) X-axis | Flow Recorder Reading (CFM) | Continuous Flow Recorder Reading IC (CFM) Y-axis |
| 18                         | 7.1                        | 2.67                                      | 1.35                              | 44.0                        | 44.13  |
| 13                         | 5.3                        | 2.31                                      | 1.17                              | 35.0                        | 35.11  |
| 10                         | 4.9                        | 2.22                                      | 1.13                              | 32.0                        | 32.10  |
| 7                          | 4.0                        | 2.01                                      | 1.02                              | 26.0                        | 26.08  |
| 5                          | 3.1                        | 1.77                                      | 0.90                              | 20.0                        | 20.06  |

**By Linear Regression of Y on X**  
 Slope, mw = 53.5255      Intercept, bw = -28.1718  
 Correlation Coefficient\* = 0.9986  
 \*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 1.30m<sup>3</sup>/min  
 From the Regression Equation, the "Y" value according to

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

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]<sup>1/2</sup> = 41.29

Remarks: \_\_\_\_\_

QC Reviewer: WIS CHAN      Signature: [Signature]      Date: 24/04/17



## CERTIFICATE OF CALIBRATION

Certificate No.: 16CA0704 03-01 Page 1 of 2

### Item tested

|                       |                            |              |
|-----------------------|----------------------------|--------------|
| Description:          | Sound Level Meter (Type 1) | , Microphone |
| Manufacturer:         | B & K                      | , B & K      |
| Type/Model No.:       | 2238                       | , 4188       |
| Serial/Equipment No.: | 2800927 / N.009.06         | , 2791211    |
| Adaptors used:        | -                          | , -          |

### Item submitted by

Customer Name: AECOM ASIA CO., LTD.  
Address of Customer: -  
Request No.: -  
Date of receipt: 04-Jul-2016

Date of test: 07-Jul-2016

### Reference equipment used in the calibration

| Description:                    | Model:   | Serial No. | Expiry Date: | Traceable to: |
|---------------------------------|----------|------------|--------------|---------------|
| Multi function sound calibrator | B&K 4226 | 2288444    | 18-Jun-2017  | CIGISMEC      |
| Signal generator                | DS 360   | 33873      | 18-Apr-2017  | CEPREI        |
| Signal generator                | DS 360   | 61227      | 18-Apr-2017  | CEPREI        |

### Ambient conditions

Temperature:  $22 \pm 1$  °C  
Relative humidity:  $60 \pm 10$  %  
Air pressure:  $1000 \pm 5$  hPa

### Test specifications

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

### Test results

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

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

Actual Measurement data are documented on worksheets.

Approved Signatory:

Huang Jian Min/Feng Jun Qi

Date: 09-Jul-2016

Company Chop:



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



## CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 16CA0704 03-01 Page 2 of 2

### 1, Electrical Tests

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

| Test:                   | Subtest:   | Status: | Expanded Uncertainty (dB) | Coverage Factor |
|-------------------------|--|---------|---------------------------|-----------------|
| Self-generated noise    | A  | Pass    | 0.3                       |                 |
|                         | C  | Pass    | 1.0                       | 2.1             |
|                         | Lin  | Pass    | 2.0                       | 2.2             |
| Linearity range for Leq | At reference range, Step 5 dB at 4 kHz           | Pass    | 0.3                       |                 |
|                         | Reference SPL on all other ranges                | Pass    | 0.3                       |                 |
|                         | 2 dB below upper limit of each range             | Pass    | 0.3                       |                 |
|                         | 2 dB above lower limit of each range             | Pass    | 0.3                       |                 |
|                         |  | Pass    | 0.3                       |                 |
| Linearity range for SPL | At reference range, Step 5 dB at 4 kHz           | Pass    | 0.3                       |                 |
|                         |  | Pass    | 0.3                       |                 |
| Frequency weightings    | A  | Pass    | 0.3                       |                 |
|                         | C  | Pass    | 0.3                       |                 |
|                         | Lin  | Pass    | 0.3                       |                 |
| Time weightings         | Single Burst Fast                                | Pass    | 0.3                       |                 |
|                         | Single Burst Slow                                | Pass    | 0.3                       |                 |
|                         |  | Pass    | 0.3                       |                 |
| Peak response           | Single 100µs rectangular pulse                   | Pass    | 0.3                       |                 |
| R.M.S. accuracy         | Crest factor of 3                                | Pass    | 0.3                       |                 |
| Time weighting I        | Single burst 5 ms at 2000 Hz                     | Pass    | 0.3                       |                 |
|                         | Repeated at frequency of 100 Hz                  | Pass    | 0.3                       |                 |
|                         |  | Pass    | 0.3                       |                 |
| Time averaging          | 1 ms burst duty factor 1/10 <sup>3</sup> at 4kHz | Pass    | 0.3                       |                 |
|                         | 1 ms burst duty factor 1/10 <sup>4</sup> at 4kHz | Pass    | 0.3                       |                 |
| Pulse range             | Single burst 10 ms at 4 kHz                      | Pass    | 0.4                       |                 |
| Sound exposure level    | Single burst 10 ms at 4 kHz                      | Pass    | 0.4                       |                 |
| Overload indication     | SPL  | Pass    | 0.3                       |                 |
|                         | Leq  | Pass    | 0.4                       |                 |

### 2, Acoustic tests

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

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

### 3, Response to associated sound calibrator

N/A

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

- End -

Calibrated by:

Date:

Fung Chi Yip  
07-Jul-2016

Checked by:

Date:

Lam Tze Wai  
09-Jul-2016

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



## CERTIFICATE OF CALIBRATION

Certificate No.: 17CA0303 01-02 Page 1 of 2

## Item tested

|                       |                            |            |        |
|-----------------------|----------------------------|------------|--------|
| Description:          | Sound Level Meter (Type 1) | Microphone | Pream  |
| Manufacturer:         | B & K                      | B & K      | B & K  |
| Type/Model No.:       | 2270                       | 4189       | ZC0032 |
| Serial/Equipment No.: | 2644597 N.012.01           | 2846461    | 17965  |
| Adaptors used:        | -                          | -          | -      |

## Item submitted by

|                      |                   |
|----------------------|-------------------|
| Customer Name:       | AECOM ASIA CO LTD |
| Address of Customer: | -                 |
| Request No.:         | -                 |
| Date of receipt:     | 03-Mar-2017       |

Date of test: 07-Mar-2017

## Reference equipment used in the calibration

| Description:                    | Model:   | Serial No. | Expiry Date: | Traceable to: |
|---------------------------------|----------|------------|--------------|---------------|
| Multi function sound calibrator | B&K 4226 | 2288444    | 18-Jun-2017  | CIGISMEC      |
| Signal generator                | DS 360   | 33873      | 18-Apr-2017  | CEPREI        |
| Signal generator                | DS 360   | 61227      | 18-Apr-2017  | CEPREI        |

## Ambient conditions

|                    |              |
|--------------------|--------------|
| Temperature:       | 21 ± 1 °C    |
| Relative humidity: | 60 ± 10 %    |
| Air pressure:      | 1010 ± 5 hPa |

## Test specifications

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

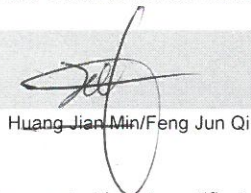
## Test results

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

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

Actual Measurement data are documented on worksheets.

Approved Signatory:



Huang Jian Min/Feng Jun Qi

Date: 08-Mar-2017

Company Chop:



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



## CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 17CA0303 01-02 Page 2 of 2

### 1, Electrical Tests

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

| Test:                   | Subtest:   | Status: | Uncertainty (dB) / Coverage Factor |     |
|-------------------------|--|---------|------------------------------------|-----|
| Self-generated noise    | A  | Pass    | 0.3                                |     |
|                         | C  | Pass    | 1.0                                | 2.1 |
|                         | Lin  | Pass    | 2.0                                | 2.2 |
| Linearity range for Leq | At reference range, Step 5 dB at 4 kHz           | Pass    | 0.3                                |     |
|                         | Reference SPL on all other ranges                | Pass    | 0.3                                |     |
|                         | 2 dB below upper limit of each range             | Pass    | 0.3                                |     |
|                         | 2 dB above lower limit of each range             | Pass    | 0.3                                |     |
| Linearity range for SPL | At reference range, Step 5 dB at 4 kHz           | Pass    | 0.3                                |     |
|                         | Frequency weightings                             |         |                                    |     |
| Time weightings         | A  | Pass    | 0.3                                |     |
|                         | C  | Pass    | 0.3                                |     |
|                         | Lin  | Pass    | 0.3                                |     |
| Peak response           | Single Burst Fast                                | Pass    | 0.3                                |     |
|                         | Single Burst Slow                                | Pass    | 0.3                                |     |
| R.M.S. accuracy         | Single 100µs rectangular pulse                   | Pass    | 0.3                                |     |
| Time weighting I        | Crest factor of 3                                | Pass    | 0.3                                |     |
|                         | Single burst 5 ms at 2000 Hz                     | Pass    | 0.3                                |     |
|                         | Repeated at frequency of 100 Hz                  | Pass    | 0.3                                |     |
| Time averaging          | 1 ms burst duty factor 1/10 <sup>3</sup> at 4kHz | Pass    | 0.3                                |     |
|                         | 1 ms burst duty factor 1/10 <sup>4</sup> at 4kHz | Pass    | 0.3                                |     |
| Pulse range             | Single burst 10 ms at 4 kHz                      | Pass    | 0.4                                |     |
| Sound exposure level    | Single burst 10 ms at 4 kHz                      | Pass    | 0.4                                |     |
| Overload indication     | SPL  | Pass    | 0.3                                |     |
|                         | Leq  | Pass    | 0.4                                |     |

### 2, Acoustic tests

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


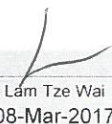
| Test:             | Subtest                | Status | Uncertainty (dB) / Coverage Factor |  |
|-------------------|------------------------|--------|------------------------------------|--|
| Acoustic response | Weighting A at 125 Hz  | Pass   | 0.3                                |  |
|           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

### 3, Response to associated sound calibrator

N/A

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

- End -

|  |   |
|--|---|
| Calibrated by:  | Checked by:  |
| Date: 07-Mar-2017  | Date: 08-Mar-2017   |

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





## CERTIFICATE OF CALIBRATION

Certificate No.: 17CA0303 01-01 Page 1 of 2

### Item tested

|                       |                            |            |        |
|-----------------------|----------------------------|------------|--------|
| Description:          | Sound Level Meter (Type 1) | Microphone | Preamp |
| Manufacturer:         | B & K                      | B & K      | B & K  |
| Type/Model No.:       | 2250-L                     | 4950       | ZC0032 |
| Serial/Equipment No.: | 2681366 N.011.01           | 2665582    | 17190  |
| Adaptors used:        | -                          | -          | -      |

### Item submitted by

Customer Name: AECOM ASIA CO LTD  
Address of Customer: -  
Request No.: -  
Date of receipt: 03-Mar-2017

Date of test: 07-Mar-2017

### Reference equipment used in the calibration

| Description:                    | Model:   | Serial No. | Expiry Date: | Traceable to: |
|---------------------------------|----------|------------|--------------|---------------|
| Multi function sound calibrator | B&K 4226 | 2288444    | 18-Jun-2017  | CIGISMEC      |
| Signal generator                | DS 360   | 33873      | 18-Apr-2017  | CEPREI        |
| Signal generator                | DS 360   | 61227      | 18-Apr-2017  | CEPREI        |

### Ambient conditions

Temperature: 21 ± 1 °C  
Relative humidity: 60 ± 10 %  
Air pressure: 1010 ± 5 hPa

### Test specifications

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

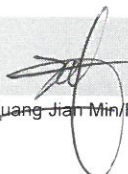
### Test results

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

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

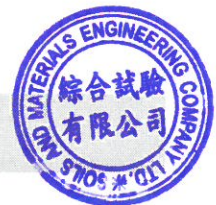
Actual Measurement data are documented on worksheets.

Approved Signatory:

  
Huang Jian Min/Feng Jun Qi

Date: 08-Mar-2017

Company Chop:



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



# CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 17CA0303 01-01

Page 2 of 2

## 1, Electrical Tests

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

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

## 2, Acoustic tests

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

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

## 3, Response to associated sound calibrator

N/A

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

- End -

Calibrated by:

Date:

Fung Chi Yip  
07-Mar-2017

Checked by:

Date:

Lam Tze Wai  
08-Mar-2017

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



## CERTIFICATE OF CALIBRATION

Certificate No.: 16CA1201 01

Page: 1 of 2

### Item tested

Description: Acoustical Calibrator (Class 1)  
Manufacturer: Rion Co., Ltd.  
Type/Model No.: NC-73  
Serial/Equipment No.: 10307223 (CN.004.08)  
Adaptors used: -

### Item submitted by

Customer: AECOM ASIA CO. LTD.  
Address of Customer: -  
Request No.: -  
Date of receipt: 01-Dec-2016

Date of test: 05-Dec-2016

### Reference equipment used in the calibration

| Description:            | Model:   | Serial No. | Expiry Date: | Traceable to: |
|-------------------------|----------|------------|--------------|---------------|
| Lab standard microphone | B&K 4180 | 2412857    | 14-Apr-2017  | SCL           |
| Preamplifier            | B&K 2673 | 2239857    | 28-Apr-2017  | CEPREI        |
| Measuring amplifier     | B&K 2610 | 2346941    | 26-Apr-2017  | CEPREI        |
| Signal generator        | DS 360   | 61227      | 18-Apr-2017  | CEPREI        |
| Digital multi-meter     | 34401A   | US36087050 | 18-Apr-2017  | CEPREI        |
| Audio analyzer          | 8903B    | GB41300350 | 19-Apr-2017  | CEPREI        |
| Universal counter       | 53132A   | MY40003662 | 19-Apr-2017  | CEPREI        |

### Ambient conditions

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

### Test specifications

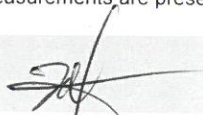
- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results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

### Test results

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

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

Approved Signatory:

  
Huang Jian Min/Feng Jun Qi

Date: 08-Dec-2016

Company Chop:



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



## CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 16CA1201 01

Page: 2 of 2

### 1, Measured Sound Pressure Level

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

| Frequency Shown<br>Hz | Output Sound Pressure Level Setting<br>dB | Measured Output Sound Pressure Level<br>dB | (Output level in dB re 20 $\mu$ Pa)  |
|-----------------------|---|--|--------------------------------------|
|                       |   |  | Estimated Expanded Uncertainty<br>dB |
| 1000                  | 94.00                                     | 94.22                                      | 0.10                                 |

### 2, Sound Pressure Level Stability - Short Term Fluctuations

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

At 1000 Hz STF = 0.002 dB  
Estimated expanded uncertainty 0.005 dB

### 3, Actual Output Frequency

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

At 1000 Hz Actual Frequency = 986.6 Hz  
Estimated expanded uncertainty 0.1 Hz Coverage factor k = 2.2

### 4, Total Noise and Distortion

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

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

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

- End -

Calibrated by:

Fung Chi Yip

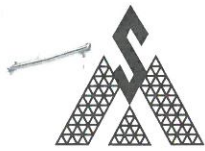
Date: 05-Dec-2016

Checked by:

Lam Tze Wai

Date: 08-Dec-2016

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



## CERTIFICATE OF CALIBRATION

Certificate No.: 17CA0309 01

Page: 1 of 2

### Item tested

Description: Acoustical Calibrator (Class 1)  
Manufacturer: B & K  
Type/Model No.: 4231  
Serial/Equipment No.: 3006428 / N004.03  
Adaptors used: -

### Item submitted by

Customer: AECOM ASIA CO LIMITED  
Address of Customer: -  
Request No.: -  
Date of receipt: 09-Mar-2017

Date of test: 13-Mar-2017

### Reference equipment used in the calibration

| Description:            | Model:   | Serial No. | Expiry Date: | Traceable to: |
|-------------------------|----------|------------|--------------|---------------|
| Lab standard microphone | B&K 4180 | 2412857    | 14-Apr-2017  | SCL           |
| Preamplifier            | B&K 2673 | 2743150    | 28-Apr-2017  | CEPREI        |
| Measuring amplifier     | B&K 2610 | 2346941    | 26-Apr-2017  | CEPREI        |
| Signal generator        | DS 360   | 61227      | 18-Apr-2017  | CEPREI        |
| Digital multi-meter     | 34401A   | US36087050 | 18-Apr-2017  | CEPREI        |
| Audio analyzer          | 8903B    | GB41300350 | 19-Apr-2017  | CEPREI        |
| Universal counter       | 53132A   | MY40003662 | 19-Apr-2017  | CEPREI        |

### Ambient conditions

Temperature:  $22 \pm 1$  °C  
Relative humidity:  $50 \pm 10$  %  
Air pressure:  $1010 \pm 5$  hPa

### Test specifications


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

### Test results

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

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

Approved Signatory:

  
Huang Jian Min/Feng Jun Qi

Date: 15-Mar-2017

Company Chop:



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



## CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 17CA0309 01 Page: 2 of 2

**1, Measured Sound Pressure Level**

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

| Frequency Shown<br>Hz | Output Sound Pressure Level Setting<br>dB | Measured Output Sound Pressure Level<br>dB | Estimated Expanded Uncertainty<br>dB |
|-----------------------|---|--|--------------------------------------|
| 1000                  | 94.00                                     | 94.27                                      | 0.10                                 |

(Output level in dB re 20 µPa)

**2, Sound Pressure Level Stability - Short Term Fluctuations**

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

**At 1000 Hz** **STF = 0.002 dB**  
 Estimated expanded uncertainty 0.005 dB

**3, Actual Output Frequency**

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

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

**4, Total Noise and Distortion**

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

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

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

- End -

Calibrated by:   
 Date: 13-Mar-2017

Checked by:   
 Date: 15-Mar-2017

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

---

**APPENDIX F**

**EM&A Monitoring Schedules**

---

**Shatin to Central Link Contract 1111 - Hung Hom North Approach Tunnels  
Impact Monitoring Schedule for May 2017**

| Sunday | Monday               | Tuesday              | Wednesday            | Thursday             | Friday               | Saturday             |
|--------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|        | 1-May                | 2-May                | 3-May                | 4-May                | 5-May                | 6-May                |
|        |                      | 24-hour TSP<br>(AM1) |                      | Noise<br>(NM1, NM2)  |                      |                      |
| 7-May  | 8-May                | 9-May                | 10-May               | 11-May               | 12-May               | 13-May               |
|        | 24-hour TSP<br>(AM1) | Noise<br>(NM1, NM2)  |                      |                      |                      | 24-hour TSP<br>(AM1) |
| 14-May | 15-May               | 16-May               | 17-May               | 18-May               | 19-May               | 20-May               |
|        |                      | Noise<br>(NM1, NM2)  |                      |                      | 24-hour TSP<br>(AM1) |                      |
| 21-May | 22-May               | 23-May               | 24-May               | 25-May               | 26-May               | 27-May               |
|        |                      |                      |                      | 24-hour TSP<br>(AM1) | Noise<br>(NM1, NM2)  |                      |
| 28-May | 29-May               | 30-May               | 31-May               |                      |                      |                      |
|        |                      |                      | 24-hour TSP<br>(AM1) |                      |                      |                      |

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



**Shatin to Central Link Contract 1111 - Hung Hom North Approach Tunnels  
Tentative Impact Monitoring Schedule for June 2017**

| Sunday | Monday               | Tuesday              | Wednesday           | Thursday             | Friday               | Saturday             |
|--------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|
|        |                      |                      |                     | 1-Jun                | 2-Jun                | 3-Jun                |
|        |                      |                      |                     | Noise<br>(NM1, NM2)  |                      |                      |
| 4-Jun  | 5-Jun                | 6-Jun                | 7-Jun               | 8-Jun                | 9-Jun                | 10-Jun               |
|        |                      | 24-hour TSP<br>(AM1) | Noise<br>(NM1, NM2) |                      |                      |                      |
| 11-Jun | 12-Jun               | 13-Jun               | 14-Jun              | 15-Jun               | 16-Jun               | 17-Jun               |
|        | 24-hour TSP<br>(AM1) | Noise<br>(NM1, NM2)  |                     |                      |                      | 24-hour TSP<br>(AM1) |
| 18-Jun | 19-Jun               | 20-Jun               | 21-Jun              | 22-Jun               | 23-Jun               | 24-Jun               |
|        |                      | Noise<br>(NM1, NM2)  |                     |                      | 24-hour TSP<br>(AM1) |                      |
| 25-Jun | 26-Jun               | 27-Jun               | 28-Jun              | 29-Jun               | 30-Jun               |                      |
|        |                      |                      |                     | 24-hour TSP<br>(AM1) | Noise<br>(NM1, NM2)  |                      |

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

**Shatin to Central Link Contract 1111 - Hung Hom North Approach Tunnels  
Tentative Impact Monitoring Schedule for July 2017**

| Sunday | Monday               | Tuesday              | Wednesday           | Thursday             | Friday               | Saturday             |
|--------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|
|        |                      |                      |                     |                      |                      | 1-Jul                |
|        |                      |                      |                     |                      |                      |                      |
| 2-Jul  | 3-Jul                | 4-Jul                | 5-Jul               | 6-Jul                | 7-Jul                | 8-Jul                |
|        |                      | 24-hour TSP<br>(AM1) | Noise<br>(NM1, NM2) |                      |                      |                      |
| 9-Jul  | 10-Jul               | 11-Jul               | 12-Jul              | 13-Jul               | 14-Jul               | 15-Jul               |
|        | 24-hour TSP<br>(AM1) | Noise<br>(NM1, NM2)  |                     |                      |                      | 24-hour TSP<br>(AM1) |
| 16-Jul | 17-Jul               | 18-Jul               | 19-Jul              | 20-Jul               | 21-Jul               | 22-Jul               |
|        |                      | Noise<br>(NM1, NM2)  |                     |                      | 24-hour TSP<br>(AM1) |                      |
| 23-Jul | 24-Jul               | 25-Jul               | 26-Jul              | 27-Jul               | 28-Jul               | 29-Jul               |
|        |                      |                      |                     | 24-hour TSP<br>(AM1) | Noise<br>(NM1, NM2)  |                      |
| 30-Jul | 31-Jul               |                      |                     |                      |                      |                      |
|        |                      |                      |                     |                      |                      |                      |

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

---

**APPENDIX G**

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

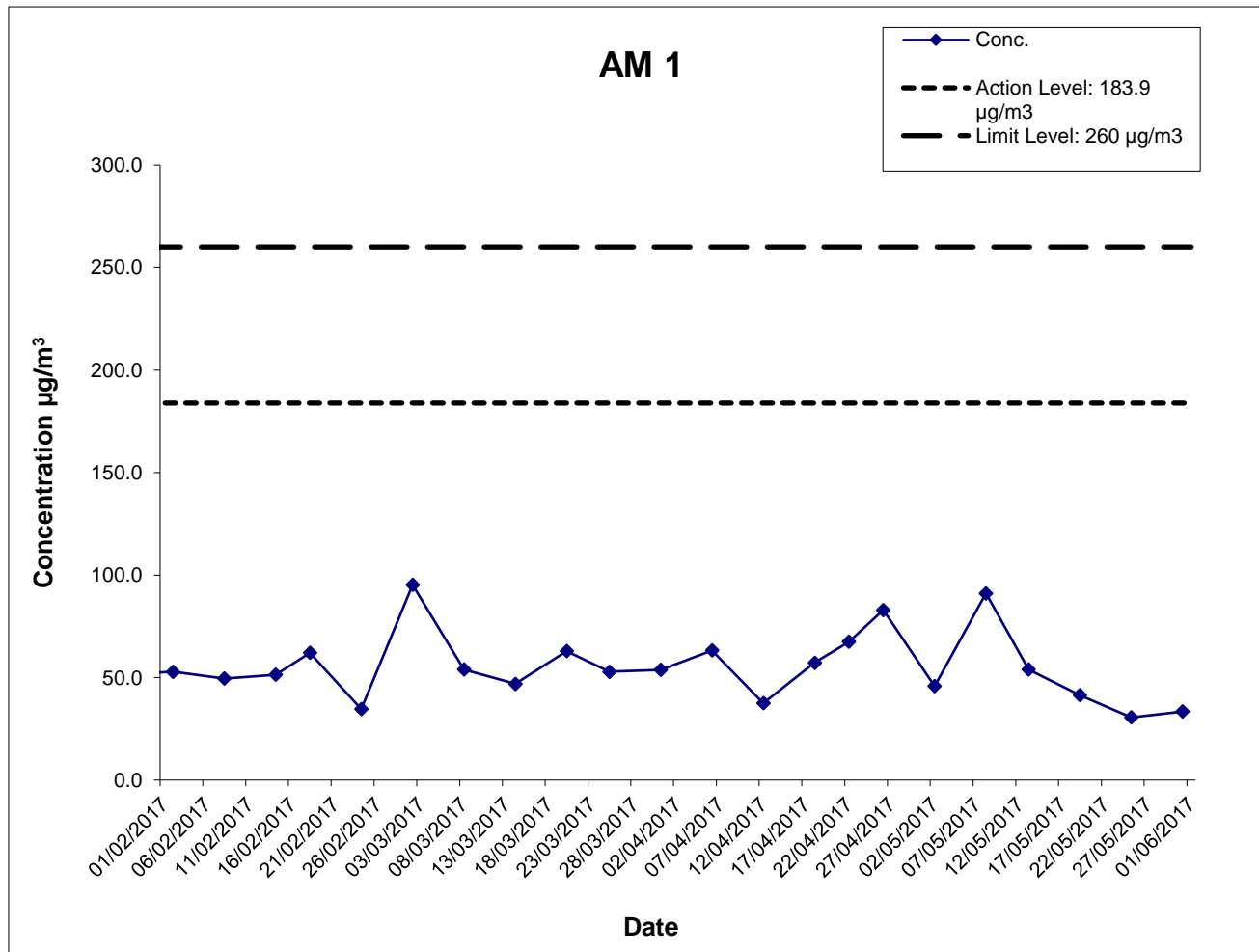
---

**Appendix G**  
**Air Quality Monitoring Results**

**24-hour TSP Monitoring Results at Station AM1 (No. 234 – 238 Chatham Road North)**

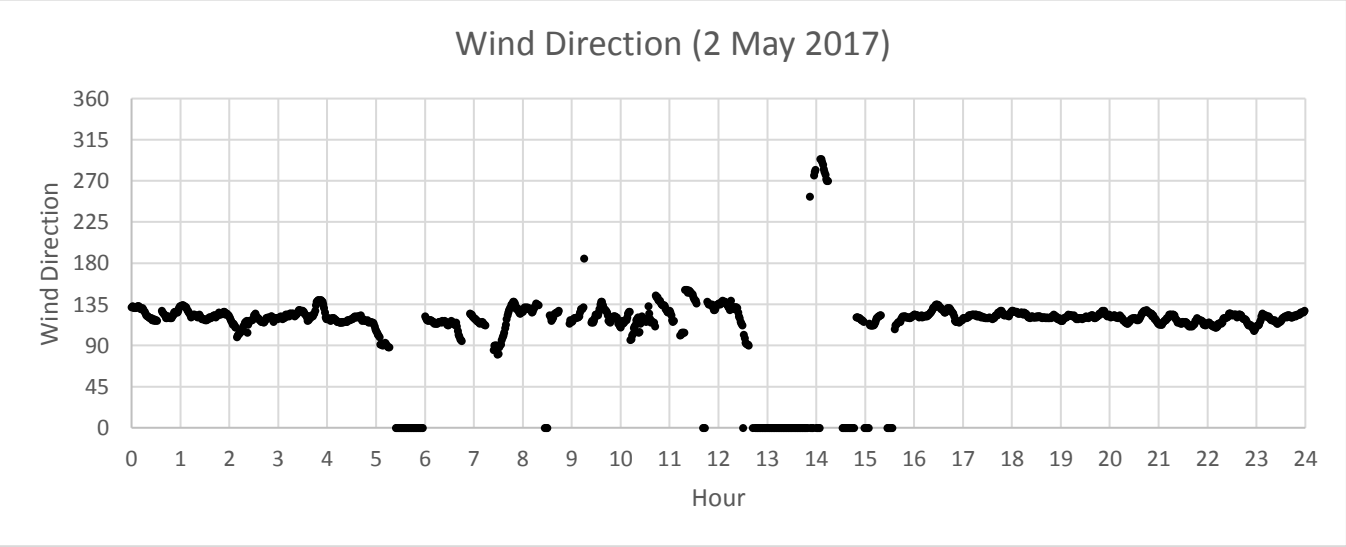
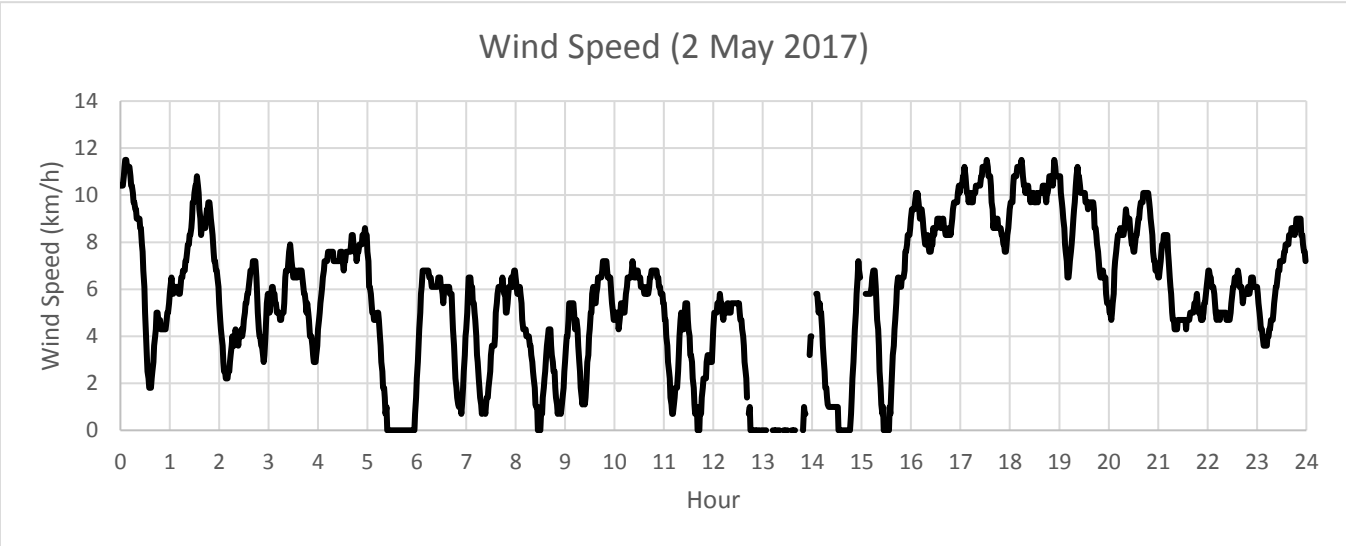
| Start     |      | End       |      | Weather   | Air        | Atmospheric    | Flow Rate (m <sup>3</sup> /min.) |       | Av. flow              | Total vol.        | Filter Weight (g) |        | Particulate | Elapse Time |          | Sampling       | Conc.                |
|-----------|------|-----------|------|-----------|------------|----------------|----------------------------------|-------|-----------------------|-------------------|-------------------|--------|-------------|-------------|----------|----------------|----------------------|
| Date      | Time | Date      | Time | Condition | Temp. (°C) | Pressure (hPa) | Initial                          | Final | (m <sup>3</sup> /min) | (m <sup>3</sup> ) | Initial           | Final  | weight(g)   | Initial     | Final    | Time(hrs.)     | (µg/m <sup>3</sup> ) |
| 2-May-17  | 0:00 | 3-May-17  | 0:00 | Sunny     | 26.1       | 1011.9         | 1.34                             | 1.34  | 1.34                  | 1932.5            | 2.7633            | 2.8518 | 0.0885      | 13364.02    | 13388.02 | 24.00          | 45.8                 |
| 8-May-17  | 0:00 | 9-May-17  | 0:00 | Cloudy    | 25.9       | 1012.0         | 1.34                             | 1.34  | 1.34                  | 1932.5            | 2.8033            | 2.9793 | 0.1760      | 13388.02    | 13412.02 | 24.00          | 91.1                 |
| 13-May-17 | 0:00 | 14-May-17 | 0:00 | Fine      | 25.8       | 1010.2         | 1.34                             | 1.34  | 1.34                  | 1932.5            | 2.7869            | 2.8912 | 0.1043      | 13412.02    | 13436.02 | 24.00          | 54.0                 |
| 19-May-17 | 0:00 | 20-May-17 | 0:00 | Cloudy    | 24.6       | 1011.0         | 1.34                             | 1.34  | 1.34                  | 1932.5            | 2.7461            | 2.8261 | 0.0800      | 13436.02    | 13460.02 | 24.00          | 41.4                 |
| 25-May-17 | 0:00 | 26-May-17 | 0:00 | Sunny     | 25.5       | 1008.7         | 1.34                             | 1.34  | 1.34                  | 1932.5            | 2.7903            | 2.8493 | 0.0590      | 13460.02    | 13484.02 | 24.00          | 30.5                 |
| 31-May-17 | 0:00 | 1-Jun-17  | 0:00 | Sunny     | 28.2       | 1006.6         | 1.34                             | 1.34  | 1.34                  | 1932.5            | 2.7777            | 2.8424 | 0.0647      | 13484.02    | 13508.02 | 24.00          | 33.5                 |
|           |      |           |      |           |            |                |                                  |       |                       |                   |                   |        |             |             |          | <b>Average</b> | <b>49.4</b>          |
|           |      |           |      |           |            |                |                                  |       |                       |                   |                   |        |             |             |          | <b>Minimum</b> | <b>30.5</b>          |
|           |      |           |      |           |            |                |                                  |       |                       |                   |                   |        |             |             |          | <b>Maximum</b> | <b>91.1</b>          |

# Appendix G Air Quality Monitoring Results

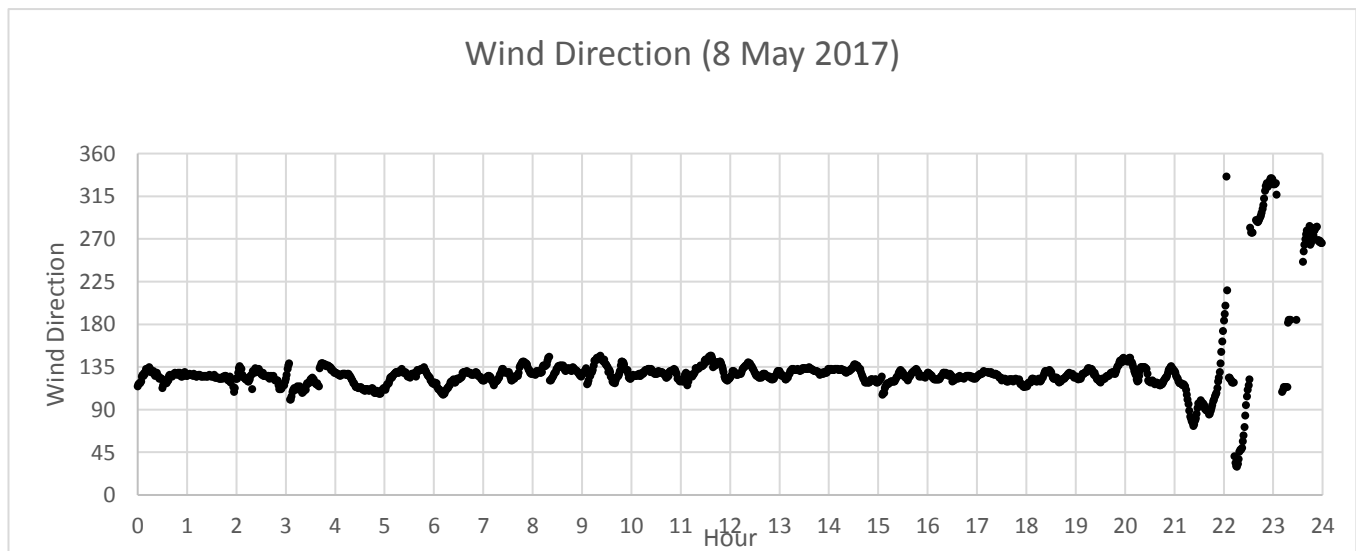
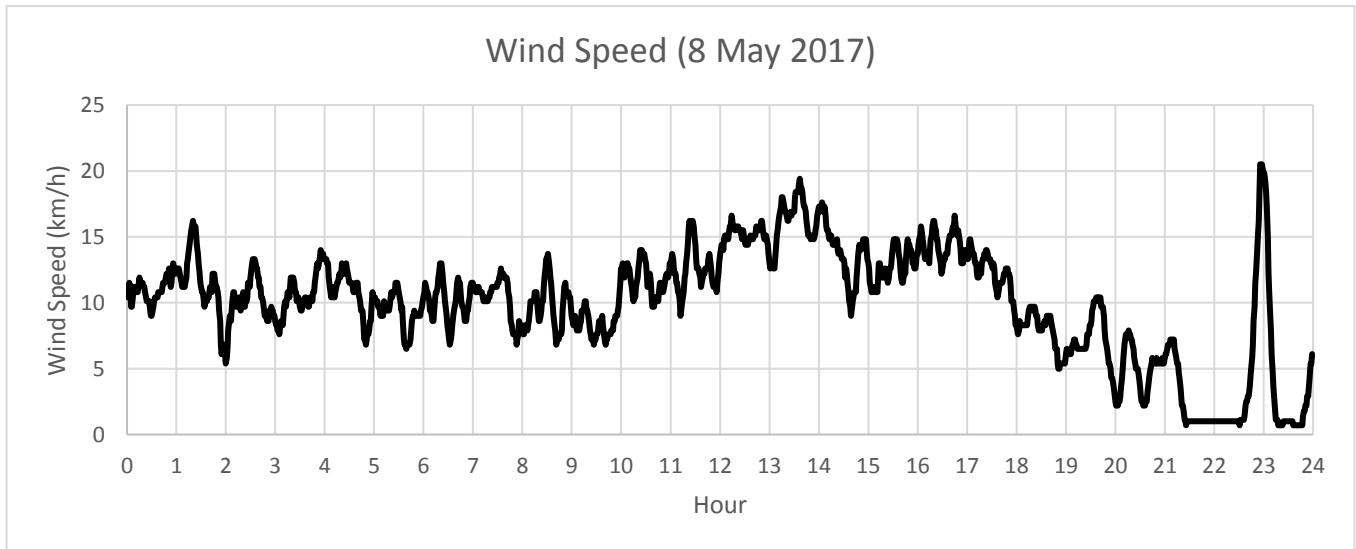


|  |  |         |          |              |        |      |
|--|--|---------|----------|--------------|--------|------|
|  | <b>Shatin to Central Link Works Contract 1111-<br/>Hung Hom North Approach Tunnels</b> | SCALE   | N.T.S.   | DATE         | Jun-17 |      |
|  |  | CHECK   | TYUT     | DRAWN        | RCCP   |      |
|  | <b>Graphical Presentations of Impact 24-hour TSP<br/>Monitoring Results</b>            | JOB NO. | 60284101 | APPENDIX No. | G      | Rev. |

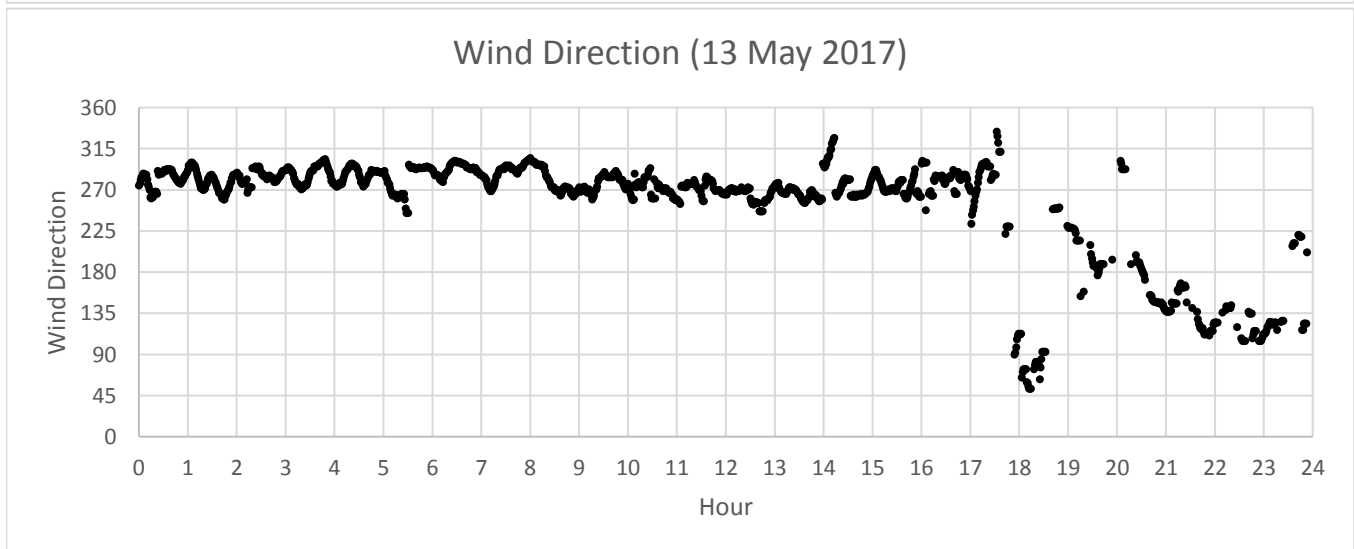
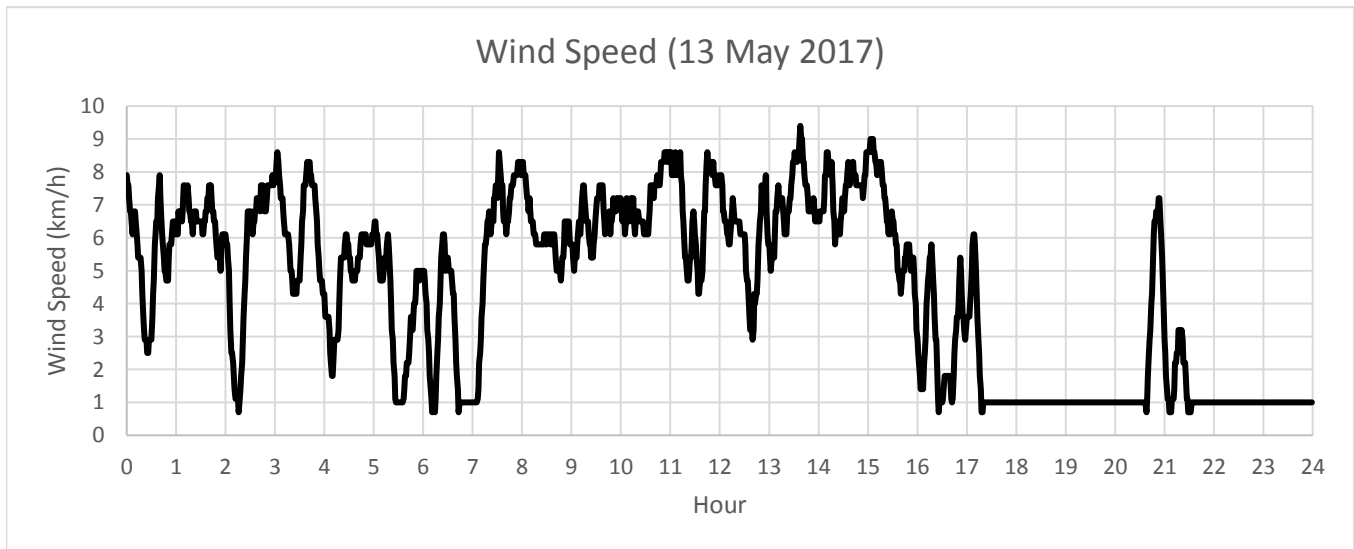
**Appendix G – Extract of Meteorological Observations for King's Park Automatic Weather Station, May 2017**



**Appendix G – Extract of Meteorological Observations for King's Park Automatic Weather Station, May 2017**

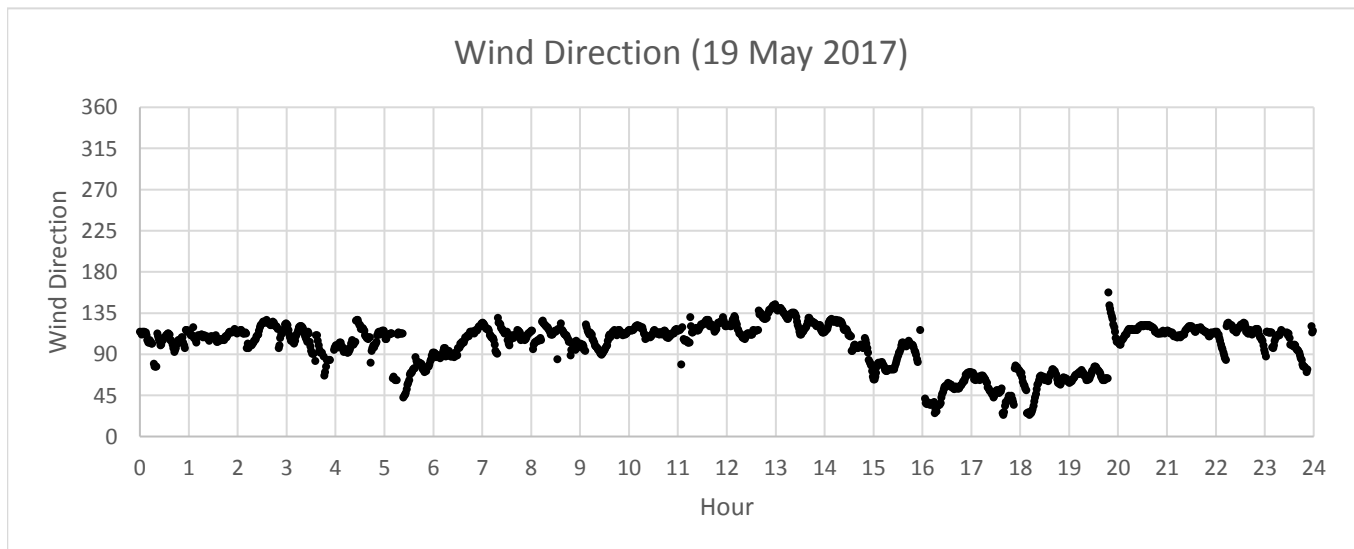
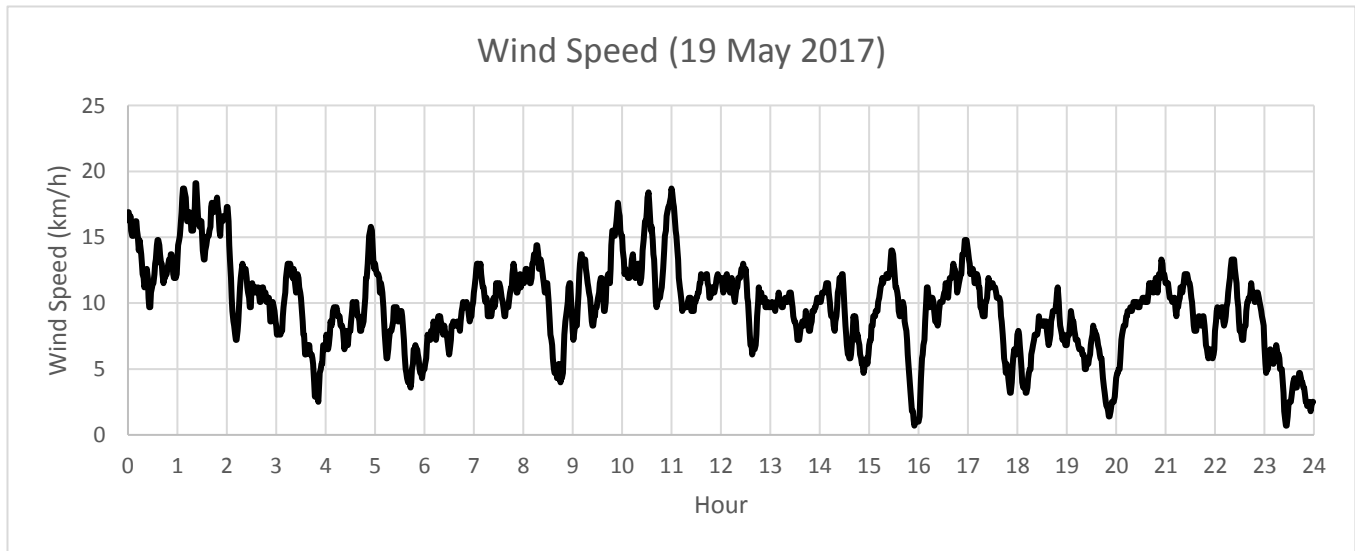


### Appendix G – Extract of Meteorological Observations for King's Park Automatic Weather Station, May 2017

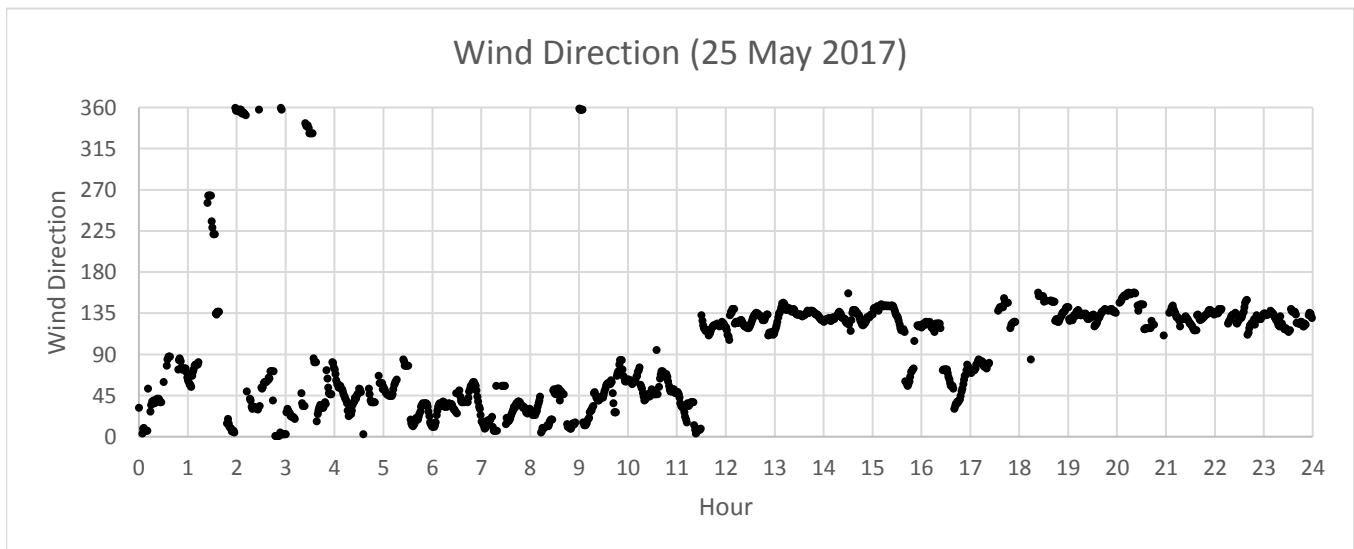
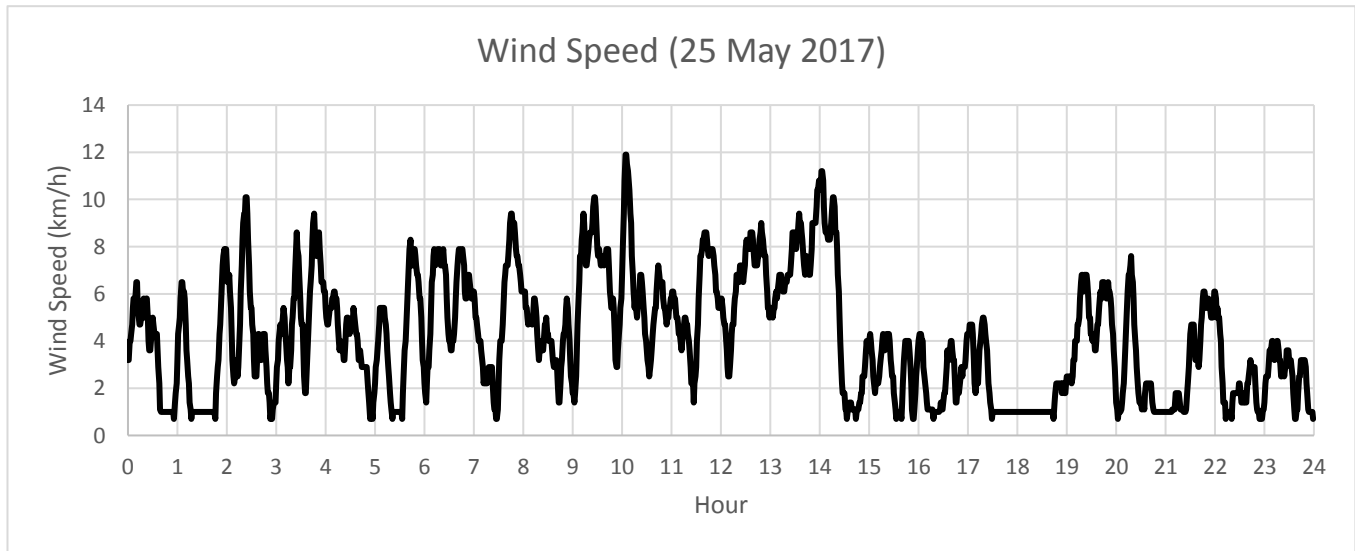




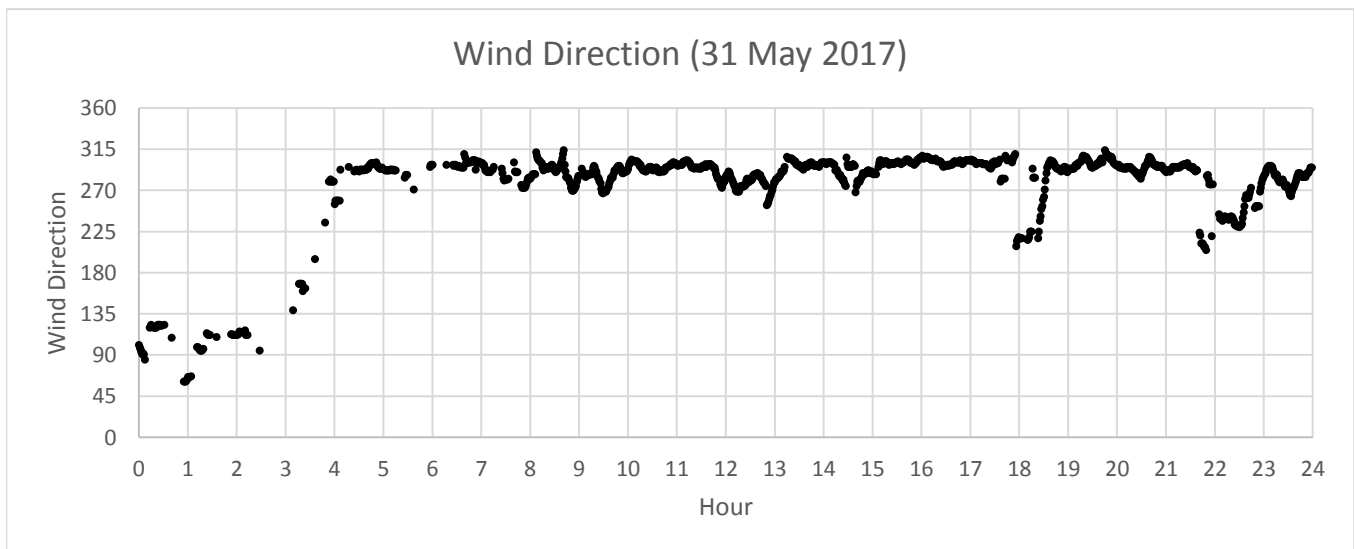
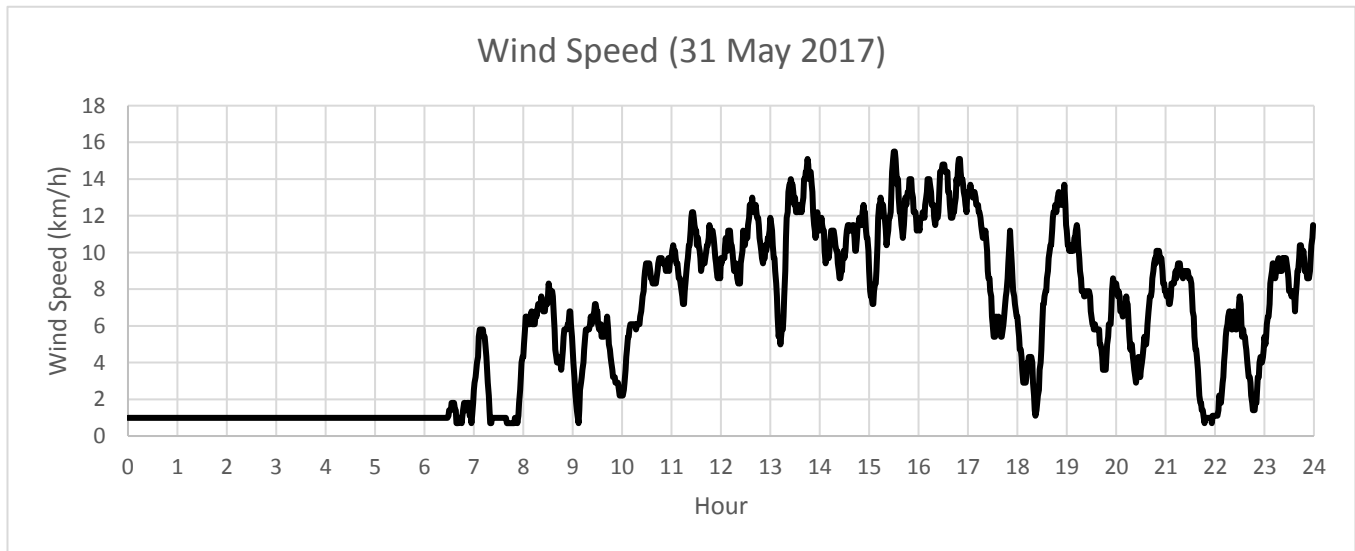
**Appendix G – Extract of Meteorological Observations for King's Park Automatic Weather Station, May 2017**



### Appendix G – Extract of Meteorological Observations for King's Park Automatic Weather Station, May 2017



**Appendix G – Extract of Meteorological Observations for King's Park Automatic Weather Station, May 2017**



---

**APPENDIX H**

**Noise Monitoring Results and  
their Graphical Presentations**

---

## Appendix H Regular Construction Noise Monitoring Results

Daytime Noise Monitoring Results at Station NM 1 (Carmel Secondary School (South Block))

| Date      | Weather Condition | Noise Level for 30-min, dB(A) <sup>+</sup> |      |      |      | Baseline Corrected Level, dB(A) | Baseline Noise Level, dB(A) | Limit Level*, dB(A) | Exceedance (Y/N) |
|-----------|-------------------|--|------|------|------|---------------------------------|-----------------------------|---------------------|------------------|
|           |                   | Time                                       | L90  | L10  | Leq  |                                 |                             |                     |                  |
| 4-May-17  | Cloudy            | 10:00                                      | 63.5 | 68.5 | 67.4 | <Baseline                       | 68.0                        | 65                  | N                |
| 9-May-17  | Sunny             | 10:00                                      | 61.5 | 66.5 | 65.3 | <Baseline                       | 68.0                        | 70                  | N                |
| 16-May-17 | Cloudy            | 13:30                                      | 62.0 | 67.0 | 65.2 | <Baseline                       | 68.0                        | 70                  | N                |
| 26-May-17 | Sunny             | 10:20                                      | 62.5 | 66.5 | 65.2 | <Baseline                       | 68.0                        | 70                  | N                |

Daytime Noise Monitoring Results at Station NM 2 (No. 234 – 238 Chatham Road North)

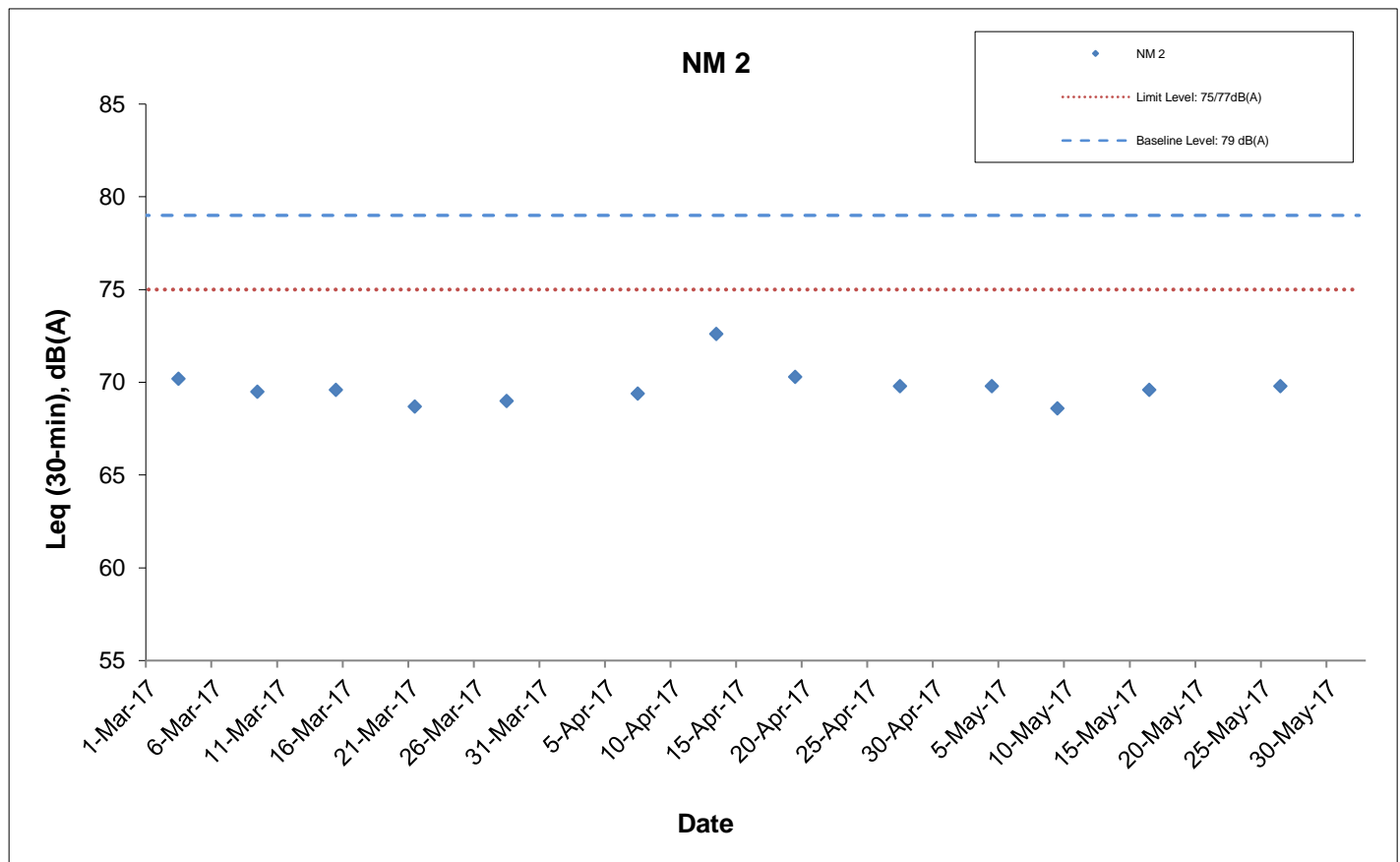
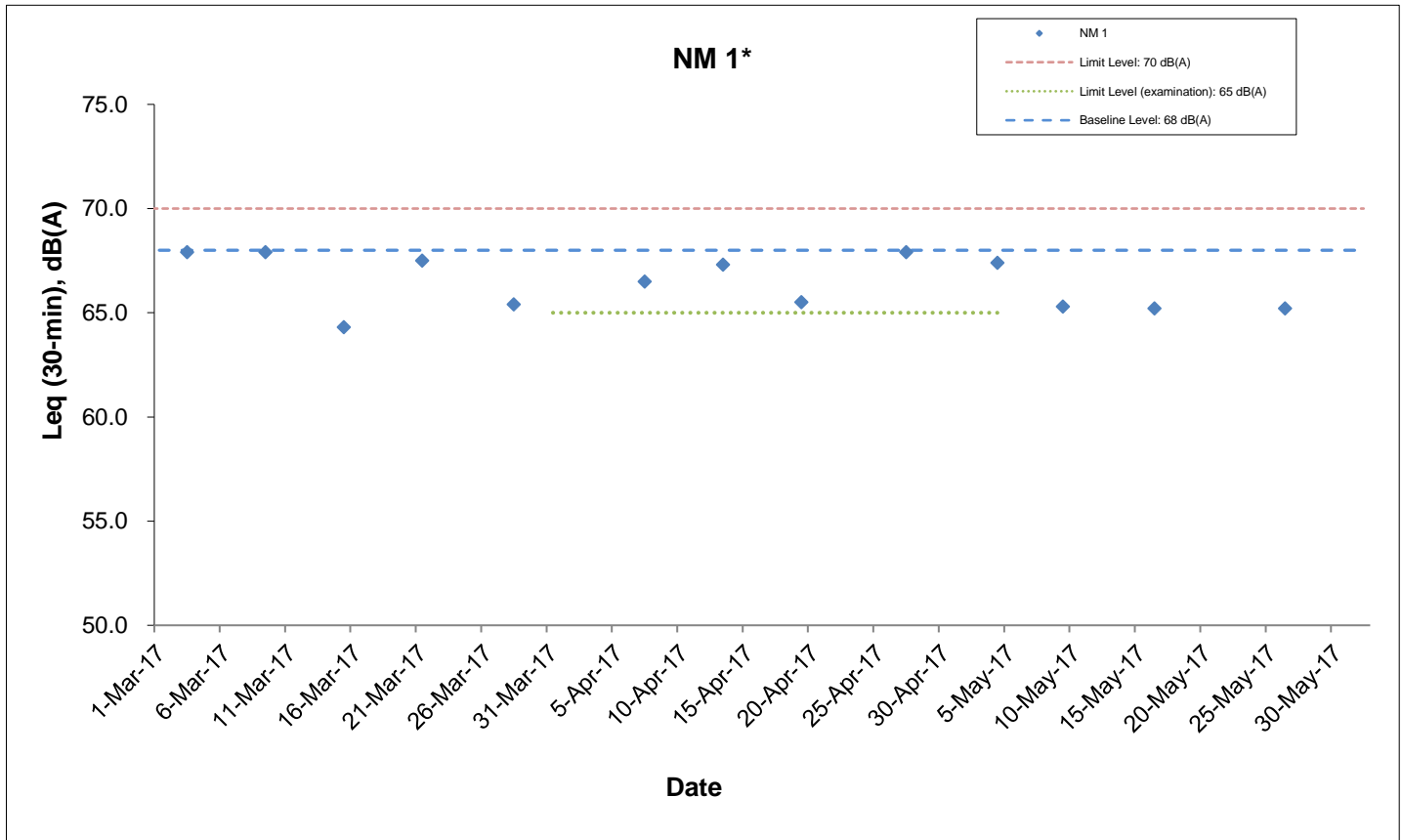
| Date      | Weather Condition | Noise Level for 30-min, dB(A) <sup>++</sup> |      |      |      | Baseline Corrected Level, dB(A) | Baseline Noise Level, dB(A) | Limit Level, dB(A) | Exceedance (Y/N) |
|-----------|-------------------|---|------|------|------|---------------------------------|-----------------------------|--------------------|------------------|
|           |                   | Time  | L90  | L10  | Leq  |                                 |                             |                    |                  |
| 4-May-17  | Cloudy            | 10:45                                       | 67.5 | 71.5 | 69.8 | <Baseline                       | 79.0                        | 75                 | N                |
| 9-May-17  | Sunny             | 10:25                                       | 64.0 | 70.0 | 68.6 | <Baseline                       | 79.0                        | 75                 | N                |
| 16-May-17 | Cloudy            | 14:37                                       | 66.0 | 71.0 | 69.6 | <Baseline                       | 79.0                        | 75                 | N                |
| 26-May-17 | Sunny             | 11:12                                       | 65.5 | 71.0 | 69.8 | <Baseline                       | 79.0                        | 75                 | N                |

<sup>+</sup> - Façade measurement

<sup>++</sup> - Free field measurement

\* - Limit Level of 70dB(A) applies to education institutes while 65dB(A) applies during school examination period. (31 Mar – 5 May 2017)

# Appendix H Regular Construction Noise Monitoring Results



\* - The noise monitoring results of the measurements are higher than the daytime construction noise criterion. However, the results are not considered as exceedance if they are either below the baseline level or below the limit level after deducting



**Shatin to Central Link Works Contract 1111-  
Hung Hom North Approach Tunnels**

**Graphical Presentations of Noise Monitoring  
Results**

|         |          |          |          |
|---------|----------|----------|----------|
| SCALE   | N.T.S.   | DATE     | Jun-17   |
| CHECK   | TYUT     | DRAWN    | OYLW     |
| JOB NO. | 60284101 | APPENDIX | H        |
|         |          |          | Rev<br>- |

---

**APPENDIX I**

**Event Action Plan**

---

**Appendix I – Event and Action Plan**

Event / Action Plan for Construction Dust

| EVENT                        | ACTION   |  |  |  |
|------------------------------|--|--|--|--|
|                              | ET   | IEC  | ER   | Contractor   |
| <b>ACTION LEVEL</b>          |  |  |  |  |
| 1. Exceedance for one sample | 1. Inform the Contractor, IEC and ER;<br>2. Discuss with the Contractor and IEC on the remedial measures required;<br>3. Repeat measurement to confirm findings;<br>4. Increase monitoring frequency | 1. Check monitoring data submitted by the ET;<br>2. Check Contractor’s working method;<br>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. | 1. Identify source(s), investigate the causes of exceedance and propose remedial measures;<br>2. Implement remedial measures;<br>3. Amend working methods agreed with the ER as appropriate. |



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

| EVENT                        | ACTION  |  |   |   |
|------------------------------|---|--|---|---|
|                              | ET  | IEC  | ER  | Contractor  |
| <b>LIMIT LEVEL</b>           |   |  |   |   |
| 1. Exceedance for one sample | 1. Inform the Contractor, IEC, EPD and ER;<br>2. Repeat measurement to confirm findings;<br>3. Increase monitoring frequency to daily;<br>4. Discuss with the ER, IEC and contractor on the remedial measures and assess the effectiveness. | 1. Check monitoring data submitted by the ET;<br>2. Check the Contractor's working method;<br>3. Discuss with the ET, ER and Contractor on possible remedial measures;<br>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;<br>2. Review and agree on the remedial measures proposed by the Contractor;<br>3. Supervise implementation of remedial measures. | 1. Identify source(s) and investigate the causes of exceedance;<br>2. Take immediate action to avoid further exceedance;<br>3. Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification;<br>4. Implement the agreed proposals;<br>5. Amend proposal if appropriate. |

| EVENT   | ACTION   |  |   |   |
|---|--|--|---|---|
|   | ET   | IEC  | ER  | Contractor  |
| 2. Exceedance for two or more consecutive samples | 1. Notify Contractor, IEC, EPD and ER ;<br>2. Repeat measurement to confirm findings;<br>3. Increase monitoring frequency to daily;<br>4. Carry out analysis of the Contractor's working procedures with the ER to determine possible mitigation to be implemented;<br>5. Arrange meeting with the IEC and ER to discuss the remedial measures to be taken;<br>6. Review the effectiveness of the Contractor's remedial measures and keep IEC, EPD and ER informed of the results;<br>7. If exceedance stops, cease additional monitoring. | 1. Check monitoring data submitted by the ET;<br>2. Check the Contractor's working method;<br>3. Discuss with ET, ER, and Contractor on the potential remedial measures;<br>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;<br>2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented;<br>3. Supervise the implementation of remedial measures;<br>4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | 1. Identify source(s) and investigate the causes of exceedance;<br>2. Take immediate action to avoid further exceedance;<br>3. Submit proposals for remedial measures to the ER with a copy to the IEC and ET within three working days of notification;<br>4. Implement the agreed proposals;<br>5. Revise and resubmit proposals if problem still not under control;<br>6. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

Event / Action Plan for Regular Construction Noise

| EVENT                      | ACTION  |  |  |   |
|----------------------------|---|--|--|---|
|                            | ET  | IEC  | ER   | Contractor  |
| Exceedance of Action Level | <ol style="list-style-type: none"> <li>1. Notify the Contractor, IEC and ER;</li> <li>2. Discuss with the ER, IEC and Contractor on the remedial measures required; and</li> <li>3. Increase monitoring frequency to check mitigation effectiveness.</li> </ol> | <ol style="list-style-type: none"> <li>1. Review the investigation results submitted by the contractor; and</li> <li>2. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of complaint in writing;</li> <li>2. Review and agree on the remedial measures proposed by the Contractor; and</li> <li>3. Supervise implementation of remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Investigate the complaint and propose remedial measures;</li> <li>2. Report the results of investigation to the IEC, ET and ER;</li> <li>3. Submit noise mitigation proposals to the ER with copy to the IEC and ET within 3 working days of notification; and</li> <li>4. Implement noise mitigation proposals.</li> </ol> |

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

Event / Action Plan for Continuous Construction Noise

| EVENT              | ACTION   |   |   |  |
|--------------------|--|---|---|--|
|                    | ET   | IEC   | ER  | CONTRACTOR   |
| Action/Limit Level | 1. Identify source ;<br>2. Repeat measurement. If two consecutive measurements exceed Action/Limit Level, the exceedance is then confirmed;<br>3. If exceedance is confirmed, notify IEC, ER and Contractor;<br>4. Investigate the cause of exceedance and check Contractor's working procedures to determine possible mitigation to be implemented;<br>5. Discuss jointly with the IEC, ER and Contractor and formulate remedial measures; and<br>6. Assess effectiveness of Contractor's remedial actions and keep IEC and ER informed of the results. | 1. Check monitoring data submitted by the Works Contract 1111 ET;<br>2. Check the Contractor's working method;<br>3. Discuss with the ER, Works Contract 1111 ET and Contractor on the potential remedial measures; and<br>4. Review and advise the Works Contract 1111 ET and ER on the effectiveness of the remedial measures proposed by the Contractor. | 1. Confirm receipt of notification of exceedance in writing;<br>2. In consultation with the Works Contract 1111 ET and IEC, agree with the Contractor on the remedial measures to be implemented;<br>3. Ensure the proper implementation of remedial measures; and<br>4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | 1. Identify source with the Works Contract 1111 ET;<br>2. If exceedance is confirmed, investigation the cause of exceedance and take immediate action to avoid further exceedance;<br>3. Submit proposals for remedial measures to the ER with copy to the IEC and ET of notification;<br>4. Implement the agreed proposals;<br>5. Liaise with ER to optimize the effectiveness of the agreed mitigation;<br>6. Revise and resubmit proposals if problem still not under control; and<br>7. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

Event / Action Plan for Landscape and Visual during Construction Stage

| EVENT                          | ET   | IEC   | ER   | Contractor   |
|--------------------------------|--|---|--|--|
| <b>ACTION LEVEL</b>            |  |   |  |  |
| Non-conformity on one occasion | <ol style="list-style-type: none"> <li>1. Inform the Contractor, the IEC and the ER</li> <li>2. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>3. Monitor remedial actions until rectification has been completed</li> </ol>  | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET, ER and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of non-conformity in writing</li> <li>2. Review and agree on the remedial measures proposed by the Contractor</li> <li>3. Supervise implementation of remedial measures</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify Source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement</li> </ol>   |
| Repeated Non-conformity        | <ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform the Contractor, the IEC and the ER</li> <li>3. Increase inspection frequency</li> <li>4. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>5. Monitor remedial actions until rectification has been completed</li> <li>6. If non-conformity stops, cease additional monitoring</li> </ol> | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> </ol>      | <ol style="list-style-type: none"> <li>1. Notify the Contractor</li> <li>2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>3. Supervise implementation of remedial measures.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Identify Source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by the ER until the non-conformity is abated.</li> </ol> |

---

**APPENDIX J**

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

---



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

|                                 | <b>Date Received</b>                           | <b>Subject</b>  | <b>Status</b> | <b>Total no. received in this month</b> | <b>Total no. received since project commencement</b> |
|---------------------------------|--|---|---------------|---|--|
| <b>Environmental complaints</b> | 1 May 2017<br>(Referred by EPD on 8 May 2017)- | <p><u>Details of Complaint:</u><br/>An environmental complaint was received by EPD on 1 May 2017. The complainant alleged to be a driver who was particularly annoyed by dust from the subject sites while driving a car on Chatham Road North towards To Kwa Wan on 29 April 2017 at 2 – 4 pm.</p> <p><u>Details of Investigation and findings:</u><br/>As reported by the Contractor, a few bagged cement were dropped from a passing vehicle on Chatham Road North in the afternoon on 29 April 2017. The bags were damaged by the traffic and thus cement powder was scattered on the road. Both the vehicle and cement bags were not under this Contract nor relevant Contractors. The complaint is therefore considered not likely to be related to the construction works of this Contract.</p> <p>The investigation report for the complaint was sent to EPD on 16 May 2017.-</p> | Closed        | 1                                       | 2  |
| <b>Notification of summons</b>  | -  | -   | -             | 0                                       | 0  |
| <b>Successful Prosecutions</b>  | -  | -   | -             | 0                                       | 0  |

---

**APPENDIX K**

**Waste Flow Table**

---

## Appendix K Monthly Summary Waste Flow Table

| Month      | Actual Quantities of Inert C&D Materials Generated Monthly (Note 1) |                       |                       |                       |                          |                                    |                                  |                                    |                         |                        |                          |                       |  |                       | Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly |                                     |          |                |                         | Actual Quantities of Marine Dumping Monthly |        |
|------------|---|-----------------------|-----------------------|-----------------------|--------------------------|------------------------------------|----------------------------------|------------------------------------|-------------------------|------------------------|--------------------------|-----------------------|--|-----------------------|--|-------------------------------------|----------|----------------|-------------------------|---|--------|
|            | Generated   |                       |                       |                       |                          | Disposed                           |                                  |                                    |                         | Reused                 |                          |                       |  |                       | Recycled   |                                     |          | Disposed       |                         | Disposed                                    |        |
|            | Fill Material   | Artificial Material   |                       |                       | Total Quantity Generated | Disposed as Public Fills at TKO137 | Disposed as Public Fills at TM38 | Disposed as Public Fills at CWPFBP | Total Quantity Disposal | Reused in the Contract | Reused in other Projects |                       | Delivered to HH Barging Point (Note 5) | Total Quantity Reused | Metals   | Paper/ cardboard packaging (Note 3) | Plastics | Chemical Waste | General Refuse (Note 2) | Disposed as MD at HH Barging Point          |        |
|            | Soil and Rock   | Broken Concrete       | Asphalt               | Building Debris       |                          |                                    |                                  |                                    |                         |                        | Tolo                     | WIL 705               |  |                       |  |                                     |          |                |                         | Type 1                                      | Type 2 |
| Unit       | ('000m <sup>3</sup> )   | ('000m <sup>3</sup> ) | ('000m <sup>3</sup> ) | ('000m <sup>3</sup> ) | ('000m <sup>3</sup> )    | ('000m <sup>3</sup> )              | ('000m <sup>3</sup> )            | ('000m <sup>3</sup> )              | ('000m <sup>3</sup> )   | ('000m <sup>3</sup> )  | ('000m <sup>3</sup> )    | ('000m <sup>3</sup> ) | ('000m <sup>3</sup> )                  | ('000Kg)              | ('000Kg)   | ('000Kg)                            | ('000Kg) | ('000Kg)       | ('000m <sup>3</sup> )   | ('000m <sup>3</sup> )                       |        |
| Jan        | 1.094   | 0.000                 | 0.000                 | 0.000                 | 1.094                    | 0.092                              | 0.039                            | 0.000                              | 0.131                   | 0.000                  | 0.000                    | 0.000                 | 0.963                                  | 0.963                 | 0.000  | 0.776                               | 0.000    | 0.000          | 120.720                 | 0.000                                       | 0.000  |
| Feb        | 1.137   | 0.000                 | 0.000                 | 0.000                 | 1.137                    | 0.343                              | 0.028                            | 0.000                              | 0.372                   | 0.000                  | 0.000                    | 0.000                 | 0.766                                  | 0.766                 | 0.000  | 1.024                               | 0.000    | 0.000          | 100.550                 | 0.000                                       | 0.000  |
| Mar        | 0.875   | 0.000                 | 0.000                 | 0.000                 | 0.875                    | 0.203                              | 0.008                            | 0.000                              | 0.211                   | 0.000                  | 0.000                    | 0.000                 | 0.664                                  | 0.664                 | 0.000  | 0.654                               | 0.000    | 0.000          | 118.440                 | 0.000                                       | 0.000  |
| Apr        | 0.755   | 0.000                 | 0.000                 | 0.000                 | 0.755                    | 0.039                              | 0.000                            | 0.000                              | 0.039                   | 0.000                  | 0.000                    | 0.000                 | 0.716                                  | 0.716                 | 0.000  | 0.000                               | 0.000    | 0.000          | 48.990                  | 0.000                                       | 0.000  |
| May        | 0.507   | 0.000                 | 0.000                 | 0.000                 | 0.507                    | 0.094                              | 0.011                            | 0.000                              | 0.106                   | 0.000                  | 0.000                    | 0.000                 | 0.402                                  | 0.402                 | 0.000  | 0.000                               | 0.900    | 0.000          | 113.400                 | 0.000                                       | 0.000  |
| Jun        |   |                       |                       |                       |                          |                                    |                                  |                                    |                         |                        |                          |                       |  |                       |  |                                     |          |                |                         |   |        |
| SUB-TOTAL  | 4.369   | 0.000                 | 0.000                 | 0.000                 | 4.369                    | 0.772                              | 0.086                            | 0.000                              | 0.858                   | 0.000                  | 0.000                    | 0.000                 | 3.511                                  | 3.511                 | 0.000  | 2.454                               | 0.900    | 0.000          | 502.100                 | 0.000                                       | 0.000  |
| Jul        |   |                       |                       |                       |                          |                                    |                                  |                                    |                         |                        |                          |                       |  |                       |  |                                     |          |                |                         |   |        |
| Aug        |   |                       |                       |                       |                          |                                    |                                  |                                    |                         |                        |                          |                       |  |                       |  |                                     |          |                |                         |   |        |
| Sep        |   |                       |                       |                       |                          |                                    |                                  |                                    |                         |                        |                          |                       |  |                       |  |                                     |          |                |                         |   |        |
| Oct        |   |                       |                       |                       |                          |                                    |                                  |                                    |                         |                        |                          |                       |  |                       |  |                                     |          |                |                         |   |        |
| Nov        |   |                       |                       |                       |                          |                                    |                                  |                                    |                         |                        |                          |                       |  |                       |  |                                     |          |                |                         |   |        |
| Dec        |   |                       |                       |                       |                          |                                    |                                  |                                    |                         |                        |                          |                       |  |                       |  |                                     |          |                |                         |   |        |
| 2016 TOTAL | 4.369   | 0.000                 | 0.000                 | 0.000                 | 4.369                    | 0.772                              | 0.086                            | 0.000                              | 0.858                   | 0.000                  | 0.000                    | 0.000                 | 3.511                                  | 3.511                 | 0.000  | 2.454                               | 0.900    | 0.000          | 502.100                 | 0.000                                       | 0.000  |

- Note:
1. Assume the density of fill is 2 ton/m<sup>3</sup>.
  2. Refuses disposed of at North East New Territories (NENT) Landfill.
  3. Assume the weight of recycled papers is 7 kg/bag.
  4. Public fills disposed of at Tseung Kwan O Area 137 Fill Bank (TKO137), Tuen Mun Area 38 Fill Bank (TM38) and Chai Wan Public Fill Barging Point (CWPFBP).
  5. Public fills was delivered to Hung Hom Barging Point and handled by the Contractor of SCL1112 in the period of 1 January 2015 to 1 August 2015 and handled by the Contractor of SCL1121 started from 3 August 2015.

---

**Appendix C**

**52<sup>nd</sup> EM&A Report for Works Contract 1103 –  
Hin Keng to Diamond Hill**

---

MTR Corporation Limited

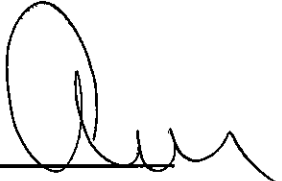
**Shatin to Central Link –  
Tai Wai to Hung Hom Section**

Monthly EM&A Report No. 52

[Period from 1 to 31 May 2017]

Works Contract 1103 – Hin Keng to Diamond Hill Tunnels

(May 2017)

Certified by: Jacky Chan 

Position: Environmental Team Leader

Date: 9 June 2017

MTR Corporation Limited

**SCL1103 Hin Keng to Diamond  
Hill Tunnels Construction Stage -  
Environmental Services**

Monthly Environmental Monitoring  
and Audit Report - May 2017

228105-27

May 2017

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 228105-27

**Ove Arup & Partners Hong Kong Ltd**  
Level 5 Festival Walk  
80 Tat Chee Avenue  
Kowloon Tong  
Kowloon  
Hong Kong  
[www.arup.com](http://www.arup.com)

**ARUP**

# Contents

---

|  | Page      |
|--|-----------|
| <b>1 Environmental Status</b>                                  | <b>6</b>  |
| 1.1 Project Background   | 6         |
| 1.2 Construction Programme                                     | 6         |
| 1.3 Work Undertaken During the Reporting Month                 | 6         |
| 1.4 Project Organization                                       | 7         |
| 1.5 Project Area and Environmental Monitoring locations        | 7         |
| 1.6 Impact Monitoring Schedule                                 | 7         |
| 1.7 Status of Environmental Licensing and Permitting           | 8         |
| 1.8 Purpose of the Report                                      | 8         |
| <b>2 Implementation Status</b>                                 | <b>10</b> |
| 2.1 Implementation Status of Mitigation Measures               | 10        |
| 2.2 Updated Implementation Schedule                            | 10        |
| <b>3 Air Quality Monitoring</b>                                | <b>11</b> |
| 3.1 Air Quality Monitoring Requirements                        | 11        |
| 3.2 Air Quality Monitoring Methodology                         | 12        |
| 3.3 Monitoring Results and Observations                        | 14        |
| <b>4 Noise Monitoring</b>                                      | <b>15</b> |
| 4.1 Noise Monitoring Requirements                              | 15        |
| 4.2 Noise Monitoring Methodology                               | 16        |
| 4.3 Monitoring Results and Observations                        | 17        |
| <b>5 Landscape and Visual Monitoring</b>                       | <b>19</b> |
| 5.1 Introduction   | 19        |
| 5.2 Mitigation Measures  | 19        |
| <b>6 Waste Disposal</b>  | <b>20</b> |
| <b>7 Cultural Heritage</b>                                     | <b>21</b> |
| <b>8 Hazard</b>  | <b>22</b> |
| <b>9 Environmental Performance</b>                             | <b>23</b> |
| 9.1 Environmental Site Inspection                              | 23        |
| 9.2 Summary of Environmental Complaint                         | 25        |
| 9.3 Summary of Environmental Non-Compliance                    | 25        |
| 9.4 Summary of Environmental Summon and Successful Prosecution | 25        |

|           |   |           |
|-----------|---|-----------|
| <b>10</b> | <b>Future Key Issues</b>                              | <b>26</b> |
| 10.1      | Key Issues for the Coming Month                       | 26        |
| 10.2      | Environmental Monitoring Program for the Coming Month | 26        |
| 10.3      | Construction Program for the Coming Month             | 26        |
| <b>11</b> | <b>Conclusions and Recommendations</b>                | <b>27</b> |
| 11.1      | Conclusions   | 27        |
| 11.2      | Recommendations                                       | 27        |
| <b>12</b> | <b>Reference</b>                                      | <b>29</b> |

## Figures

- Figure 1.1: Locations of Project Works Areas – General Site Layout of Hing Keng Works Area (Sheet 1 of 6)
- Figure 1.2: Locations of Project Works Areas – General Site Layout of Diamond Hill Works Area (Sheet 2 of 6)
- Figure 1.3: Locations of Project Works Areas – Site layout Plan of Fung Tak EAP/EEP (Sheet 3 of 6)
- Figure 1.4: Locations of Project Works Areas – Site Layout Plan of Ma Chai Hang Shaft (Sheet 4 of 6)
- Figure 1.5: Locations of Project Works Areas – General Site Layout of Shui Chuen O Works Area (Sheet 5 of 6)
- Figure 1.6: Locations of Project Works Areas – General Alignment of Contract 1103 (Sheet 6 of 6)
- Figure 1.7: Project Organisation – Environmental Management
- Figure 1.8: Location of Dust Monitoring Stations (Sheet 1 of 3)
- Figure 1.9: Location of Dust Monitoring Stations (Sheet 2 of 3)
- Figure 1.10: Location of Dust Monitoring Stations (Sheet 3 of 3)
- Figure 1.11: Location of Noise Sensitive Receiver (Construction Airborne Noise) (Sheet 1 of 3)
- Figure 1.12: Location of Noise Sensitive Receiver (Construction Airborne Noise) (Sheet 2 of 3)
- Figure 1.13: Location of Noise Sensitive Receiver (Construction Airborne Noise) (Sheet 3 of 3)



## Appendices

- Appendix A: Construction programme
- Appendix B: Environmental Monitoring Programme in the Reporting Month
- Appendix C: Environmental Mitigation Implementation Schedule (EMIS)
- Appendix D: Calibration Certificates for Air Monitoring Equipment
- Appendix E: Dust Results
- Appendix F: Wind Data
- Appendix G: Calibration Certificates of Noise Monitoring Equipment
- Appendix H: Noise Results
- Appendix I: Event/Action Plan for Air Quality, Airborne Noise and Landscape and Visual
- Appendix J: Monthly Waste Flow Table
- Appendix K: Environmental Monitoring Programme for Coming Month
- Appendix L: Cumulative Log for Complaints, Notifications of Summons and Successful Prosecutions

## Executive Summary

---

This is the fifty-second Environmental Monitoring and Audit (EM&A) report prepared by Ove Arup & Partners Hong Kong Limited (Arup), the designated Environmental Team (ET), for the Project “SCL1103 Hin Keng to Diamond Hill Tunnels”. Construction works of this works contract commenced on 14 February 2013 and this report presents the results of EM&A works conducted in the month of May 2017 (1 to 31 May 2017).

In the reporting month, the following activities took place for the Project:

- Underground Remedial Works in Diamond Hill;
- Tunnel Lining, Partition Walls, Dividing Slabs, Drains, Walkways and Site Formation at Hin Keng;
- Tunnels Connection, RC Concrete, ELS Work, Sheet piling for retaining wall and RRIW for PTT at Fung Tak;
- Central Core, Ventilation Tunnel, C&S Works and ABWF Works at Ma Chai Hang; and
- Storage Area at Shui Chuen O.

Air Quality and noise monitoring were performed and the results were checked and reviewed. Site audits were conducted on a weekly basis. The implementation of the environmental mitigation measures, Event and Action Plans and environmental complaint handling procedures were checked.

Impact monitoring was carried out at 2 air quality and 2 noise monitoring stations during the reporting month.

### **Environmental Monitoring Works – Breaches of Action and Limit Levels**

#### ***Air Quality***

All measured 24-hour TSP concentrations in the reporting month were below the Action and Limit Levels.

#### ***Noise***

No exceedence of Action / Limit Level of regular construction noise was recorded during the reporting month.

#### ***Landscape and Visual Audit***

Landscape and visual site audits in accordance with the requirements stipulated in the EM&A manual were conducted in the reporting month. Based on the site inspections, no substantial change of Landscape Resources, Landscape Character Areas and Visual Sensitive Receivers was noted. However, several reminders regarding the proper erection of tree protection zones were recorded.

### ***Waste Disposal***

Inert C&D Materials with an actual amount of 1,365 m<sup>3</sup> were generated and disposed of at public fill in TKO137FB/TM38FB and 257 m<sup>3</sup> of general refuse was generated and disposed of at NENT/SENT/WENT landfill.

### ***Hazard***

No blasting activity was carried out during the reporting month.

### **Environmental Auditing**

A total of 5 environmental site audits were conducted on a weekly basis in the reporting month. The first site inspection was on 4 May 2017 and the final was undertaken on 31 May 2017. An IEC joint site audit was undertaken on 17 May 2017. No non-conformance to the environmental requirements was identified during the reporting period.

### **Complaint Log**

No complaints were received during the reporting month.

### **Notifications of Summons and Successful Prosecutions**

No summons or prosecution related to the environmental issues were made against the Project in the reporting period.

### **Reporting Changes**

There were no reporting changes during the reporting month.

### **Future Key Issues**

Waste management is a key environmental issue. The waste management plan should be strictly followed in accordance with the requirements described in the EIA report.

Water Quality impact is also a key environmental issue. The drainage system should be well maintained. All wastewater generated within the site shall be collected and treated prior to discharge.

Construction noise is also a key environmental issue. The implemented construction noise mitigation measures should also be maintained and improved as necessary. Especially in restricted hours, the conditions stipulated in the CNPs should be strictly followed when the construction works were carried out during restricted hours.

Construction dust is also key environmental issue. The implemented construction dust mitigation measures including covering of exposed slope / soil with tarpaulin sheet etc., should be maintained and improved as necessary. Adequate water spraying should be provided for the unpaved area to minimize dust disturbance.

# 1 Environmental Status

## 1.1 Project Background

The Shatin to Central Link – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH)) is an extension of the Ma On Shan Line and is approximately 11 km long. It links 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).

The construction of the SCL (TAW-HUH) has been divided into a series of civil construction Works Contracts and this Works Contract 1103 covers the construction of the tunnels between Diamond Hill (DIH) and Hin Keng (HIK).

## 1.2 Construction Programme

An up-to-date rolling construction programme is attached in **Appendix A**.

## 1.3 Work Undertaken During the Reporting Month

The major construction activities carried out by the Contractor in the reporting month are summarized in **Table 1.1**. Location of the works area is indicated in **Figures 1.1** to **1.6**. The structure of the project organisation in relation to the environmental management is shown in **Figure 1.7**. Contacts of key environmental staff of the Project are shown in **Table 1.2**.

**Table 1.1** Construction Activities in the Reporting Month

| Locations <sup>[1]</sup> | Major Works Undertaken  |
|--------------------------|---|
| Diamond Hill             | Underground Remedial Works  |
| Hin Keng                 | Tunnel Lining, Partition Walls, Dividing Slabs, Drains, Walkways and Site Formation         |
| Fung Tak                 | Tunnels Connection, RC Concrete, ELS Work, Sheet piling for retaining wall and RRIW for PTT |
| Ma Chai Hang             | Central Core, Ventilation Tunnel, C&S Works and ABWF Works                                  |
| Shiu Chui O              | Storage Area  |

## 1.4 Project Organization

Contacts of key environmental staff of the Project and are shown in **Table 1.2**.

**Table 1.2** Contacts of Key Environmental Staff

| Organisation  | Name             | Telephone |
|---|------------------|-----------|
| <b>Project Proponent: MTRC</b>  |                  |           |
| Engineer's Representative   | Sammi Wong       | 3767 0268 |
| SCL Project-wide Environmental Team Leader  | Felice Wong      | 2688 1283 |
| <b>Independent Environmental Checker: Meinhardt Infrastructure &amp; Environment Ltd.</b> |                  |           |
| Independent Environmental Checker   | Fredrick Leong   | 2859 1739 |
| <b>Contractor: VINCI Construction Grands Projets</b>                                      |                  |           |
| Project Director  | Francois Dudouit | 3765 5610 |
| IMS Manager   | Keith Lee        | 3765 5657 |
| <b>Contractor's Environmental Team: Ove Arup &amp; Partners Hong Kong Ltd.</b>            |                  |           |
| Designated Environmental Team Leader for Works Contract 1103                              | Jacky Chan       | 2268 5292 |

## 1.5 Project Area and Environmental Monitoring locations

The Project area is shown in **Figures 1.1** to **1.6**, while **Table 1.3** and **Figures 1.8** to **1.13** show the names and locations of the monitoring stations.

**Table 1.3** Summary of Air Quality and Noise Monitoring Stations

| ID   | Premise   |
|--|---|
| <b>Air Quality</b>   |   |
| DMS-1  | C.U.H.K.A.A. Thomas Cheung School                         |
| DMS-2  | Price Memorial Catholic Primary School                    |
| DMS-3 <sup>(Note 2)</sup> /<br>DMS-4 <sup>(Note 3)</sup>       | Hong Kong Sheng Kung Hui Nursing Home <sup>(Note 1)</sup> |
| <b>Noise</b>   |   |
| NMS-CA-1   | C.U.H.K.A.A. Thomas Cheung School                         |
| NMS-CA-2   | Price Memorial Catholic Primary School                    |
| NMS-CA-3 <sup>(Note 2)</sup> /<br>NMS-CA-4 <sup>(Note 3)</sup> | Hong Kong Sheng Kung Hui Nursing Home                     |

Notes:

Note 1: Hong Kong Sheng Kung Hui Nursing Home was selected as an alternative monitoring location to Shek On House.

Note 2: Station ID as identified in approved EM&A Manual / EIA Report for SCL (TAW - HUH).

Note 3: Station ID as identified in approved EM&A Manual / EIA Report for SCL (HHS).

## 1.6 Impact Monitoring Schedule

Environmental monitoring and audit was carried out in accordance with the requirements stipulated in the EM&A Manual. Air quality and noise monitoring as well as weekly site audit schedule for the reporting month with respect to the construction programme is shown in **Appendix B**.

## 1.7 Status of Environmental Licensing and Permitting

All permits/licences for the reporting month are summarised in **Table 1.4**. They are all properly kept by the contactor at their site office.

**Table 1.4** Summary of Environmental Licensing Status

| Types of Permits / Licenses   | Reference No.     | Site         | Valid from  | Valid to                |
|---|-------------------|--------------|-------------|-------------------------|
| Environmental Permit  | EP-438/2012/K     | All          | 4 Oct 2016  | Throughout the Contract |
| Discharge License under WPCO  | WT00014650-2012   | Hin Keng     | 10 Dec 2012 | 31 Dec 2017             |
|   | WT00014648-2012   | Hin Keng     | 10 Dec 2012 | 31 Dec 2017             |
|   | WT00015145-2013   | Shui Chuen O | 21 Feb 2013 | 28 Feb 2018             |
|   | WT00015513-2013   | Ma Chai Hang | 2 Apr 2013  | 30 Apr 2018             |
|   | WT00015430-2013   | Fung Tak     | 18 Mar 2013 | 31 Mar 2018             |
| Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation | 351345            | All          | 22 Oct 2012 | 15 Apr 2018             |
| Construction Noise Permit   | GW-RE0028-17      | Ma Chai Hang | 31 Jan 2017 | 30 July 2017            |
|   | GW-RE0003-17      | Fung Tak     | 20 Jan 2017 | 19 July 2017            |
|   | GW-RN0280-17      | Hin Keng     | 5 May 2017  | 4 Nov 2017              |
|   | GW-RN0124-17      | Hin Keng     | 17 Mar 2017 | Superseded              |
|   | GW-RN0341-17      | Hin Keng     | 20 May 2017 | 19 Nov 2017             |
|   | GW-RN0770-16      | Hin Keng     | 5 Nov 2016  | 4 May 2017              |
| Chemical Waste Producer Registration  | 5213-759-V2179-01 | Hin Keng     | 13 Dec 2012 | Throughout the Contract |
|   | 5213-281-V2179-03 | Fung Tak     | 28 Feb 2013 | Throughout the Contract |
|   | 5213-282-V2180-02 | Ma Chai Hang | 18 Mar 2013 | Throughout the Contract |
| Billing Account for Disposal of Construction Waste  | 7016250           | All          | 2 Nov 2012  | Throughout the Contract |

## 1.8 Purpose of the Report

The purpose of this monthly EM&A report is to provide the information on monitoring methodology, monitoring results, environmental permit status, site audit findings, recommendations and conclusions during the construction of this works contract for the EM&A conducted during the construction period. This is the fifty-second monthly EM&A report summarising the monitoring methodology, locations, periods, frequencies, results and any observation from the air quality,

noise, ecology, waste management, landscape and visual monitoring and environmental site audit from 1 to 31 May 2017.

## 2 Implementation Status

### 2.1 Implementation Status of Mitigation Measures

During weekly site inspections, the environmental protection, and pollution control/mitigation measures in accordance with the requirements stipulated in the EIA were observed. The key observations and ET's corresponding recommendations while the Contractor's response and follow-up status are described in **Section 7.1**.

### 2.2 Updated Implementation Schedule

According to the Environmental Permit, the mitigation measures detailed in the permits are required to be implemented. The Implementation Schedule of Mitigation Measures was inspected during the weekly site inspections in reporting month. The details of the findings/observations are described in **Section 7.1**. An updated summary of the Implementation Schedule of Mitigation Measures is presented in **Appendix C**. The status of the required submissions under the Environmental Permit (EP) of the reporting period is presented in **Table 2.1**.

**Table 2.1** Status of Required Submissions under the EP

| EP Condition  | Submission                       | Submission Date |
|---------------|----------------------------------|-----------------|
| Condition 3.4 | Monthly EM&A Report (April 2017) | 12 May 2017     |



## 3 Air Quality Monitoring

### 3.1 Air Quality Monitoring Requirements

#### Monitoring Parameters

Regular 24-hour TSP levels shall be monitored during the construction stage while 1-hour TSP levels shall be required to monitor in case of complaints received.

#### Monitoring Frequency

The monitoring frequency is summarised in **Table 3.1**.

**Table 3.1** Air quality monitoring parameters and frequency

| Parameters  | Monitoring Frequency  |
|-------------|---|
| 24-hour TSP | Once every 6 days   |
| 1-hour TSP  | 3 times every 6 days<br>(as required in case of complaints) |

#### Monitoring Locations

In accordance with the EM&A Manual and the subsequent Baseline Monitoring Report, three air quality monitoring locations during construction stage are required. The locations of the three air quality monitoring stations are shown below in **Table 3.2**:

**Table 3.2** Air Quality Monitoring Locations

| ID   | Premise   |
|--|---|
| DMS -1   | C.U.H.K.A.A. Thomas Cheung School   |
| DMS -2   | Price Memorial Catholic Primary School  |
| DMS-3 <sup>(Note 2)</sup> /<br>DMS-4 <sup>(Note 3)</sup> | Hong Kong Sheng Kung Hui Nursing Home <sup>(Note 1)</sup> <sup>(Note 4)</sup> |

Notes:

Note 1: Hong Kong Sheng Kung Hui Nursing Home was selected as an alternative monitoring location to Shek On House.

Note 2: Station ID as identified in approved EM&A Manual / EIA Report for SCL (TAW - HUH).

Note 3: Station ID as identified in approved EM&A Manual / EIA Report for SCL (HHS).

Note 4: The associated monitoring was carried out under Works Contract SCL1106 since October 2016.

#### Wind Monitoring

Wind monitoring data including wind speed and wind directions shall be collected from Hong Kong Observatory – Kai Tak and Sha Tin Meteorological Stations and shown in **Appendix F**.

#### Environmental /Quality Performance Limits

The monitoring results will be checked against the Action and Limit levels described in the Baseline Monitoring Report, of which they are excerpted and summarised in **Tables 3.3** and **3.4**.

**Table 3.3** Action and Limit Level for Air Quality Monitoring of 24-hour TSP level

| Level                                  | Air Monitoring Stations |       |               |
|--|-------------------------|-------|---------------|
|  | DMS-1                   | DMS-2 | DMS-3 / DMS-4 |
| Action Level, $\mu\text{g}/\text{m}^3$ | 148.7                   | 167.4 | 159.1         |
| Limit Level, $\mu\text{g}/\text{m}^3$  | 260                     |       |               |

**Table 3.4** Action and Limit Level for Air Quality Monitoring of 1-hour TSP level

| Level                                  | Air Monitoring Stations |       |               |
|--|-------------------------|-------|---------------|
|  | DMS-1                   | DMS-2 | DMS-3 / DMS-4 |
| Action Level, $\mu\text{g}/\text{m}^3$ | 283.9                   | 276.2 | 278.4         |
| Limit Level, $\mu\text{g}/\text{m}^3$  | 500                     |       |               |

Note:

Note 1: 1-hr TSP monitoring would be required in case of receiving complaints.

## 3.2 Air Quality Monitoring Methodology

### 3.2.1 Monitoring Equipment

High Volume Sampler (HVS) was used to monitor the 24-hour TSP. **Table 3.5** shows the equipment used for the air quality monitoring.

**Table 3.5** Air Quality Equipment List for Impact Air Quality Monitoring

| Equipment           | Manufacturer & Model No | Measurement Parameter | Serial No. |
|---------------------|-------------------------|-----------------------|------------|
| High Volume Sampler | TE-5170                 | 24-hour TSP           | 3761, 3763 |
| Fibreglass Filter   | G810                    |                       | -          |
| HVS Calibration Kit | TE-5025A                |                       | 2421       |

### 3.2.2 Maintenance and Calibration

#### High Volume Sampler

The HVSs and their accessories were frequently checked and maintained in accordance with the manufacturer's operation and maintenance manual. The maintenance included checking of supporting screen and gasket, as well as routine replacement of motor carbon brushes for the blower motor. The power cords and power supply were checked each time before sampling to ensure proper operation.

The HVSs were calibrated at 2-month intervals using TE-5025A calibration kit which is re-calibrated by the manufacturer after one year of use. The calibration spreadsheets of the HVSs and calibration certificate of the calibration kit are provided in **Appendix D**.

### 3.2.3 Monitoring Procedures

#### High Volume Sampler

Specifications of the HVS are as follows:

- 0.6 – 1.7 m<sup>3</sup>/min (20 – 60SCFM);
- Equipped with a timing/control device with +/- 5 minutes accuracy for 24 hour operation;
- Installed with elapsed time meter with +/- 2 minutes accuracy for 24 hour operation;
- Capable of providing a minimum exposed area of 406 cm<sup>2</sup> (63in<sup>2</sup>);
- Flow control accuracy: +/-2.5% deviation over 24-hour sampling period;
- Equipped with a shelter to protect the filter and sampler;
- Incorporated with an electronic mass flow rate controller or other equivalent devices;
- Equipped with a flow recorder for continuous monitoring;
- Provided with a peaked roof inlet;
- Incorporated with a manometer;
- Able to hold and seal the filter paper to the sampler housing at horizontal position;
- Easy to change the filter; and
- Capable of operating continuously for 24-hour period.

The HVSs were equipped with an electronic mass flow controller and calibrated against a traceable standard at regular intervals. All equipment, calibration kit and filter papers were clearly labelled.

The relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and other special phenomena observed and work progress of the concerned site were recorded.

A HOKLAS accredited laboratory (ALS Technichem (HK) Pty Ltd (HOKLAS no.: 066)), in accordance with their standard QA/QC procedures, with constant temperature and humidity control as well as equipped with necessary measuring and conditioning instruments to handle the 24-hour TSP samples was employed for sample analysis, and equipment calibration and maintenance. Filter papers of size 8"x10" were labelled before sampling. They were inspected clean with no pin holes and conditioned in a humidity controlled chamber for over 24-hour and be pre-weighed before use for the sampling.

The 24-hour TSP levels were measured by following the standard High Volume Method for Total Suspended Particulates as set out in the Title 40 of the United States Code of Federal Regulations, Chapter 1 (Part 50), Appendix B. TSP was sampled by drawing air through a conditioned, pre-weighted filter paper inside the HVS at a controlled air flow rate. After 24-hour sampling, the filter papers loaded with dust were kept in a clean and tightly sealed plastic bag, and then returned to the laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with a readout down to 0.1 mg. All the collected samples shall be kept in a good condition for 6 months before disposal.

### 3.3 Monitoring Results and Observations

#### 3.3.1 Weather Condition

May 2017 was characterised largely by fine and dry conditions associated with the sub-tropical ridge. On occasion, warm and wet condition associated with troughs of low pressure affected Hong Kong.

#### 3.3.2 Air Quality Monitoring Results

Monitoring of 24-hour TSP was conducted on 5, 11, 17, 23 and 29 May 2017. All monitoring data and graphical presentation of the monitoring results are provided in **Appendix E** and are summarised in **Table 3.6**. The graphical presentations of the monitoring results are provided in **Appendix E**. Wind data obtained from the Hong Kong Observatory – Kai Tak and Sha Tin stations during the reporting period are presented in **Appendix F**.

**Table 3.6** Summary of Impact Air Quality Monitoring Results

| Monitoring Station | 24- hour TSP Monitoring Results ( $\mu\text{g}/\text{m}^3$ ) |                           | Action Level | Limit Level |
|--------------------|--|---------------------------|--------------|-------------|
|                    | Average  | Range <sup>(Note 1)</sup> |              |             |
| DMS-1              | 38.4   | 21.9 – 59.1               | 148.7        | 260         |
| DMS-2              | 44.0   | 23.2 – 83.0               | 167.4        | 260         |

Note:

Note 1: Range = Minimum TSP Value – Maximum TSP Value.

All 24-hour TSP measurements during the reporting month were below the Action/Limit Level. No exceedance of action and limit level was found.

The event and action plan is provided in **Appendix I**.

#### 3.3.3 General Observations

Major construction works including Underground Remedial Works in Diamond Hill; Tunnel Lining, Partition Walls, Dividing Slabs, Drains, Walkways and Site Formation at Hin Keng; Tunnels Connection, RC Concrete, ELS works, Sheet piling for retaining wall and RRIW for PTT at Fung Tak and Central Core, Ventilation Tunnel, C&S Works and ABWF Works at Ma Chai Hang.

## 4 Noise Monitoring

### 4.1 Noise Monitoring Requirements

#### 4.1.1 Impact Monitoring

##### Monitoring Parameters

Construction noise shall be measured in terms of the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ).  $L_{10}$  and  $L_{90}$  shall also be recorded as supplementary reference information for data auditing.

##### Monitoring Frequency

Noise measurements shall be conducted on a weekly basis. The monitoring time periods, monitoring parameters and frequency are summarised in **Table 4.1**.

**Table 4.1** Construction Noise Monitoring Parameters and Frequency

| Time Period<br>(when construction activity is found) | Parameters               | Monitoring Frequency |
|--|--------------------------|----------------------|
| Between 0700-1900 hours on normal weekdays           | $L_{eq}(30 \text{ min})$ | Once per week        |

##### Monitoring Location

In accordance with the EM&A Manual and the subsequent Baseline Monitoring Report, three noise monitoring locations during the construction stage are required, namely:

**Table 4.2** Noise Monitoring Locations

| ID   | Premise   |
|--|---|
| NMS-CA-1   | C.U.H.K.A.A. Thomas Cheung School                                 |
| NMS-CA-2   | Price Memorial Catholic Primary School                            |
| NMS-CA-3 <sup>(Note 2)</sup> /<br>NMS-CA-4 <sup>(Note 3)</sup> | Hong Kong Sheng Kung Hui Nursing Home <sup>(Note 1)(Note 4)</sup> |

Notes:

Note 1: Hong Kong Sheng Kung Hui Nursing Home was selected as an alternative monitoring location to Shek On house.

Note 2: Station ID as identified in approved EM&A Manual / EIA Report for SCL (TAW - HUH).

Note 3: Station ID as identified in approved EM&A Manual / EIA Report for SCL (HHS).

Note 4: The associated monitoring was carried out under Works Contract SCL1106 since October 2016.

##### Environmental /Quality Performance Limits

The monitoring results will be checked against the Action and Limit levels described in the Baseline Monitoring Report, of which they are excerpted and summarised in **Tables 4.3**.

**Table 4.3** Action and Limit Levels of construction noise

| Location <sup>(Note 1)</sup> | Time Period <sup>(note 3)</sup>      | Action Level                              | Limit Level dB(A)         |
|------------------------------|--------------------------------------|---|---------------------------|
| NMS-CA-1 & NMS-CA-2          | 0700 - 1900 hours on normal weekdays | When one documented complaint is received | 70/65 <sup>(Note 2)</sup> |
| NMS-CA-3 / NMS-CA-4          |                                      |   | 70                        |

Notes:

1. The detail of monitoring locations was presented in Table 1.3.
2. For normal day-time working hours, the noise criteria is 70 dB(A) and 65 dB(A) for normal teaching periods and examination periods respectively.
3. If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

## 4.1.2 Continuous Noise Monitoring

With reference to the latest Continuous Noise Monitoring Plan (CNMP) and Construction Noise Mitigation Measures Plan (CNMMP) prepared and submitted under EP Condition 2.10, continuous noise monitoring was conducted in April 2013 at C.U.H.K.A.A. Thomas Cheung School only due to the prediction of residual airborne construction noise impacts exceeding the relevant noise criteria. No continuous noise monitoring is required during the reporting month as per the CNMP.

## 4.2 Noise Monitoring Methodology

### 4.2.1 Monitoring Equipment

Noise level was measured by a Sound Level Meter (SLM) in terms of A-weighted equivalent continuous sound pressure level.  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  were recorded as supplementary information for data auditing. **Table 4.4** shows the equipment list of the noise monitoring.

**Table 4.4** Noise Equipment List for Impact Noise Monitoring

| Equipment              | Manufacturer & Model No. | Serial No. | Precision Grade                  |
|------------------------|--------------------------|------------|----------------------------------|
| Integrated SLM         | Bruel & Kjaer 2238       | 2654435    | IEC 651 Type 1<br>IEC 804 Type 1 |
| Sound level calibrator | Rion NC-74               | 34304660   | IEC 942 Type 1                   |

### 4.2.2 Maintenance and Calibration

The SLM and calibrator in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specifications according to the EM&A manual.

SLM complying with the standards of IEC 651 (Fast, Slow, Impulse rms detector tests) and IEC 804 ( $L_{eq}$  functions) and acoustical calibrator complying with IEC 942 were adopted for the noise measurement. All equipments are calibrated

externally. The calibration certificates for the noise equipment are given in **Appendix G**.

### 4.2.3 Monitoring Procedures

- The SLM and battery were checked to ensure that they are in proper condition. The SLM was set on a tripod at 1.2m above ground and at least 1m from the exterior of the building façade;
- Before conducting the measurement, the SLM was calibrated by an acoustical calibrator;
- Measurement parameter was set to A-weighted sound pressure level. The time weighting was set in fast response and the time period of measurement at 30 minutes;
- Wind speed was checked during noise monitoring to ensure the steady wind speed does not exceed 5m/s, or wind with gusts does not exceed 10m/s;
- Any abnormal conditions that generated intrusive noise during the measurement was recorded on the field record sheet;
- After each measurement, the equivalent continuous sound pressure level ( $L_{eq}$ ),  $L_{10}$  and  $L_{90}$  were recorded on the field record sheet;
- After conducting the measurement, the SLM was calibrated by an sound level calibrator; and
- The SLM was re-calibrated by the sound level calibrator to confirm that there is no significant drift of reading. Measurements shall be accepted as valid only if the calibration levels before and after the noise measurement agrees to within 1.0 dB.

## 4.3 Monitoring Results and Observations

### 4.3.1 Weather Condition

May 2017 was characterised largely by fine and dry conditions associated with the sub-tropical ridge. On occasion, warm and wet condition associated with troughs of low pressure affected Hong Kong.

### 4.3.2 Noise Monitoring Results

#### Impact Monitoring

Monitoring of the construction noise level was conducted on 4, 12, 17 and 23 March 2017. All monitoring data and graphical presentation of the monitoring results are provided in **Appendix H** and are summarised in **Tables 4.5 - 4.6**. The graphical presentations of the monitoring results are provided in **Appendix H**.

**Table 4.5** Summary of Impact Noise Monitoring at Location NMS-CA-1

| Date      | Time        | Measured Noise Level, dB(A) | Baseline Noise Level, dB(A) | Construction Noise Level(Note1), dB(A) | Limit Level (Note 2) |
|-----------|-------------|-----------------------------|-----------------------------|--|----------------------|
|           |             | Leq (30min)                 | Leq (30min)                 | Leq (30min)                            | dB(A)                |
| 4-May-17  | 13:30-14:00 | 55.2                        | 57.0                        | < Baseline Level                       | 70/65                |
| 12-May-17 | 11:30-12:00 | 51.6                        |                             | < Baseline Level                       |                      |
| 17-May-17 | 12:00-12:30 | 55.8                        |                             | < Baseline Level                       |                      |
| 23-May-17 | 14:00-14:30 | 53.5                        |                             | < Baseline Level                       |                      |

Notes:

1. Construction Noise Level = Measured Noise Level – Baseline Noise Level.
2. For normal day-time working hours, the noise criteria is 70 dB(A) and 65 dB(A) for normal teaching periods and examination periods respectively.

**Table 4.6** Summary of Impact Noise Monitoring at Location NMS-CA-2

| Date      | Time        | Measured Noise Level, dB(A) | Baseline Noise Level, dB(A) | Construction Noise Level(Note1), dB(A) | Limit Level (Note 2) |
|-----------|-------------|-----------------------------|-----------------------------|--|----------------------|
|           |             | Leq (30min)                 | Leq (30min)                 | Leq (30min)                            | dB(A)                |
| 4-May-17  | 11:00-11:30 | 61.6                        | 66.0                        | < Baseline Level                       | 70/65                |
| 12-May-17 | 10:00-10:30 | 60.0                        |                             | < Baseline Level                       |                      |
| 17-May-17 | 09:30-10:00 | 62.0                        |                             | < Baseline Level                       |                      |
| 23-May-17 | 10:30-11:00 | 60.1                        |                             | < Baseline Level                       |                      |

Notes:

1. Construction Noise Level = Measured Noise Level – Baseline Noise Level.
2. For normal day-time working hours, the noise criteria is 70 dB(A) and 65 dB(A) for normal teaching periods and examination periods respectively.

### 4.3.3 Exceedance of Limit and Action Levels for Construction Noise

No exceedance of Action / Limit Level of regular construction noise was recorded during the reporting month.

The event and action plan is provided in **Appendix I**.

### 4.3.4 General Observations

The construction site has been under normal operation during the noise monitoring period and no unusual operation was observed.



## 5 Landscape and Visual Monitoring

---

### 5.1 Introduction

In accordance with the EM&A Manual, the landscape and visual mitigation measures shall be implemented and a site inspection shall be conducted once every two weeks throughout the construction period. The event and action plan is provided in **Appendix I**.

### 5.2 Mitigation Measures

Bi-weekly inspection of the implementation of landscape and visual mitigation measures were conducted during the reporting month on 3, 17 and 31 May 2017. No adverse impacts were identified with regards to landscape and visual.

## 6 Waste Disposal

The actual amounts of different types of waste generated by the activities of the Project during the reporting month are shown in **Table 6.1**. The monthly waste summary flow table is provided in **Appendix J**.

**Table 6.1** Amount of Waste Generated

| Waste Type                  | Amount                       | Disposal Locations                  |
|-----------------------------|------------------------------|-------------------------------------|
| Inert C&D Materials         | 1,365 m <sup>3</sup> (Total) | TKO137FB/TM38FB                     |
| Inert C&D Materials         | 0 m <sup>3</sup>             | Reused in the Contract              |
| Chemical Waste              | 0 kg                         | Disposed of by a licensed collector |
| Paper / cardboard packaging | 0 kg                         | -                                   |
| Plastic                     | 0 kg                         |                                     |
| Metal                       | 0 kg                         |                                     |
| General Refuse              | 257 m <sup>3</sup>           | NENT/SENT/WENT Landfill             |

## 7 Cultural Heritage

---

In accordance with the EM&A Manual, appropriate vibration monitoring on the identified built heritage has been agreed with the Building Department (BD)/Geotechnical Engineering Office (GEO) under the requirement of Buildings Ordinance and/or Blasting Permit as appropriate. Vibration monitoring was not conducted at Wong Tai Sin Temple since no TBM was in operation during the reporting month.

## 8 Hazard

---

No blasting activity was carried out during the reporting month.

## 9 Environmental Performance

### 9.1 Environmental Site Inspection

Environmental site inspections were carried out on a weekly basis, with the IEC joint site inspection being carried out on 17 May 2017, to monitor environmental issues on the construction sites to ensure that all mitigation measures were implemented timely and properly. A summary of the site inspections in the reporting month is presented in **Table 9.1**.

**Table 9.1** Key Findings of Weekly Environmental Site Audit

| Inspection Date         | Works Area   | Key Observations and Recommendations  | Contractor's Response / Environmental Outcome | Closed Date / Follow up Status   |
|-------------------------|--------------|---|---|--|
| <b>Air</b>              |              |   |   |  |
| 17 May 2017             | Ma Chai Hang | The contractor is reminded to ensure that stockpiles of cement bags are properly covered.   | Agreed with ET's Advice.                      | The contractor rectified the issue and ensured that the cement bags were covered. Closed 24 May 2017.            |
| 31 May 2017             | Ma Chai Hang | The contractor is reminded to increase the frequency of water spraying during hot and dry conditions.                                       | Agreed with ET's Advice.                      | The contractor noted the issue and the status will be reported in the next reporting month.                      |
| <b>Water</b>            |              |   |   |  |
| 4 May 2017              | Ma Chai Hang | The contractor is reminded to ensure that their drainage system is regularly maintained in order to avoid water seepage during rain events. | Agreed with ET's Advice.                      | The contractor rectified the issue and ensured that drainage system was properly maintained. Closed 10 May 2017. |
| 10 May 2017             | Fung Tak     | The contractor is reminded to provide sand bags in order to avoid water seepage during rain events.   | Agreed with ET's Advice.                      | The contractor rectified the issue and provided sandbags. Closed 17 May 2017.                                    |
| <b>Waste Management</b> |              |   |   |  |
| 26 April 2017           | Fung Tak     | The contractor is reminded to ensure that stagnant water is regularly removed from drip trays and properly disposed of.                     | Agreed with ET's Advice.                      | The contractor rectified the issue and removed the stagnant water. Closed 4 May 2017.                            |
| 26 April 2017           | Hin Keng     | The contractor is reminded to ensure that chemical containers are properly stored   | Agreed with ET's Advice                       | The contractor rectified the issue and placed the containers in the  |

| Inspection Date             | Works Area | Key Observations and Recommendations   | Contractor's Response / Environmental Outcome | Closed Date / Follow up Status  |
|-----------------------------|------------|--|---|---|
|                             |            | in the designated area after use.  |   | designated storage area. Closed 4May 2017.  |
| 4 May 2017                  | Fung Tak   | The contractor is reminded to ensure that batteries are stored in the designated storage area after use.       | Agreed with ET's Advice.                      | The contractor rectified the issue and placed the batteries in the designated storage area. Closed 10 May 2017.           |
| 10 and 31 May 2017          | Fung Tak   | The contractor is reminded to regularly removed water from drip trays and disposed of appropriately.           | Agreed with ET's Advice.                      | The contractor noted the issue and the status will be reported in the next reporting month.                               |
| 17 May 2017                 | Fung Tak   | The contractor is reminded to ensure that chemical containers have the provision of a drip tray.               | Agreed with ET's Advice.                      | The contractor rectified the issue and placed the chemical containers in the designated storage area. Closed 24 May 2017. |
| <b>Landscape and Visual</b> |            |  |   |   |
| 26 April 2017               | Hin Keng   | The contractor is reminded to ensure that the tree protection zone is properly erected.                        | Agreed with ET's Advice                       | The Contractor rectified the issue and ensured that the tree protection zone was properly erected. Closed 4 May 2017.     |
| <b>Noise</b>                |            |  |   |   |
|                             |            |  |   |   |
| 26 April 2017               | Hin Keng   | The contractor is reminded to ensure that adequate noise barriers are erected during rock breaking activities. | Agreed with ET's Advice.                      | The contractor rectified the issue and installed adequate noise barriers. Closed 4 May 2017.                              |
| 10 May 2017                 | Hin Keng   | The contractor is reminded to erect noise barriers during breaking works.                                      | Agreed with ET's Advice.                      | The contractor rectified the issue and installed adequate noise barriers. Closed 17 May 2017.                             |

## 9.2 Summary of Environmental Complaint

Np environmental complaints were recorded in the reporting month. The updated statistical summary of complaint is presented in **Table 9.2**. The updated complaint logs for the Project in the reporting month is shown in **Appendix L**.

**Table 9.2** Summary of Complaints

| Reporting Period    | Complaint Statistics |            |
|---------------------|----------------------|------------|
|                     | Number               | Cumulative |
| 01/05/17 – 31/05/17 | 0                    | 20         |

## 9.3 Summary of Environmental Non-Compliance

There was no non-compliance identified during the reporting month so review of the non-compliance was not required.

## 9.4 Summary of Environmental Summon and Successful Prosecution

No summons of prosecutions related to environmental issues were received or made against the project in the reporting month. Please refer to **Appendix L** for a Cumulative Log for Complaints, Notifications of Summons and Successful Prosecutions.

## 10 Future Key Issues

### 10.1 Key Issues for the Coming Month

Works to be undertaken in the coming reporting month are summarised in **Table 10.1** below.

**Table 10.1** Tentative Programme of Construction Works for the Coming Month

| Locations <sup>[1]</sup> | Major Works Undertaken  |
|--------------------------|---|
| Diamond Hill             | Underground Remedial Works  |
| Hin Keng                 | Tunnel Lining, Partition Walls, Dividing Slabs, Drains, Walkways and Site Formation         |
| Fung Tak                 | Tunnels Connection, RC Concrete, ELS Work, Sheet piling for retaining wall and RRIW for PTT |
| Ma Chai Hang             | Central Core, Ventilation Tunnel, C&S Works and ABWF Works                                  |
| Shiu Chui O              | Storage Area  |

### 10.2 Environmental Monitoring Program for the Coming Month

Environmental monitoring and audit will be carried out in accordance with the requirements stipulated in the EM&A manual. Tentative air and noise monitoring as well as weekly site audit schedule for the coming month with respect to the construction programme is shown in **Appendix K**.

### 10.3 Construction Program for the Coming Month

The construction programme for the coming month is shown in **Appendix A**.



## 11 Conclusions and Recommendations

---

### 11.1 Conclusions

The construction phase of the project commenced on 14 February 2013. The EM&A programme has since been implemented, including air quality, noise and environmental site audits. Five environmental site audits were conducted in the reporting month.

No exceedance of Action Level / Limit Level of regular construction noise was recorded during the reporting month.

No exceedance of the Action and Limit Levels of 24-hour TSP monitoring was recorded at the designated monitoring stations during the reporting period.

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

No complaints were received during the reporting period. No summons/prosecution was received during the reporting period.

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

### 11.2 Recommendations

Impact monitoring will continue to be carried out in the following month and will follow the requirements stipulated in the EM&A manual. Attention will be paid to the environmental issues identified in the EIA report and weekly site audit. Mitigation measures recommended in EIA report and Implementation Schedule of Mitigation Measure will be fully implemented.

Waste management is a key environmental issue. The waste management plan should be strictly followed in accordance with the requirements described in the EIA report.

Water Quality impact is also a key environmental issue. The drainage system should be well maintained. All wastewater generated within the site shall be collected and treated prior to discharge.

Construction noise is also a key environmental issue. The implemented construction noise mitigation measures should also be maintained and improved as necessary. Especially in restricted hours, the conditions stipulated in the CNPs should be strictly followed when the construction works were carried out during restricted hours.

Construction dust is also key environmental issue. The implemented construction dust mitigation measures including covering of exposed slope / soil with tarpaulin

sheet etc., should be maintained and improved as necessary. Adequate water spraying should be provided for the unpaved area to minimize dust disturbance.

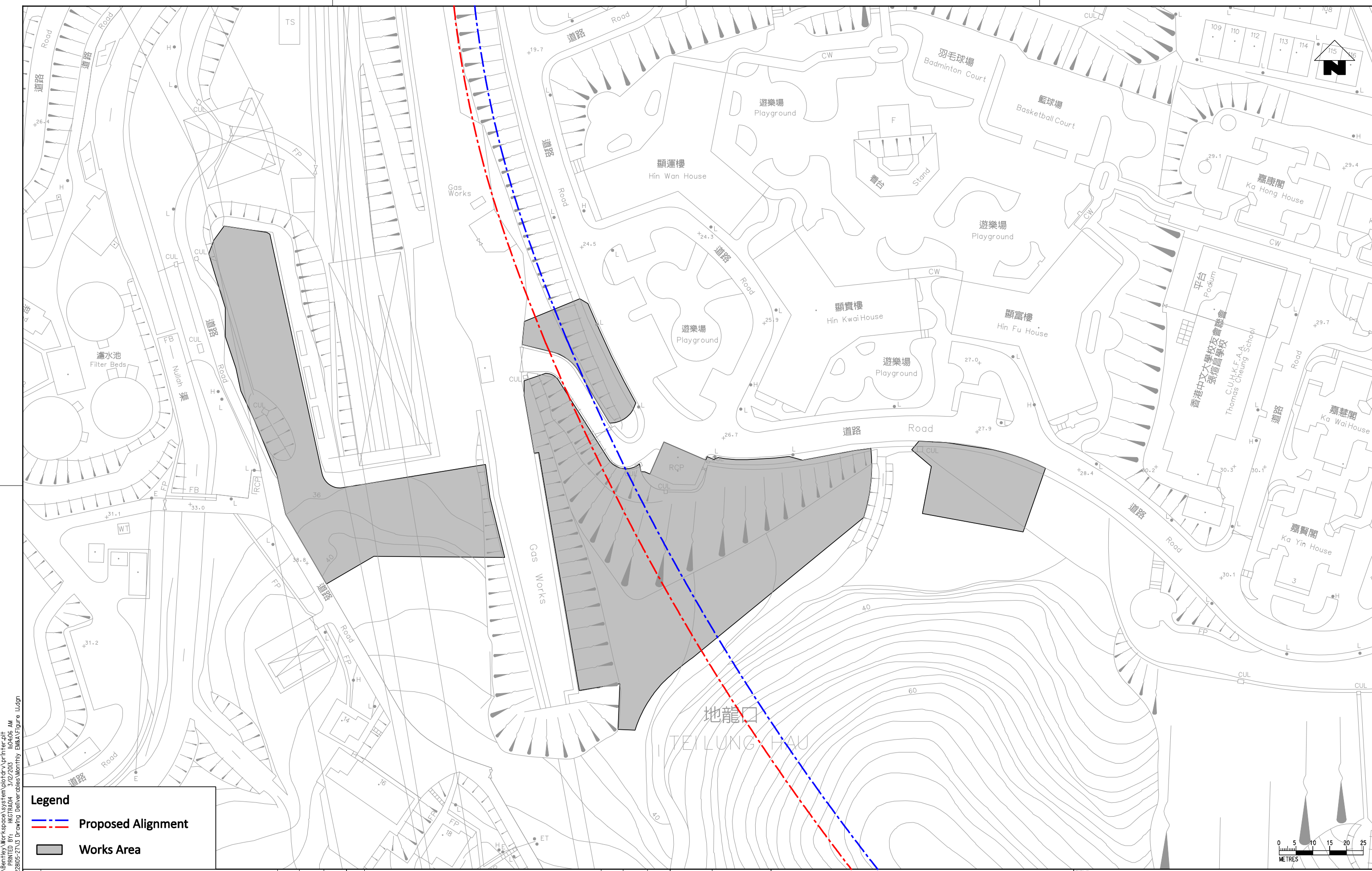
## 12 Reference

---

- (1) MTR Corporation Limited. SCL – NEX/2206 EIA Study for Tai Wai to Hung Hom Section. Final Environmental Impact Assessment Report. October 2011.
- (2) MTR Corporation Limited. SCL – NEX/2206 EIA Study for Tai Wai to Hung Hom Section. Environmental Monitoring and Audit Manual. October 2011.
- (3) MTR Corporation Limited. SCL – NEX/2206 EIA Study for Stabling Sidings at Hung Hom Freight Yard. Final Environmental Impact Assessment Report. October 2011.
- (4) MTR Corporation Limited. SCL - NEX/2206 EIA Study for Stabling Sidings at Hung Hom Freight Yard. Environmental Monitoring and Audit Manual. October 2011.

## Figures

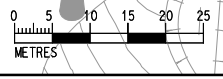
---



C:\Program Files\Bentley\Workspace\system\plotdrv\printer.plt  
 MODEL\$ = H:\R\H\H\3/12/2013  
 PLOT DATE: 3/12/2013 10:45:05 AM  
 FILENAME: G:\env\project\22805-2\10 Drawing Deliverables\Wormly EM&V\Figure 1.dgn

**Legend**

- - - Proposed Alignment
- Works Area



| REV | DESCRIPTION | BY | DATE  | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|-------|----------|-----|-------------|----|------|----------|
| A   | FIRST ISSUE | GL | 12/12 | ST       |     |             |    |      |          |

|          |       |
|----------|-------|
| DRAWN    | GL    |
| DESIGNED | GL    |
| CHECKED  | CN    |
| APPROVED | ST    |
| DATE     | 12/12 |

**MTR**

**SHATIN TO CENTRAL LINK**

ORIGINATOR

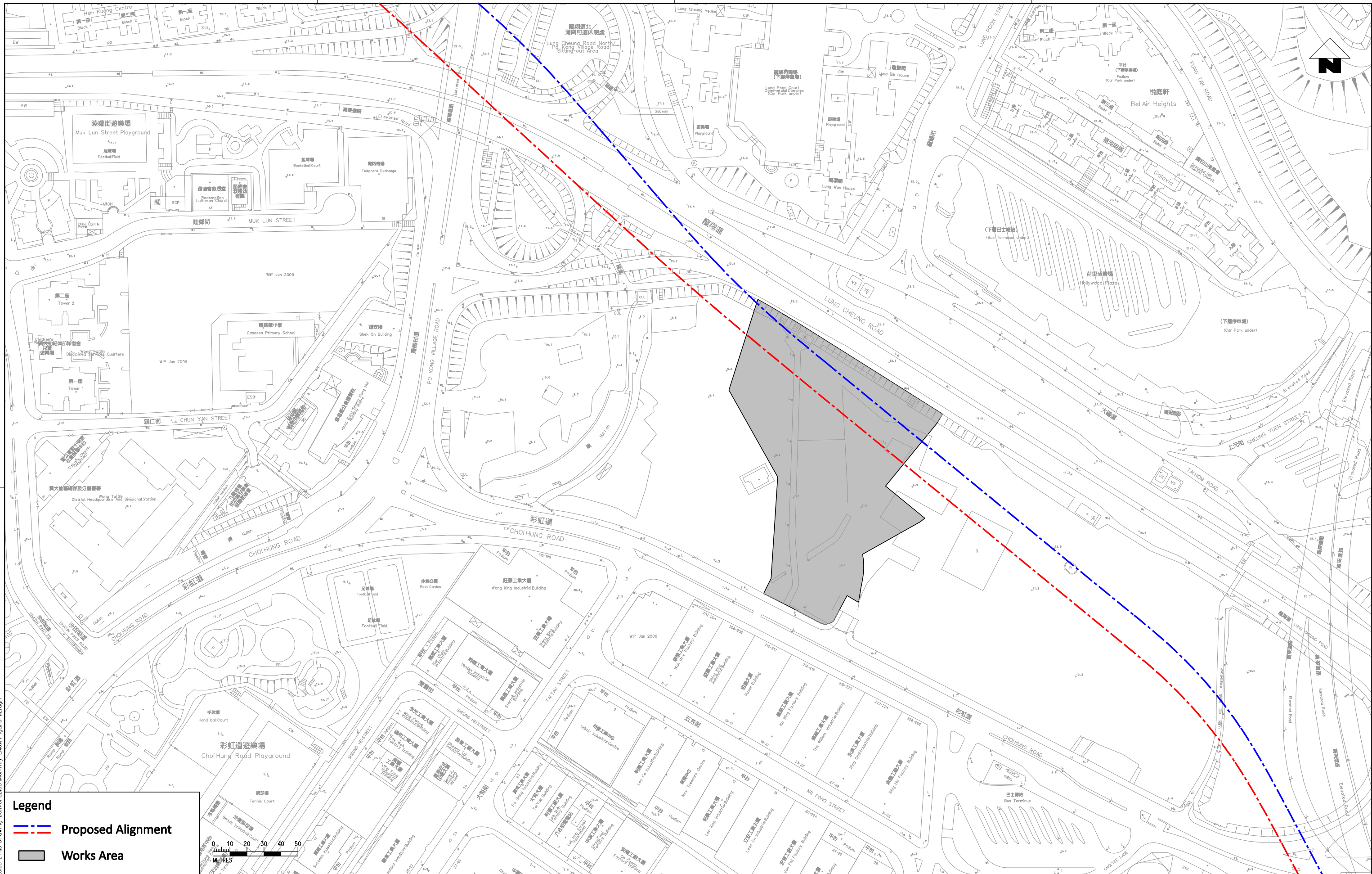
**ARUP** Ove Arup & Partners  
Hong Kong Limited

CADD REF.

**TITLE**

**CONTRACT 1103**  
**HIN KENG TO DIAMOND HILL TUNNELS**  
 Locations of Project Works Areas  
 - General Site Layout of Hin Keng Works Area  
 (Sheet 1 of 6)

SCALE: 1:1000 (A3)      DRAWING NO.: Figure 1.1      REV: A



**Legend**

--- --- Proposed Alignment

Works Area



C:\Program Files\Bentley\Workspace\system\plotdrv\printer.plt  
 MODEL\$ = H:\R\H\K - 3/12/2013  
 FILENAME: C:\temp\project\22805-21\3 Drawing Deliverables\Morning EM&V\Figure 1.2.dgn  
 PLOT DRV: C:\Program Files\Bentley\Workspace\system\plotdrv\printer.plt  
 MODEL\$ = H:\R\H\K - 3/12/2013  
 FILENAME: C:\temp\project\22805-21\3 Drawing Deliverables\Morning EM&V\Figure 1.2.dgn

| REV | DESCRIPTION | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|------|----------|-----|-------------|----|------|----------|
| A   | FIRST ISSUE |    |      |          |     |             |    |      |          |

|          |       |
|----------|-------|
| DRAWN    | GL    |
| DESIGNED | GL    |
| CHECKED  | CN    |
| APPROVED | ST    |
| DATE     | 12/12 |

**MTR**

**SHATIN TO CENTRAL LINK**

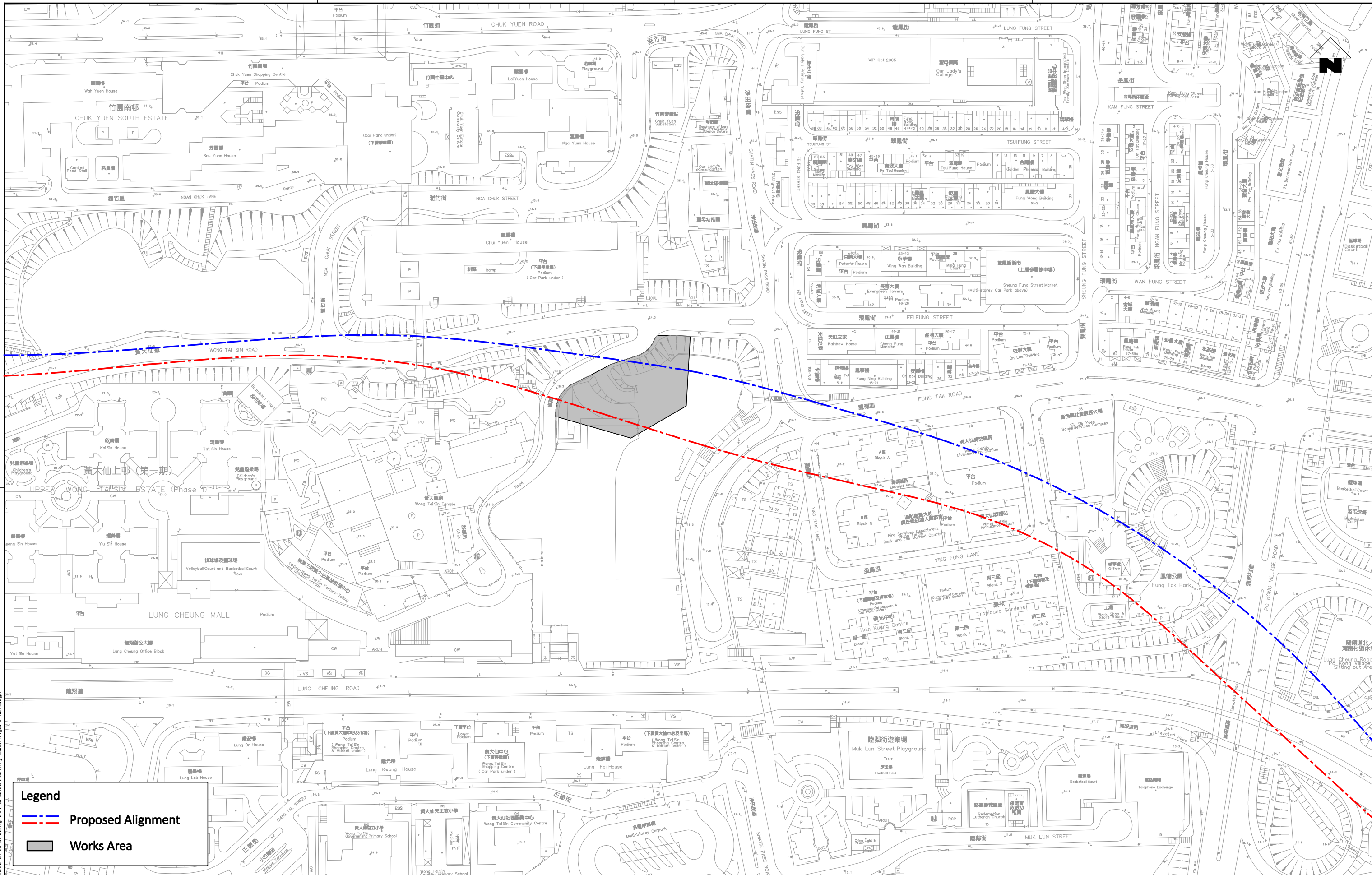
ORIGINATOR

**ARUP** Ove Arup & Partners  
Hong Kong Limited

CADD REF.

|             |             |  |  |
|-------------|-------------|--|--|
| TITLE       |             | CONTRACT 1103                                    |  |
|             |             | HIN KENG TO DIAMOND HILL TUNNELS                 |  |
|             |             | Locations of Project Works Areas                 |  |
|             |             | - General Site Layout of Diamond Hill Works Area |  |
|             |             | (Sheet 2 of 6)                                   |  |
| SCALE       | DRAWING NO. | REV.   |  |
| 1:2000 (A3) | Figure 1.2  | A  |  |

DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.  
 © MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.



**Legend**

- - - Proposed Alignment
- Works Area

d:\Program Files\Bentley\Workspace\system\pdr\drv\printer.plt  
 MODEL\$ 3/27/2010 11:51:10 AM  
 PLENAME\$ g:\env\project\22805-21\3 Drawing Deliverables\Wong Tai Sin\Figure 1.3.dgn

|  |       |
|--|-------|
| DRAWN  | GL    |
| DESIGNED   | GL    |
| CHECKED  | CN    |
| APPROVED   | ST    |
| DATE   | 12/12 |
| DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.<br>© MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED. |       |

**MTR**

**SHATIN TO CENTRAL LINK**

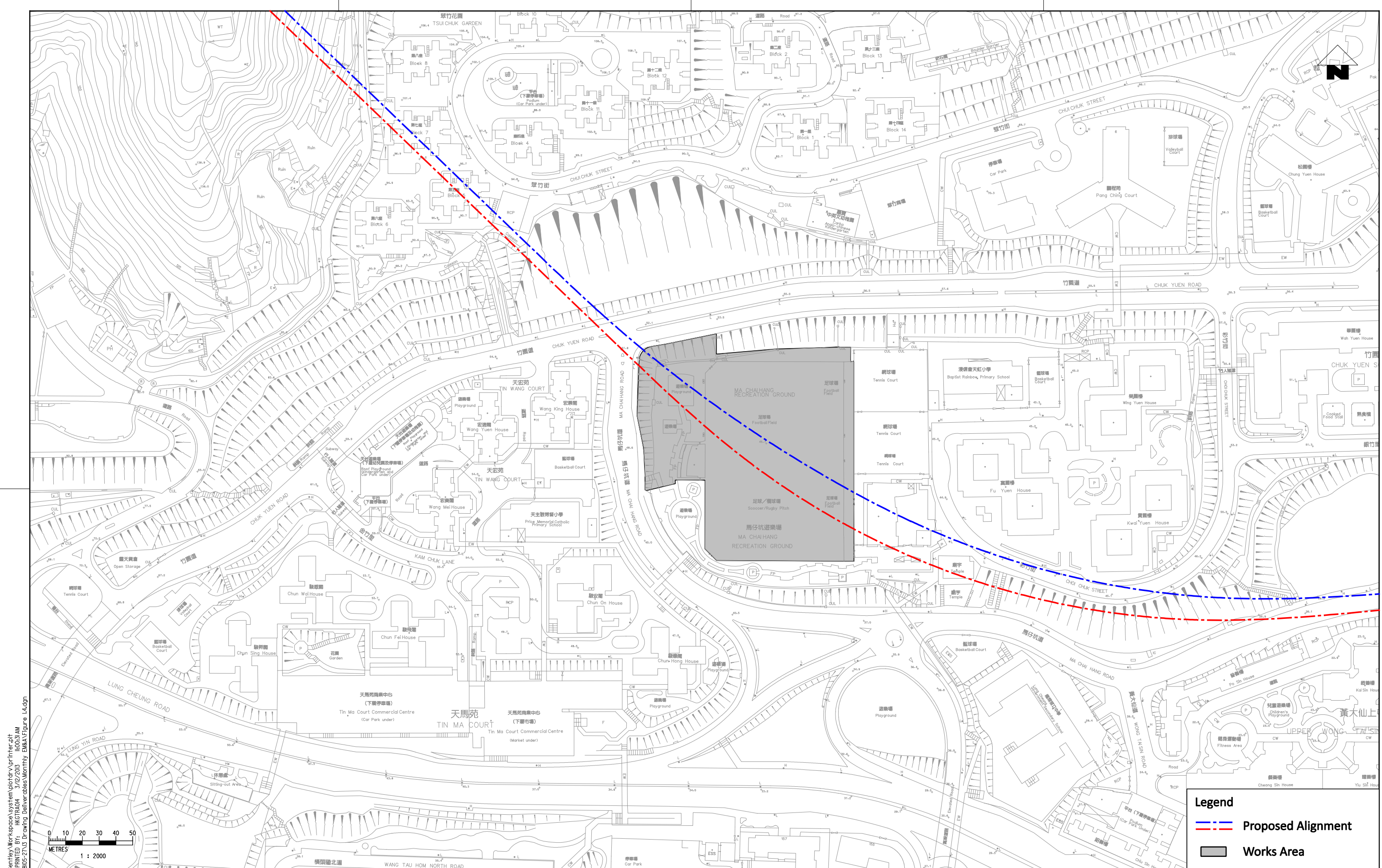
ORIGINATOR

**ARUP** Ove Arup & Partners  
Hong Kong Limited

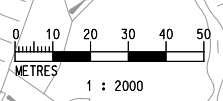
CADD REF.

|       |             |               |            |                                  |      |   |  |
|-------|-------------|---------------|------------|----------------------------------|------|---|--|
| TITLE |             | CONTRACT 1103 |            | HIN KENG TO DIAMOND HILL TUNNELS |      | Locations of Project Works Areas - Site Layout Plan of Fung Tak EAP/EEP Building (Sheet 3 of 6) |  |
| SCALE | 1:2000 (A3) | DRAWING NO.   | Figure 1.3 |                                  | REV. | A   |  |

| REV | DESCRIPTION | BY | DATE  | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|-------|----------|-----|-------------|----|------|----------|
| A   | FIRST ISSUE |    | 12/12 | ST       | GL  |             |    |      |          |



C:\Program Files\Bentley\Workspace\system\plotdrv\printer.plt 1606:3 AM  
 MODEL\$ H:\R\10104\_3/12/2013  
 PLOT DRW: C:\env\project\22803-21\3 Drawing Deliverables\Morning EM&V\Figure 1.4.dgn  
 FILENAME:



**Legend**

- --- Proposed Alignment
- Works Area

| REV | DESCRIPTION | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|------|----------|-----|-------------|----|------|----------|
| A   | FIRST ISSUE |    |      |          | GL  | 12/12       | ST |      |          |

|   |       |
|---|-------|
| DRAWN   | GL    |
| DESIGNED  | GL    |
| CHECKED   | CN    |
| APPROVED  | ST    |
| DATE  | 12/12 |
| <small>DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.<br/>         (C) MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.</small> |       |

**SHATIN TO CENTRAL LINK**  
 ORIGINATOR  

 Ove Arup & Partners  
 Hong Kong Limited  
 CADD REF.

**TITLE**  
 CONTRACT 1103  
 HIN KENG TO DIAMOND HILL TUNNELS  
 Locations of Project Works Areas  
 - Site Layout Plan of Ma Chai Hang Shaft  
 (Sheet 4 of 6)

**SCALE**  
 1:2000 (A3)

**DRAWING NO.**  
 Figure 1.4

**REV.**  
 A

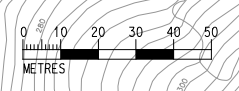




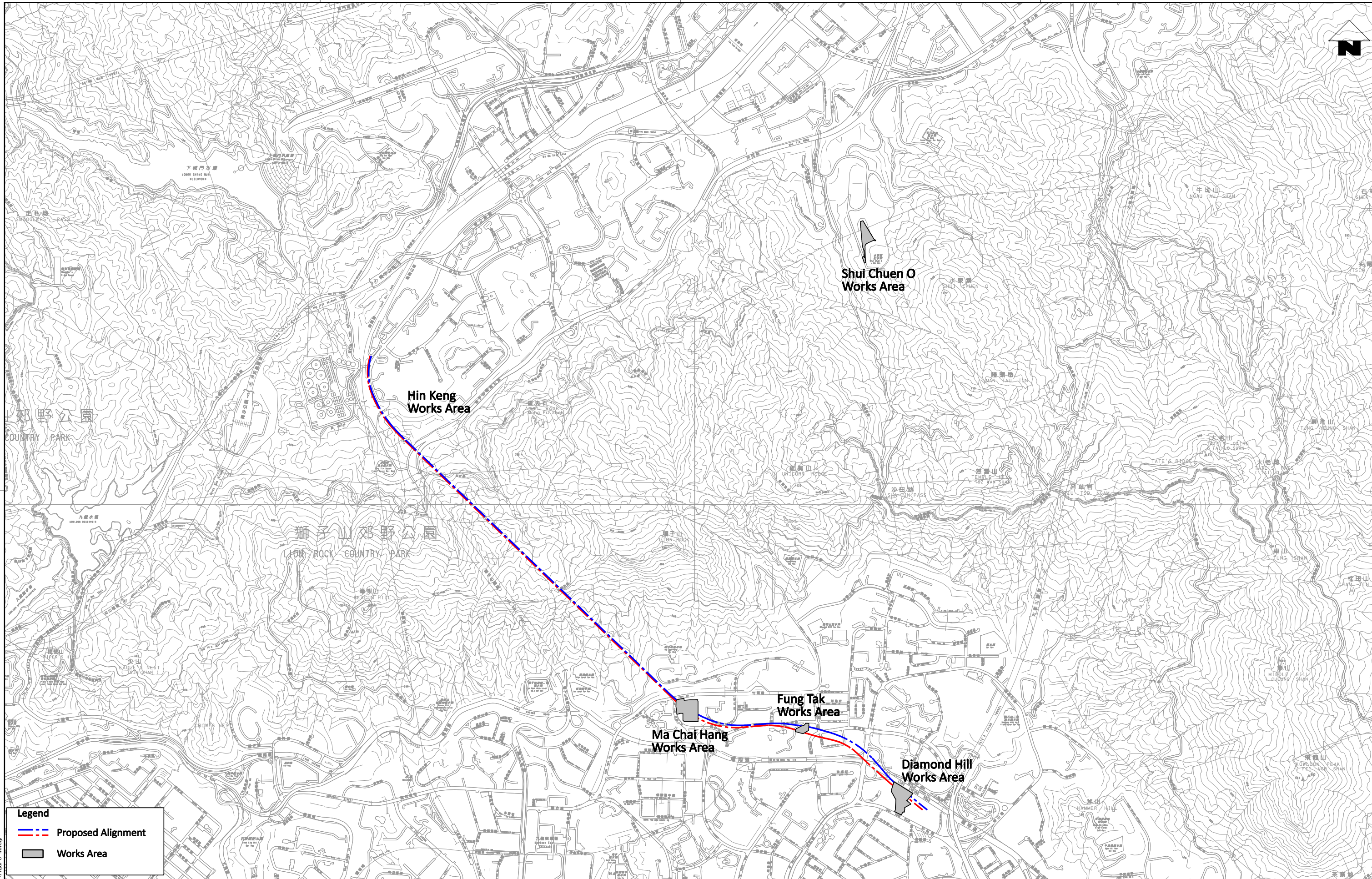
d:\Program Files\Bentley\Workspoe\system\plotdrv\Printer.plt  
 MODELNAME: H6GTR04 3/13/2013 3:52:30 PM  
 FILENAME: c:\wpa\project\22805-27\3 Drawing Deliverables Monthly EM&F\Figure 1.5.dgn

**Legend**

Works Area



|     |             |    |      |   |     |             |   |      |  |  |                               |
|-----|-------------|----|------|---|-----|-------------|---|------|--|--|-------------------------------|
|     |             |    |      | DRAWN GL<br>DESIGNED EL<br>CHECKED FC<br>APPROVED ST<br>DATE 02/13  |     |             | <br><b>SHATIN TO CENTRAL LINK</b>   |      | <b>TITLE</b><br>CONTRACT 1103<br>HIK KENG TO DIAMOND HILL TUNNELS<br>Locations of Project Works Area<br>General Site Layout of Shui Chuen O Works Area<br>(Sheet 5 of 6) |  |                               |
|     |             |    |      | <small>DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.<br/>         © MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.</small> |     |             | <b>ARUP</b> Ove Arup & Partners<br>Hong Kong Limited                      |      |  |  | <b>SCALE</b><br>1 : 2000 (A3) |
|     |             |    |      | A FIRST ISSUE<br>GL 02/13 ST  |     |             | <b>ORIGINATOR</b><br><b>ARUP</b> Ove Arup & Partners<br>Hong Kong Limited |      | <b>DRAWING NO.</b><br>Figure 1.5   |  |                               |
| REV | DESCRIPTION | BY | DATE | APPROVED  | REV | DESCRIPTION | BY  | DATE |  |  | APPROVED                      |
|     |             |    |      |   |     |             |   |      |  |  | A                             |



**Legend**

- --- Proposed Alignment
- Works Area

d:\Program Files\Bentley\workspace\system\plotdrv\Printer.plt  
 MODELNAME: HGTRA04 3/13/2013 3:55:15 PM  
 FILENAME: G:\env\Temp\David\Figure 1.6.dgn

|     |              |    |      |          |     |             |    |      |          |
|-----|--------------|----|------|----------|-----|-------------|----|------|----------|
| REV | DESCRIPTION  | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
| B   | SECOND ISSUE |    |      |          | GL  | 03/13       | ST |      |          |
| A   | FIRST ISSUE  |    |      |          | GL  | 12/12       | ST |      |          |

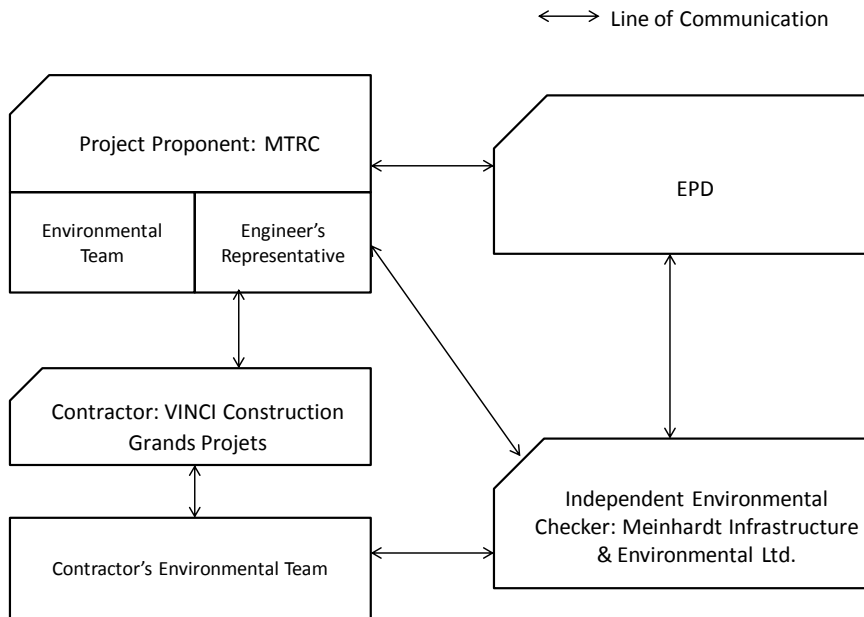
|          |       |
|----------|-------|
| DRAWN    | GL    |
| DESIGNED | GL    |
| CHECKED  | CN    |
| APPROVED | ST    |
| DATE     | 03/13 |

**SHATIN TO CENTRAL LINK**  
 ORIGINATOR  
**Ove Arup & Partners**  
**Hong Kong Limited**  
 CADD REF.

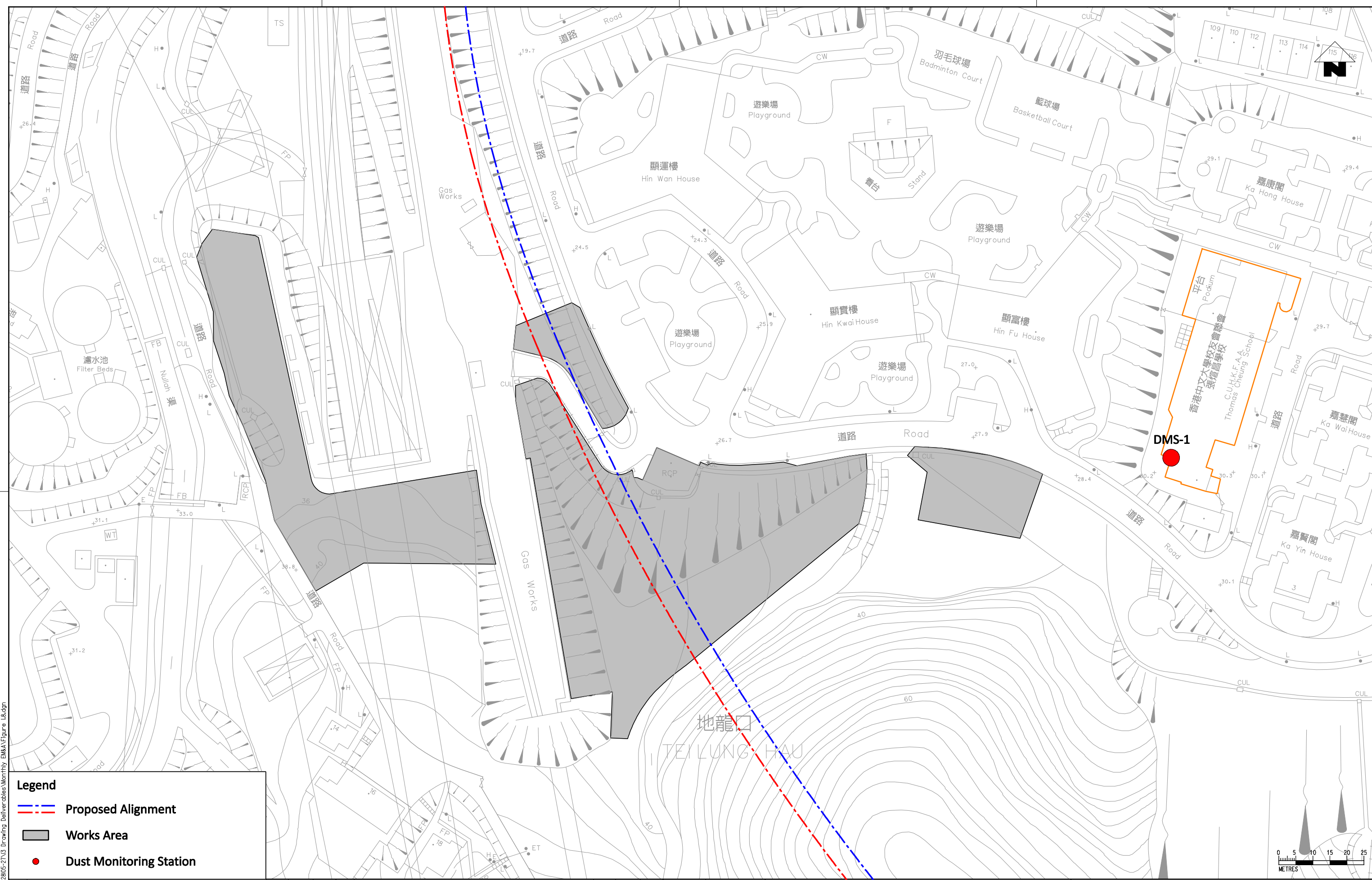
|  |  |                       |                           |           |
|--|--|-----------------------|---------------------------|-----------|
| TITLE<br><b>CONTRACT 1103</b><br><b>HIN KENG TO DIAMOND HILL TUNNELS</b><br>Locations of Project Works Areas<br>- General Alignment of Contract 1103<br>(Sheet 6 of 6) |  | SCALE<br>1:20000 (A3) | DRAWING NO.<br>Figure 1.6 | REV.<br>B |
|--|--|-----------------------|---------------------------|-----------|

DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.  
 © MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.

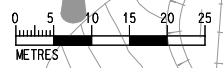
**Figure 1.7 - Project Organisation for Environmental Works**



PLOT DRW: d:\Program Files\Bentley\Workspace\system\plotdrv\printer.ph  
 MODELNAME: HIG TRAD4 3/27/2013 8:27:09 PM  
 FILENAME: G:\env\project\22805-2\13 Drawing Deliverables\Meritly EMA\Figure 1.8.dgn



- Legend**
- --- Proposed Alignment
  - Works Area
  - Dust Monitoring Station



| REV | DESCRIPTION | BY | DATE  | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|-------|----------|-----|-------------|----|------|----------|
| A   | FIRST ISSUE | GL | 12/12 | ST       |     |             |    |      |          |

|          |       |
|----------|-------|
| DRAWN    | GL    |
| DESIGNED | GL    |
| CHECKED  | CN    |
| APPROVED | ST    |
| DATE     | 12/12 |

**MTR**

**SHATIN TO CENTRAL LINK**

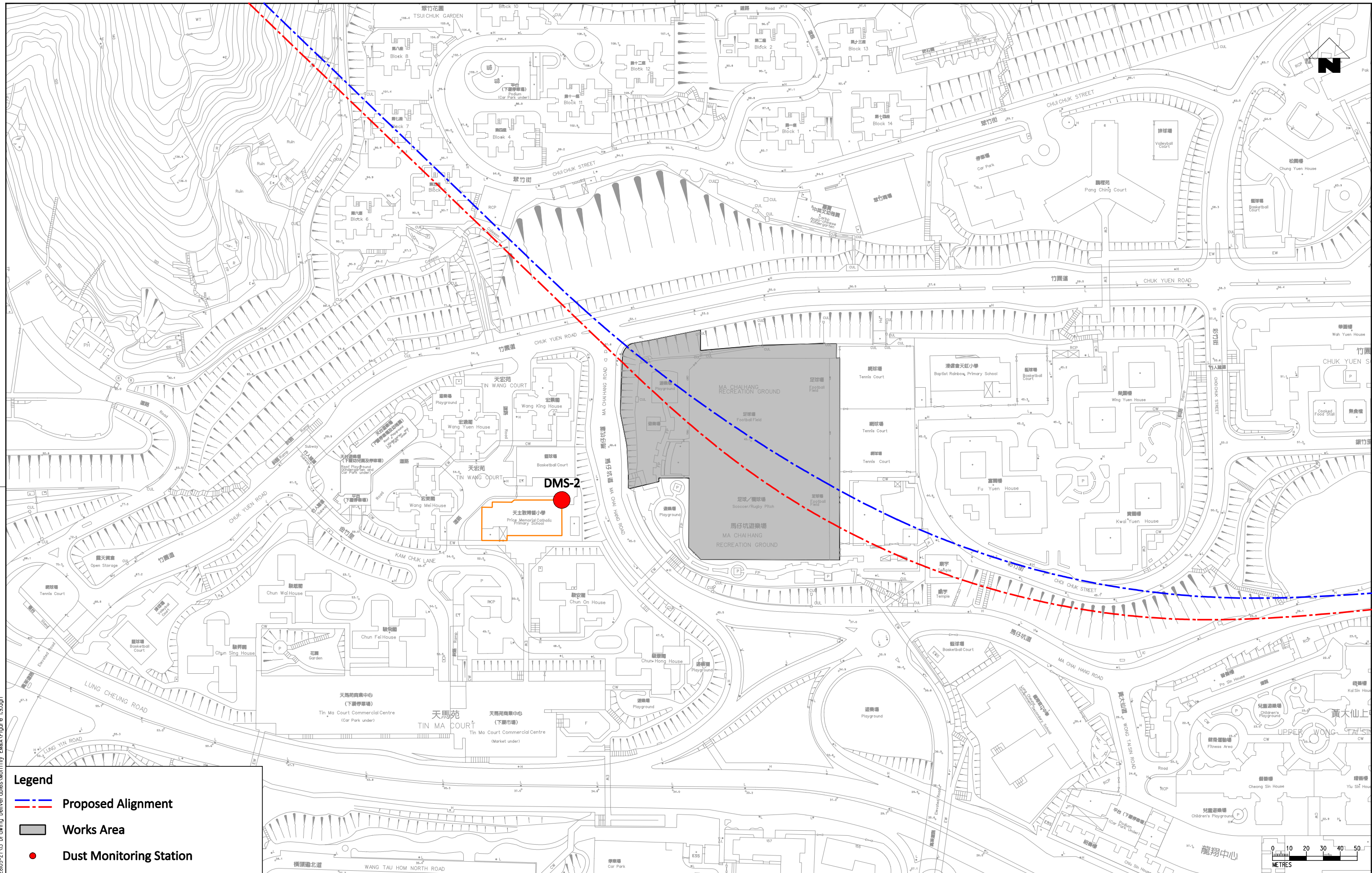
**ARUP** Ove Arup & Partners  
Hong Kong Limited

ORIGINATOR

CADD REF.

|             |             |  |  |
|-------------|-------------|--|--|
| TITLE       |             | CONTRACT 1103                                  |  |
|             |             | HIN KENG TO DIAMOND HILL TUNNELS               |  |
|             |             | Locations of Proposed Dust Monitoring Stations |  |
|             |             | (Sheet 1 of 3)                                 |  |
| SCALE       | DRAWING NO. | REV.   |  |
| 1:1000 (A3) | Figure 1.8  | A  |  |

DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.  
 © WITH CORPORATION LIMITED 2008 COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.



- Legend**
- - - Proposed Alignment
  - Works Area
  - Dust Monitoring Station

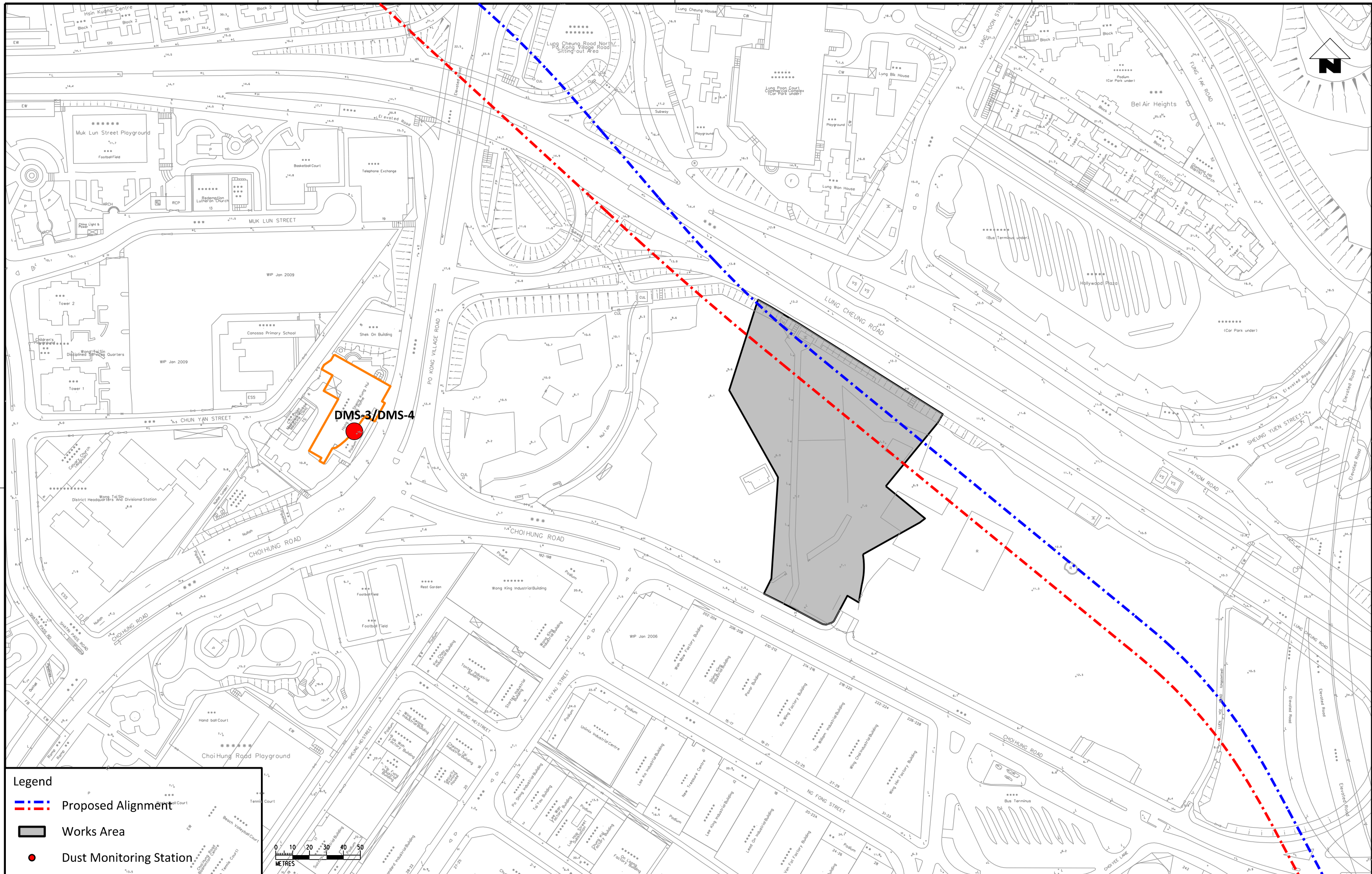
PLOT DRW: d:\Program Files\Bentley\workspace\system\plotdrv\vrInter.plt  
 MODELNAME: \$MODEL\$  
 FILENAME: G:\env\project\228105-2\13 Drawing Deliverables\Monthly EMKA\Figure 1.9.dgn

| REV | DESCRIPTION | BY | DATE | APPROVED | REV | DESCRIPTION | BY | DATE  | APPROVED |
|-----|-------------|----|------|----------|-----|-------------|----|-------|----------|
|     |             |    |      |          | A   | FIRST ISSUE | GL | 12/12 | ST       |

|          |       |
|----------|-------|
| DRAWN    | GL    |
| DESIGNED | GL    |
| CHECKED  | CN    |
| APPROVED | ST    |
| DATE     | 12/12 |

**SHATIN TO CENTRAL LINK**  
 ORIGINATOR  
**Ove Arup & Partners  
Hong Kong Limited**  
 CADD REF.

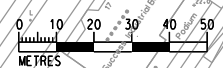
|   |  |                      |                           |           |
|---|--|----------------------|---------------------------|-----------|
| <b>TITLE</b><br>CONTRACT 1103<br>HIN KENG TO DIAMOND HILL TUNNELS<br>Locations of Proposed Dust Monitoring Stations<br>(Sheet 2 of 3) |  | SCALE<br>1:2000 (A3) | DRAWING NO.<br>Figure 1.9 | REV.<br>A |
|---|--|----------------------|---------------------------|-----------|



DMS-3/DMS-4

**Legend**

- - - Proposed Alignment
- Works Area
- Dust Monitoring Station



\$PLT DRW: \$MODELS \$FILES  
 \$PRINTED BY: \$USERS \$DATE \$TIME\$

| REV | DESCRIPTION | BY | DATE  | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|-------|----------|-----|-------------|----|------|----------|
| A   | FIRST ISSUE |    | 12/12 | ST       |     |             |    |      |          |

|          |       |
|----------|-------|
| DRABN    | GL    |
| DESIGNED | GL    |
| CHECKED  | CN    |
| APPROVED | ST    |
| DATE     | 12/12 |

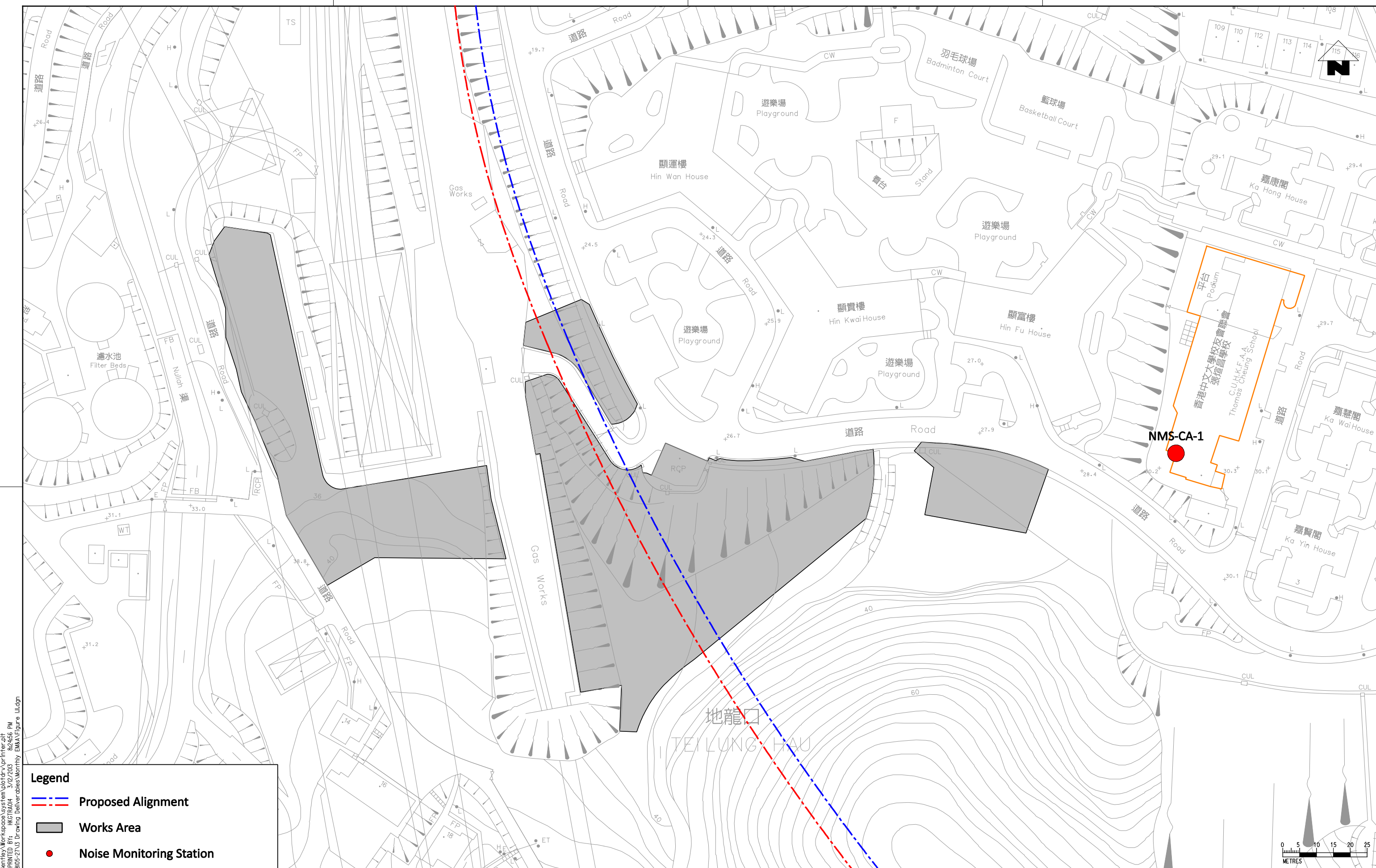
**SHATIN TO CENTRAL LINK**  
 ORIGINATOR  

 Ove Arup & Partners  
 Hong Kong Limited

**CONTRACT 1103**  
**HIN KENG TO DIAMOND HILL TUNNELS**  
 Locations of Proposed Dust Monitoring Stations  
 (Sheet 3 of 3)

SCALE: 1:2000 (A3)    DRAWING NO.: Figure 1.10    REV: A

DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.  
 © MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.



d:\Program Files\Bentley\Workspace\system\plotdrv\printer.plt  
 MODEL\$ PROJECT\22805-2\10 Drawing Deliverables\wormly EM&V\Figure 1.1.dgn  
 PLOT DRW: 14/01/2013 10:46:46 AM  
 FILENAME:

**Legend**

- --- **Proposed Alignment**
- Works Area**
- **Noise Monitoring Station**

| REV | DESCRIPTION | BY | DATE  | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|-------|----------|-----|-------------|----|------|----------|
| A   | FIRST ISSUE | GL | 12/12 | ST       |     |             |    |      |          |

|          |       |
|----------|-------|
| DRAWN    | GL    |
| DESIGNED | GL    |
| CHECKED  | CN    |
| APPROVED | ST    |
| DATE     | 12/12 |

**MTR**

**SHATIN TO CENTRAL LINK**

**ARUP** Ove Arup & Partners  
Hong Kong Limited

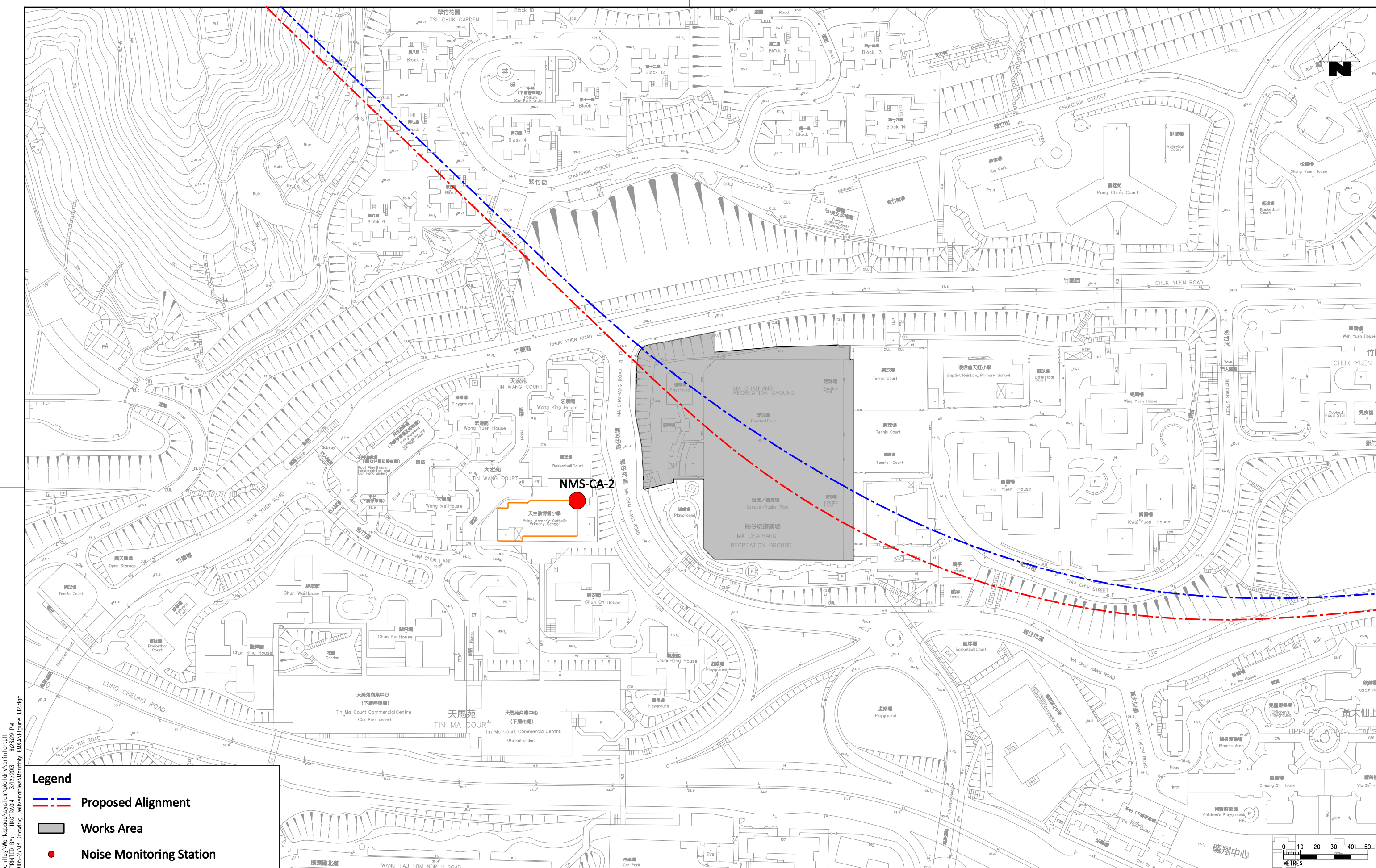
DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.  
 © MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THIS DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.

**TITLE**  
 CONTRACT 1103  
 HIN KENG TO DIAMOND HILL TUNNELS  
 Locations of Noise Monitoring Stations  
 (Construction Airborne Noise)  
 (Sheet 1 of 3)

**SCALE**  
 1:1000 (A3)

**DRAWING NO.**  
 Figure 1.11

**REV.**  
 A



- Legend**
- --- Proposed Alignment
  - Works Area
  - Noise Monitoring Station

d:\Program Files\Bentley\Workspace\system\plotter\printer.plt  
 PLOT DRW: HKGRA04 3/12/2013 8:23:29 PM  
 MODELNAME: G:\env\proj\tech\22805-27\12 Drawing Deliverables\Monthly EM&F\figure 1.12.dgn  
 FILENAME:

| REV | DESCRIPTION | BY | DATE  | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|-------|----------|-----|-------------|----|------|----------|
| A   | FIRST ISSUE |    | 12/12 | ST       | GL  | 12/12       | ST |      |          |

|          |       |
|----------|-------|
| DRAWN    | GL    |
| DESIGNED | GL    |
| CHECKED  | CN    |
| APPROVED | ST    |
| DATE     | 12/12 |

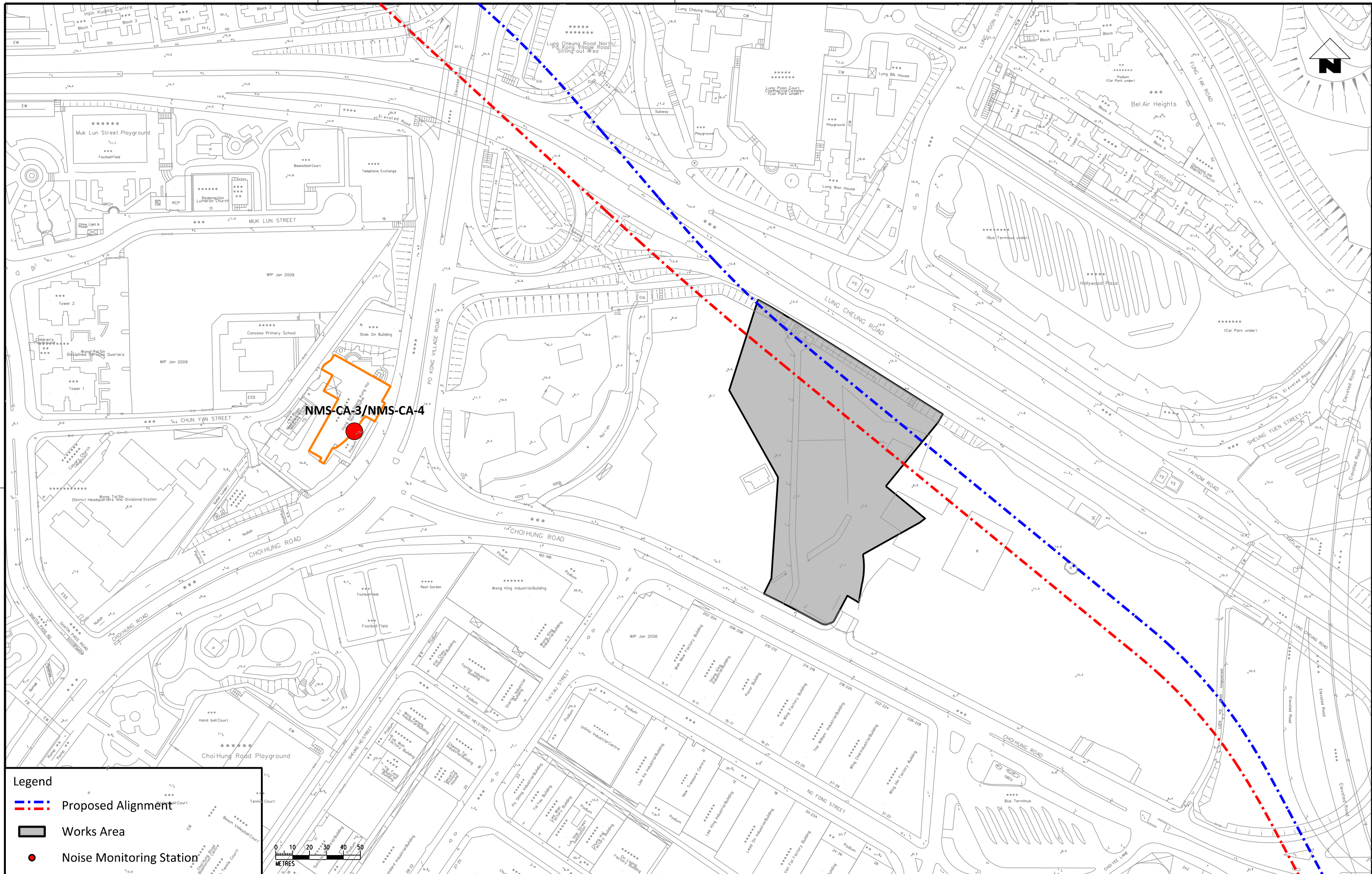
DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.  
 © MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.

**SHATIN TO CENTRAL LINK**  
 ORIGINATOR  
**Ove Arup & Partners  
 Hong Kong Limited**  
 CADD REF.

TITLE  
**CONTRACT 1103**  
**HIN KENG TO DIAMOND HILL TUNNELS**  
 Locations of Noise Monitoring Stations  
 (Construction Airborne Noise)  
 (Sheet 2 of 3)

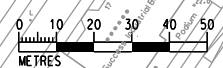
SCALE 1:2000 (A3)    DRAWING NO. Figure 1.12    REV. A





**Legend**

- - - Proposed Alignment
- Works Area
- Noise Monitoring Station



\$PLTDRWLS \$MODELS \$FILES  
 \$DATE \$USERS \$TIME\$  
 PRINTED BY: \$USER\$ \$DATE\$ \$TIME\$  
 PLOT DRW: \$MODELS\$ \$FILES\$  
 FILENAME:

| REV | DESCRIPTION | BY | DATE  | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|-------------|----|-------|----------|-----|-------------|----|------|----------|
| A   | FIRST ISSUE | GL | 12/12 | ST       |     |             |    |      |          |

|          |       |
|----------|-------|
| DRAWN    | GL    |
| DESIGNED | GL    |
| CHECKED  | CN    |
| APPROVED | ST    |
| DATE     | 12/12 |

DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.  
 © MTR CORPORATION LIMITED 2008. COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.

**MTR**

SHATIN TO CENTRAL LINK

ORIGINATOR

**ARUP** Ove Arup & Partners  
Hong Kong Limited

CADD REF.

TITLE

CONTRACT 1103  
HIN KENG TO DIAMOND HILL TUNNELS  
Locations of Noise Monitoring Stations  
(Construction Airborne Noise)  
(Sheet 3 of 3)

SCALE 1:2000 (A3)

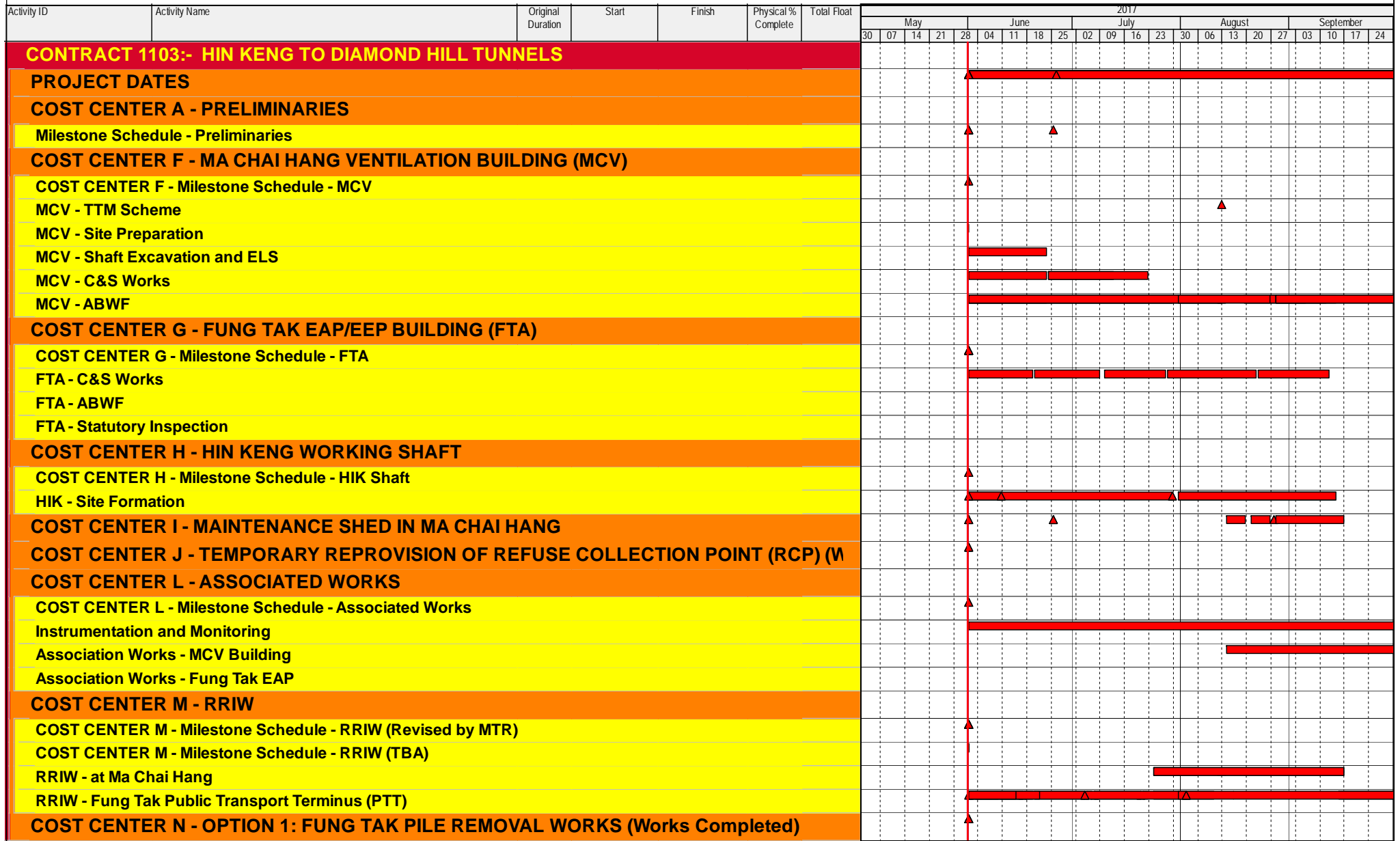
DRAWING NO. Figure 1.13

REV. A

## Appendix A

---

### Construction Programme



|                           |                             |                          |
|---------------------------|-----------------------------|--------------------------|
| ▲ Milestone               | ■ Remaining Work            | ■ Actual Level of Effort |
| ▲ Critical Milestone      | ▲ Actual MS                 | — Baseline (RMP)         |
| ■ Critical Remaining Work | ■ Remaining Level of Effort | ■ Baseline (Last Month)  |

**Three Month Rolling Programme  
As of 1-Jun-2017**

| Date      | Revision                       | Checked | Approved |
|-----------|--------------------------------|---------|----------|
| 01-Jun-17 | Submission for MTR Information | RD      | EC       |
|           |                                |         |          |
|           |                                |         |          |

## Appendix B

---

Environmental  
Monitoring  
Programme in  
Reporting Month

**SCL Works Contract 1103 - Hin Keng to Diamond Hill Tunnels  
Impact Monitoring Schedule - May 2017**

| Date      | Air Quality  | Noise                     | Site Inspection |
|-----------|--------------|---------------------------|-----------------|
|           | 24-hours TSP | L <sub>Aeq</sub> , 30 min |                 |
| 1-May-17  | Mon          |                           |                 |
| 2-May-17  | Tue          |                           |                 |
| 3-May-17  | Wed          |                           |                 |
| 4-May-17  | Thu          |                           |                 |
| 5-May-17  | Fri          |                           |                 |
| 6-May-17  | Sat          |                           |                 |
| 7-May-17  | Sun          |                           |                 |
| 8-May-17  | Mon          |                           |                 |
| 9-May-17  | Tue          |                           |                 |
| 10-May-17 | Wed          |                           |                 |
| 11-May-17 | Thu          |                           |                 |
| 12-May-17 | Fri          |                           |                 |
| 13-May-17 | Sat          |                           |                 |
| 14-May-17 | Sun          |                           |                 |
| 15-May-17 | Mon          |                           |                 |
| 16-May-17 | Tue          |                           |                 |
| 17-May-17 | Wed          |                           |                 |
| 18-May-17 | Thu          |                           |                 |
| 19-May-17 | Fri          |                           |                 |
| 20-May-17 | Sat          |                           |                 |
| 21-May-17 | Sun          |                           |                 |
| 22-May-17 | Mon          |                           |                 |
| 23-May-17 | Tue          |                           |                 |
| 24-May-17 | Wed          |                           |                 |
| 25-May-17 | Thu          |                           |                 |
| 26-May-17 | Fri          |                           |                 |
| 27-May-17 | Sat          |                           |                 |
| 28-May-17 | Sun          |                           |                 |
| 29-May-17 | Mon          |                           |                 |
| 30-May-17 | Tue          |                           |                 |
| 31-May-17 | Wed          |                           |                 |

|  |                |
|--|----------------|
|  | Public Holiday |
|  | Monitoring Day |

**Monitoring Details**

| Monitoring  | Locations  | Parameters   |
|-------------|--|--|
| Air Quality | DMS-1 -<br>C.U.H.K.A.A<br>Thomas Cheung<br>School, DMS-2 -<br>Price Memorial<br>Catholic Primary<br>School       | 24-hour TSP  |
| Noise       | NMS-CA-1 -<br>C.U.H.K.A.A<br>Thomas Cheung<br>School, NMS-CA-2 -<br>Price Memorial<br>Catholic Primary<br>School | L <sub>Aeq</sub> (30 min), L <sub>10</sub> , L <sub>90</sub> |

## Appendix C

---

Environmental  
Mitigation  
Implementation  
Schedule (EMIS)

## Environmental Mitigation Implementation Schedule – Works Contract 1103

Note: Chapters 1 to 3 of the EIA report present the background information of the Project, identified concurrent projects, objectives and scope for various environmental aspects, and description on alternative options and construction description. Chapters 4 to 14 of the EIA report present the EIA findings and mitigation measures are described below with cross-reference to the EIA report for the reporting month. Chapters 15 & 16 describe the environmental monitoring requirements and conclusion.

| EIA Ref.                                | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concerns to address             | Location of the measures                    | When to implement the measures?        | What requirements or standards for the measures to achieve?   | Implementation Status |
|---|--------------|---|---|---|--|---|-----------------------|
| <b>Ecology (Pre-Construction Phase)</b> |              |   |   |   |  |   |                       |
| S5.4                                    | E1           | Engineering works should not encroach into country park boundary, Tei Lung Hau Stream and secondary woodland near the portal at Hin Keng  | Minimize ecological impacts   | Lion Rock Country Park, Tei Lung Hau Stream | Detailed design and construction stage | <ul style="list-style-type: none"> <li>•AFCD's requirements</li> <li>•EIAO</li> <li>•Country Parks Ordinance</li> </ul> | ✓                     |
|   | E2           | <p><u>Habitat Loss</u></p> <p>A detailed vegetation survey should be conducted in the Hin Keng Portal area to locate and enumerate individuals of <i>Aquilaria sinensis</i> which will potentially be affected by construction and operation of the Portal.</p> <p>A suitable site for transplanting all affected individuals within the footprint area should be identified and assessed for its suitability. A transplantation plan should then be drawn up and details of the transplantation methodologies and programme along with post-transplantation monitoring should be included.</p> | Minimize ecological impacts on important species                              | Hin Keng Portal areas                       | Prior to site clearance                | <ul style="list-style-type: none"> <li>•AFCD's requirements</li> </ul>  | ✓                     |
| S5.7                                    | E3           | <p><u>Tree felling and vegetation removal</u></p> <p>Precautionary checks of the vegetation for the presence of nesting bird species of conservation interest should be carried out before vegetation clearance by an ecologist.</p>  | Minimize ecological impacts to breeding bird species of conservation interest | Works sites for DIH                         | Prior to site clearance                | <ul style="list-style-type: none"> <li>•AFCD's requirements</li> </ul>  | N/A                   |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref.                            | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve? | Implementation Status   |
|-------------------------------------|--------------|--|---|--------------------------|---------------------------------|---|---|
| <b>Ecology (Construction Phase)</b> |              |  |   |                          |                                 |   |   |
| S5.7                                | E5           | <p><u>Good Site Practices</u></p> <p>Impact to any habitats or local fauna should be avoided by implementing good site practices, including the containment of silt runoff within the site boundary, the 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.</p> <p>The following good site practices should also be implemented:</p> <ul style="list-style-type: none"> <li>• Erection of temporary geotextile silt or sediment fences/oil traps around any earth-moving works to trap any sediments and prevent them from entering watercourses in particular the Tei Lung Hau stream;</li> <li>• Avoidance of soil storage against trees or close to waterbodies in particular the Tei Lung Hau stream;</li> <li>• Delineation of works site by erecting hoardings to prevent encroachment onto adjacent habitats and fence off areas which have some ecological value e.g. Tei Lung Hau Stream and the adjoining secondary woodland, tunnel on hill at top of slope stabilisation works;</li> <li>• No on-site burning of waste;</li> <li>• Waste and refuse in appropriate receptacles.</li> </ul> | Minimize ecological impacts                                       | All construction sites   | Construction stage              |   | <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">Rdr</p> |



**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address  | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve?      | Implementation Status                           |
|----------|--------------|--|--|--------------------------|---------------------------------|--|---|
| S5.7     | E7           | <p><u>Water Quality and Hydrology</u></p> <ul style="list-style-type: none"> <li>Implement water control measures (ETWB TCW No. 5/2005, Protection of natural streams/ rivers from adverse impacts arising from construction works to avoid direct or indirect impacts on the Tei Lung Hau Stream) and good site practices.</li> <li>Canopy tubes should be installed from the shaft structure and extend the full width of the stream. These canopy tubes with sieves along its length should be grouted and form a stable and low permeable 'umbrella' for further mining works to be carried out in stages. The canopy tubes beneath the stream area are within Completely Decomposed Granite (CDG) stratum.</li> </ul> | <ul style="list-style-type: none"> <li>Avoid indirect water impact to any wetland habitats or wetland fauna</li> <li>Minimize the drawdown of water table</li> </ul> | Works area in Hin Keng   | Construction stage              | <ul style="list-style-type: none"> <li>TCW No. 5/2005</li> </ul> | <p align="center">✓</p> <p align="center">✓</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref.  | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve? | Implementation Status   |
|---|--------------|--|---|--------------------------|---------------------------------|---|---|
| <b><i>Landscape and Visual (Construction Phase)</i></b> |              |  |   |                          |                                 |   |   |
| S6.9.3  | LV1          | <p>The following good site practices and measures for minimisation and avoidance of potential impacts are recommended:</p> <p><u>Re-use of Existing Soil</u></p> <ul style="list-style-type: none"> <li>For soil conservation, existing topsoil shall be re-used where possible for new planting areas within the project. The construction program shall consider using the soil removed from one phase for backfilling another. Suitable storage ground, gathering ground and mixing ground may be set up on-site as necessary.</li> </ul> <p><u>No-intrusion Zone</u></p> <ul style="list-style-type: none"> <li>To maximize protection to existing trees, ground vegetation and the associated under storey habitats, construction contracts may designate “No-intrusion Zone” to various areas within the site boundary with rigid and durable fencing for each individual no-intrusion zone. The contractor should closely monitor and restrict the site working staff from entering the “no-intrusion zone”, even for indirect construction activities and storage of equipment.</li> </ul> <p><u>Protection of Retained Trees</u></p> <ul style="list-style-type: none"> <li>All retained trees should be recorded photographically at the commencement of the Contract, and carefully protected during the construction period. Detailed tree protection specification shall be allowed and included in the Contract Specification, which specifying the tree protection requirement, submission and approval system, and the tree monitoring system.</li> <li>The Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees</li> </ul> | Minimize visual & landscape impact                                | Within Project Site      | Construction stage              | TM-EIAO   | <p align="center">✓</p> <p align="center">Rdr</p> <p align="center">Rdr</p> <p align="center">✓</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures | When to implement the measures?        | What requirements or standards for the measures to achieve? | Implementation Status   |
|----------|--------------|---|---|--------------------------|--|---|---|
|          |              | prior to undertaking any works adjacent to all retained trees, including trees in contractor's works sites.   |   |                          |  |   |   |
| S6.12    | LV2          | <ul style="list-style-type: none"> <li>• <u>Decorative Hoarding</u><br/>Erection of decorative screen during construction stage to screen off undesirable views of the construction site for visual and landscape sensitive areas. Hoarding should be designed to be compatible with the existing urban context.</li> <li>• <u>Management of facilities on work sites</u><br/>To provide proper management of the facilities on the sites, give control on the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs.</li> <li>• <u>Tree Transplanting</u><br/>Trees of high to medium survival rate would be affected by the works shall be transplanted where possible and practicable. Tree transplanting proposal including final location for transplanted trees shall be submitted separately to seek relevant government department's approval, in accordance with ETWB TCW No 3/2006.</li> </ul> | Minimize visual & landscape impact                                | Within Project Site      | Detailed design and construction stage | EIAO – TM<br>ETWB TCW 2/2004<br>ETWB TCW 3/2006             | <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref.                                | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address   | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve?              | Implementation Status |
|---|--------------|--|---|--------------------------|---------------------------------|--|-----------------------|
| <b>Air Quality (Construction Phase)</b> |              |  |   |                          |                                 |  |                       |
| -                                       | A1           | Emission from Vehicles and Plants <ul style="list-style-type: none"> <li>• All vehicles shall be shut down in intermittent use.</li> <li>• Only well-maintained plant should be operated on-site and</li> <li>• plant should be serviced regularly to avoid emission of</li> <li>• black smoke.</li> <li>• All diesel fuelled construction plant within the works areas shall be powered by ultra-low sulphur diesel fuel (ULSD)</li> </ul>  | Reduce air pollution emission from construction vehicles and plants | All construction sites   | Construction stage              | • APCO   | ✓                     |
|   |              | Open burning shall be prohibited   | Reduce air pollution emission from work site                        | All construction sites   | Construction stage              | • APCO   | ✓                     |
| <b>Construction Dust Impact</b>         |              |  |   |                          |                                 |  |                       |
| 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              | All construction sites   | Construction stage              | • APCO<br>• To control the dust impact to meet HKAQO and TM-EIA criteria | Rdr                   |
| S7.6.5                                  | D2           | <ul style="list-style-type: none"> <li>• Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road in the Kowloon area and once per 1.5 hour at those in the Tai Wai 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</li> </ul> | Minimize dust impact at the nearby sensitive receivers              | All construction sites   | Construction stage              | • APCO<br>• To control the dust impact to meet HKAQO and TM-EIA criteria | Rdr                   |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve?  | Implementation Status   |
|----------|--------------|---|---|--------------------------|---------------------------------|--|---|
|          |              | maintain an equivalent intensity of no less than 1.8 L/m <sup>2</sup> to achieve the dust removal efficiency  |   |                          |                                 |  |   |
| S7.6.5   | D3           | <ul style="list-style-type: none"> <li>• Proper watering of exposed spoil should be undertaken throughout the construction phase:</li> <li>• Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</li> <li>• Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>• A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones.</li> <li>• The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;</li> <li>• 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;</li> <li>• 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</li> </ul> | Minimize dust impact at the nearby sensitive receivers            | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>• APCO</li> <li>• To control the dust impact to meet HKAQO and TM-EIA criteria</li> </ul> | <p align="center">Rdr</p> <p align="center">Rdr</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve? | Implementation Status   |
|----------|--------------|--|---|--------------------------|---------------------------------|---|---|
|          |              | <p>period;</p> <ul style="list-style-type: none"> <li>• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;</li> <li>• Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously;</li> <li>• Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;</li> <li>• Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;</li> <li>• Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>• Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;</li> </ul> |   |                          |                                 |   | <p align="center">✓</p> <p align="center">✓</p> <p align="center">N/A</p> <p align="center">✓</p> <p align="center">✓</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures                        | When to implement the measures? | What requirements or standards for the measures to achieve? | Implementation Status   |
|----------|--------------|---|---|---|---------------------------------|---|---|
|          |              | <ul style="list-style-type: none"> <li>• 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;</li> <li>• 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</li> <li>• Exposed earth should be properly treated by compaction, turving, 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.</li> </ul> |   |   |                                 |   | <p align="center">✓</p> <p align="center">✓</p> <p align="center">N/A</p> |
| S7.6.5   | D6           | Implement regular dust monitoring under EM&A programme during the construction stage.   | Monitoring of dust impact   | Selected representative dust monitoring station | Construction stage              | • TM-EIA  | <p align="center">✓</p>   |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref.                             | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address                         | Location of the measures                 | When to implement the measures? | What requirements or standards for the measures to achieve? | Implementation Status   |
|--------------------------------------|--------------|--|---|--|---------------------------------|---|---|
| <b>Construction Noise (Airborne)</b> |              |  |   |  |                                 |   |   |
| S8.3.6                               | N1           | Implement the following good site practices: <ul style="list-style-type: none"> <li>• only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>• 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;</li> <li>• plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;</li> <li>• silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> <li>• mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>• material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul> | Control construction airborne noise   | All construction sites                   | Construction stage              | • Annex 5, TM-EIA   | <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> |
| 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 construction period.   | Reduce the construction noise levels at low-level zone of NSRs through partial screening. | All construction sites                   | Construction stage              | • Annex 5, TM-EIA   | <p align="center">✓</p>   |
| 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  | Screen the noisy plant items to be used at all construction sites                         | All construction sites where practicable | Construction stage              | • Annex 5, TM-EIA   | <p align="center">Rdr</p>   |

Notes (\*): ✓ - Compliance; N/A – Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C – Non Compliance



**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| <b>EIA Ref.</b> | <b>EM&amp;A Log Ref</b> | <b>Recommended Mitigation Measures</b>                         | <b>Objectives of the Recommended Measures &amp; Main Concerns to address</b>             | <b>Location of the measures</b>                  | <b>When to implement the measures?</b> | <b>What requirements or standards for the measures to achieve?</b> | <b>Implementation Status</b> |
|-----------------|-------------------------|--|--|--|--|--|------------------------------|
|                 |                         | saw.   |  |  |  |  |                              |
| S8.3.6          | N4                      | Use “Quiet plants”   | Reduce the noise levels of plant items   | All construction sites where practicable         | Construction stage                     | • Annex 5, TM-EIA  | ✓                            |
| S8.3.6          | N5                      | Sequencing operation of construction plants where practicable. | Operate sequentially within the same work site to reduce the construction airborne noise | All construction sites where practicable         | Construction stage                     | • Annex 5, TM-EIA  | ✓                            |
| S8.3.6          | N6                      | Implement a noise monitoring under EM&A programme.             | Monitor the construction noise levels at the selected representative locations           | Selected representative noise monitoring station | Construction stage                     | • TM-EIA   | ✓                            |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref.                                  | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concerns to address                                  | Location of the measures                 | When to implement the measures? | What requirements or standards for the measures to achieve?  | Implementation Status   |
|---|--------------|---|--|--|---------------------------------|--|---|
| <b>Water Quality (Construction Phase)</b> |              |   |  |  |                                 |  |   |
| S10.7.1                                   | W1           | <p>In accordance with the Practice Noise for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following:</p> <p><u>Construction Runoff and Site Drainage</u></p> <ul style="list-style-type: none"> <li>At the start of site establishment (including the barging facilities), perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction.</li> <li>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.</li> <li>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<sup>3</sup>/s a sedimentation basin of 30m<sup>3</sup> would be required and for a flow rate of 0.5 m<sup>3</sup>/s the basin would be 150 m<sup>3</sup>. The detailed design of the sand/silt traps shall be undertaken by the contractor prior to the</li> </ul> | To minimize water quality impact from construction site runoff and general construction activities | All construction sites where practicable | Construction stage              | <ul style="list-style-type: none"> <li>Water Pollution Control Ordinance</li> <li>ProPECC PN1/94</li> <li>TM-EIAO</li> <li>TM-Water</li> </ul> | <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve? | Implementation Status   |
|----------|--------------|--|---|--------------------------|---------------------------------|---|---|
|          |              | <p>commencement of construction.</p> <ul style="list-style-type: none"> <li>• All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means.</li> <li>• The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows.</li> <li>• All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.</li> <li>• Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.</li> <li>• Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m<sup>3</sup> 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.</li> <li>• Manholes (including newly constructed ones) should always be</li> </ul> |   |                          |                                 |   | <p align="center">✓</p> <p align="center">✓</p> <p align="center">Rdr</p> <p align="center">✓</p> <p align="center">✓</p> |

Notes (\*): ✓ - Compliance; N/A – Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C – Non Compliance

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve? | Implementation Status   |
|----------|--------------|--|---|--------------------------|---------------------------------|---|---|
|          |              | <p>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.</p> <ul style="list-style-type: none"> <li>• Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.</li> <li>• All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing 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.</li> <li>• 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.</li> <li>• Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.</li> <li>• All fuel tanks and storage areas should be provided with locks</li> </ul> |   |                          |                                 |   | <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">Rdr</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address  | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve?   | Implementation Status   |
|----------|--------------|--|--|--------------------------|---------------------------------|---|---|
|          |              | <p>and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby.</p> <ul style="list-style-type: none"> <li>All the earth works involving should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.</li> <li>Adopt best management practices</li> </ul>  |  |                          |                                 |   | <p align="center">✓</p> <p align="center">Rdr</p>   |
| S10.7.1  | W2           | <p><u>Tunnelling Works</u></p> <ul style="list-style-type: none"> <li>Cut-&amp;-cover/ open cut tunnelling work should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.</li> <li>Uncontaminated discharge should pass through sedimentation tanks prior to off-site discharge</li> <li>The wastewater with a high concentration of SS should be treated (e.g. by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater.</li> <li>Direct discharge of the bentonite slurry (as a result of D-wall and bored tunnelling construction) is not allowed. It 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 are completed. The requirements in ProPECC PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.</li> </ul> | To minimize construction water quality impact from tunneling works | All tunneling portion    | Construction stage              | <ul style="list-style-type: none"> <li>Water Pollution Control Ordinance</li> <li>ProPECC PN 1/94</li> <li>TM-water</li> <li>TM-EIAO</li> </ul> | <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures                       | When to implement the measures? | What requirements or standards for the measures to achieve?  | Implementation Status   |
|----------|--------------|--|---|--|---------------------------------|--|---|
| S10.7.1  | W3           | <p><u>Sewage Effluent</u></p> <ul style="list-style-type: none"> <li>• Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</li> </ul>   | To minimize water quality from sewage effluent                    | All construction sites where practicable       | Construction stage              | <ul style="list-style-type: none"> <li>• Water Pollution Control Ordinance</li> <li>• TM-water</li> </ul>                    | ✓   |
| S10.7.1  | W4           | <p><u>Groundwater from Contaminated Area:</u></p> <ul style="list-style-type: none"> <li>• No direct discharge of groundwater from contaminated areas should be adopted. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed with reference to the site investigation data in this EIA report for compliance to the Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters (TM-Water) and the existence of prohibited substance should be confirmed. The review results should be submitted to EPD for examination. If the review results indicated 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.</li> <li>• 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. TPH) to undetectable range. All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-Water and should be discharged into the foul sewers.</li> <li>• If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the</li> </ul> | To minimize groundwater quality impact from contaminated area     | Excavation areas where contamination is found. | Construction stage              | <ul style="list-style-type: none"> <li>• Water Pollution Control Ordinance</li> <li>• TM-water</li> <li>• TM-EIAO</li> </ul> | <p align="center">N/A</p> <p align="center">N/A</p> <p align="center">N/A</p> |

Notes (\*): ✓ - Compliance; N/A – Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C – Non Compliance

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures                 | When to implement the measures? | What requirements or standards for the measures to achieve?  | Implementation Status   |
|----------|--------------|---|---|--|---------------------------------|--|---|
|          |              | <p>contaminated groundwater back into the ground. The 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, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited 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 WPCO through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater.</p> |   |  |                                 |  |   |
| S10.7.1  | W7           | <p>In order to prevent accidental spillage of chemicals, the following is recommended:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation.</li> </ul>  | To minimize water quality impact from accidental spillage         | All construction sites where practicable | Construction stage              | <ul style="list-style-type: none"> <li>• Water Pollution Control Ordinance</li> <li>• ProPECC PN1/94</li> <li>• TM-EIAO</li> <li>• TM-Water</li> </ul> | <p align="center">Rdr</p> <p align="center">✓</p> <p align="center">Rdr</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref.                                     | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concerns to address   | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve?   | Implementation Status |
|--|--------------|---|---|--------------------------|---------------------------------|---|-----------------------|
| <b>Waste Management (Construction Phase)</b> |              |   |   |                          |                                 |   |                       |
| S11.4.1.1                                    | WM1          | <p><u>On-site sorting of C&amp;D material</u></p> <ul style="list-style-type: none"> <li>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 at designated stockpile areas preventing them from delivering to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from ended up at concrete batching plants and be turned into concrete for structural use. Details regarding control measures at source site 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 and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced 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.</li> </ul> | Separation of unsuitable rock from ending up at concrete batching plants and be turned into concrete for structural use                               | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>DEVB TC(W) No. 6/2010</li> </ul>   | ✓                     |
| S11.5.1                                      | WM2          | <p><u>Construction and Demolition Material</u></p> <ul style="list-style-type: none"> <li>Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>Carry out on-site sorting;</li> <li>Make provisions in the Contract documents to allow and</li> </ul>   | Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>Land (Miscellaneous Provisions) Ordinance</li> <li>Waste Disposal Ordinance</li> </ul> | ✓<br><br>✓            |

Notes (\*): ✓ - Compliance; N/A – Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C – Non Compliance



**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concerns to address   | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve?   | Implementation Status   |
|----------|--------------|---|---|--------------------------|---------------------------------|---|---|
|          |              | <p>promote the use of recycled aggregates where appropriate;</p> <ul style="list-style-type: none"> <li>• Adopt ‘Selective Demolition’ technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;</li> <li>• Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified; and</li> <li>• 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&amp;D materials and to minimize their generation during the course of construction.</li> <li>• In addition, disposal of the C&amp;D materials onto 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 its approval before implementation</li> </ul> |   |                          |                                 | <ul style="list-style-type: none"> <li>• ETWB TCW No. 19/2005</li> </ul>  | <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> <p align="center">✓</p> |
| S11.5.1  | WM3          | <p><u>C&amp;D Waste</u></p> <ul style="list-style-type: none"> <li>• Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&amp;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, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage.</li> <li>• The Contractor should recycle as much of the C&amp;D materials as possible on-site. Public fill and C&amp;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</li> </ul>  | Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>• Land (Miscellaneous Provisions) Ordinance</li> <li>• Waste Disposal Ordinance</li> <li>• ETWB TCW No. 19/2005</li> </ul> | <p align="center">✓</p> <p align="center">✓</p>   |

Notes (\*): ✓ - Compliance; N/A – Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C – Non Compliance

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address                  | Location of the measures         | When to implement the measures? | What requirements or standards for the measures to achieve?  | Implementation Status   |
|----------|--------------|--|--|----------------------------------|---------------------------------|--|---|
|          |              | 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          | <p><u>General Refuse</u></p> <ul style="list-style-type: none"> <li>• General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul> | Minimize production of the general refuse and avoid odour, pest and litter impacts | All construction sites           | Construction stage              | • Waste Disposal Ordinance   | <p align="center">✓</p> <p align="center">Rdr</p> <p align="center">✓</p> <p align="center">✓</p> |
| S11.5.1  | WM5          | <p><u>Excavated Contaminated Soils</u></p> <p>Details of the mitigation measures on handling of the contaminated soil shall be referred to Section on Land Contamination below.</p>  | To remediate contaminated soil   | Site L4 (Former Tai Hom Village) | Site remediation                | • Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boat yards and Car Repair/Dismantling Workshop. | <p align="center">✓</p>   |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address            | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve?  | Implementation Status                     |
|----------|--------------|--|--|--------------------------|---------------------------------|--|---|
| S11.5.1  | WM7          | <p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> <li>Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</li> <li>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; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation.</li> <li>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; 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; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated.</li> <li>Disposal of chemical waste should be via a licensed waste collector; be 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 be to a reuser of the waste, under approval from the EPD.</li> </ul> | Control the chemical waste and ensure proper storage, handling and disposal. | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>Waste Disposal (Chemical Waste) (General) Regulation</li> <li>Code of Practice on the Packaging, Labelling and Storage of Chemical Waste</li> </ul> | <p>Rdr</p> <p>Rdr</p> <p>✓</p> <p>Rdr</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref.     | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the Recommended Measures & Main Concerns to address | Location of the measures | When to implement the measures? | What requirements or standards for the measures to achieve?   | Implementation Status      |
|--------------|--------------|---|---|--------------------------|---------------------------------|---|----------------------------|
| S14.2        | EM1          | An Independent Environmental Checker needs to be employed as per the EM&A Manual.   | Control EM&A Performance  | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>• EIAO Guidance Note No.4/2010</li> <li>• TM-EIAO</li> </ul> | ✓                          |
| S14.2 – 14.4 | EM2          | <p>1) An Environmental Team needs to be employed as per the EM&amp;A Manual.</p> <p>2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures.</p> <p>3) An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&amp;A Manual are fully complied with.</p> | Perform environmental monitoring & auditing                       | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>• EIAO Guidance Note No.4/2010</li> <li>• TM-EIAO</li> </ul> | <p>✓</p> <p>✓</p> <p>✓</p> |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| <b>EIA Ref.</b> | <b>EM&amp;A Log Ref</b>       | <b>Recommended Mitigation Measures</b>   | <b>Objectives of the Recommended Measures &amp; Main Concerns to address</b>                               | <b>Location of the measures</b>                               | <b>When to implement the measures?</b> | <b>What requirements or standards for the measures to achieve?</b> | <b>Implementation Status</b> |
|-----------------|-------------------------------|--|--|---|--|--|------------------------------|
| Chapter 13.13   | A13A.1 0.2.1 and A13A.1 0.2.4 | The truck design should comply with the Requirements for Approval of an Explosives Delivery Vehicle (CEDD 2) and limit the amount of combustibles in the cabin. This should be combined with monthly vehicle inspection  | To meet the ALARP requirement.   | Explosive Magazine  | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.2                  | Blasting activities including storage, transport and use of explosives should be supervised and audited by competent site staff to ensure strict compliance with the blasting permit conditions.   | To ensure that the risks from the proposed explosives storage, transport and use would not be unacceptable | Works areas at which explosives would be stored and/or used.  | Construction phase                     | •Dangerous Goods Ordinance   | N/A                          |
| Chapter 13.13   | A13A.1 0.2.1 and A13A.1 0.2.5 | Only the required quantity of explosives for a particular blast should be transported to avoid the return of unused explosives to the temporary magazines. The number of return trips to the magazine should be minimized.<br><br>If disposal is required for small quantities, disposal should be made in a controlled and safe manner by a Registered Shotfirer. | To reduce the risk during explosives transport.  | Works areas at which explosives would be stored and/ or used. | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.1                  | A minimum headway between two consecutive truck conveys of at least 10 min is recommended.   | To ensure that the risk from the proposed explosives transport would not be unacceptable                   | Along explosives transport route.                             | Construction phase.                    |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.1                  | The explosive truck accident frequency should be minimized by implementing a dedicated training programme for both the driver and his attendants, including regular briefing sessions, implementation of a defensive driving attitude. In addition, drivers should be selected based on good safety record, and medical checks.                                    | To meet the ALARP requirement.   | -   | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.1                  | The explosive truck fire involvement frequency should be minimized by implementing a better emergency response and training to make  | To meet the ALARP requirement.   | -   | Construction phase                     |  |                              |

Notes (\*): ✓ - Compliance; N/A – Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C – Non Compliance

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| <b>EIA Ref.</b> | <b>EM&amp;A Log Ref</b> | <b>Recommended Mitigation Measures</b>   | <b>Objectives of the Recommended Measures &amp; Main Concerns to address</b>                          | <b>Location of the measures</b>   | <b>When to implement the measures?</b> | <b>What requirements or standards for the measures to achieve?</b> | <b>Implementation Status</b> |
|-----------------|-------------------------|--|---|-----------------------------------|--|--|------------------------------|
|                 |                         | sure the adequate fire extinguishers are used and attempt is made to evacuate the area of the incident or securing the explosive load if possible. All explosive vehicles should also be equipped with the required amount and type of fire extinguishers and shall be agreed with Mines Division. |   |                                   |  |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.1            | The contractor should as far as practicable combine the explosive deliveries for a given work area.  | To meet the ALARP requirement.  | -                                 | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.1            | The Contractor should as far as practicable use the preferred transport route.   | To ensure that the risk from the proposed explosives transport would not be unacceptable              | Along explosives transport route. | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.1            | The Contractor should coordinate explosives deliveries with the delivery of chlorine to Shatin Water Treatment Works in order to avoid overlapping.  | To ensure that the risk from the proposed explosives transport would not be unacceptable              | Along explosives transport route. | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.4            | Use only experienced driver(s) with good safety record for explosive vehicle(s). Training should be provided to ensure it covers all major safety subjects.  | To ensure safe transport of explosives  | At suitable location              | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.4            | Develop procedure to ensure that parking space on the site is available for the explosive truck. Confirmation of parking space should be communicated to truck drivers before delivery.  | To ensure that the risks from the proposed explosives storage and transport would not be unacceptable | Explosive magazine                | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.3            | Delivery vehicles shall not be permitted to remain unattended within the magazine site (or appropriately wheel-locked).  | To reduce the risk of fire within the magazine  | Explosive Magazine                | Construction phase                     |  | N/A                          |

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| <b>EIA Ref.</b> | <b>EM&amp;A Log Ref</b> | <b>Recommended Mitigation Measures</b>  | <b>Objectives of the Recommended Measures &amp; Main Concerns to address</b> | <b>Location of the measures</b>                          | <b>When to implement the measures?</b> | <b>What requirements or standards for the measures to achieve?</b> | <b>Implementation Status</b> |
|-----------------|-------------------------|---|--|--|--|--|------------------------------|
| Chapter 13.13   | A13A.1 0.2.3            | Good house-keeping within and outside of the magazine to ensure that combustible materials (including vegetation) are removed and not allowed to accumulate.  | To reduce the risk of fire within the magazine                               | Explosive Magazine                                       | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.4            | Detonators shall not be transported in the same vehicle with other Class 1 explosives   | To reduce the risk of explosion during the transport of cartridged emulsion  | -  | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.2            | Emergency plan (ie magazine operational manual) shall be developed to address uncontrolled fire in magazine area. The case of fire near an explosive carrying truck in jammed traffic should also be covered. Drill of the emergency plan should be carried out at regular intervals. | To reduce the risk of fire   | Explosive Magazine and along explosives transport route. | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.2            | The magazine storage quantities need to be reported on a monthly basis to ensure that the two day storage capacity is not exceeded.   | To reduce the risk within the magazine                                       | Temporary explosives magazine                            | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.2            | Adverse weather working guideline should be developed to clearly define procedure for transport explosives during thunderstorm.   | To ensure safe transport of explosives                                       | Along explosives transport route.                        | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.4            | During transport of the explosives within the tunnel, hot work should not be permitted  | To ensure safe transport of explosives                                       | Along explosives transport route.                        | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1 0.2.4            | Ensure that packaging of detonators remains intact until handed over at blasting site.  | To reduce the risk of explosion during the                                   | -  | Construction phase                     |  | N/A                          |

Notes (\*): ✓ - Compliance; N/A – Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C – Non Compliance

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| <b>EIA Ref.</b> | <b>EM&amp;A Log Ref</b> | <b>Recommended Mitigation Measures</b>  | <b>Objectives of the Recommended Measures &amp; Main Concerns to address</b>                          | <b>Location of the measures</b> | <b>When to implement the measures?</b> | <b>What requirements or standards for the measures to achieve?</b> | <b>Implementation Status</b> |
|-----------------|-------------------------|---|---|---------------------------------|--|--|------------------------------|
|                 |                         |   | transport of detonator  |                                 |  |  |                              |
| Chapter 13.13   | A13A.1<br>0.2.4         | Steel vehicle tray welded to a steel vertical fire screen should be mounted at least 150 mm behind the drivers cab and 100 mm from the steel cargo compartment, the vertical screen shall protrude 150 mm in excess of all three (3) sides of the steel cargo compartment   | To reduce the risk during explosives transport.   | -                               | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1<br>0.2.5         | Ensure cartridge emulsion with high water content should be preferred. Also, the emulsion with perchlorate formulation should be avoided.   | To ensure safe explosives to be used  | -                               | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1<br>0.2.3         | Traffic Management should be implemented within the temporary magazine site, to ensure that no more than 1 vehicle will be loaded at any time, in order to avoid accidents involving multiple vehicles within the site boundary. Based on the construction programme, considering that 6 trucks could be loaded over a peak 2 hour period, this is considered feasible. | To ensure that the risks from the proposed explosives storage and transport would not be unacceptable | Temporary explosives magazine   | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1<br>0.2.3         | The design of the fill slope close to the temporary magazine site should consider potential washout failures and incorporate engineering measures to prevent a washout causing damage to the temporary magazine stores  | To ensure that the risks from the proposed explosives storage would not be unacceptable               | Temporary explosives magazine   | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1<br>0.2.2         | The security plan should address different alert security level to reduce opportunity for arson / deliberate initiation of explosives. The corresponding security procedure should be implemented with respect to prevailing security alert status announced by the Government.   | To ensure that the risks from the proposed explosives storage would not be unacceptable               | Temporary explosives magazine   | Construction phase                     |  | N/A                          |



**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| <b>EIA Ref.</b> | <b>EM&amp;A Log Ref</b> | <b>Recommended Mitigation Measures</b>   | <b>Objectives of the Recommended Measures &amp; Main Concerns to address</b>            | <b>Location of the measures</b> | <b>When to implement the measures?</b> | <b>What requirements or standards for the measures to achieve?</b> | <b>Implementation Status</b> |
|-----------------|-------------------------|--|---|---------------------------------|--|--|------------------------------|
| Chapter 13.13   | A13A.1<br>0.2.3         | A suitable work control system should be introduced, such as an operational manual including Permit-to-Work system.  | To ensure that the risks from the proposed explosives storage would not be unacceptable | Temporary explosives magazine   | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13A.1<br>0.2.3         | The magazine building shall be regularly checked for water seepage through the roof, walls or floor.   | To ensure that the risks from the proposed explosives storage would not be unacceptable | Temporary explosives magazine   | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13B.7<br>.2            | Blast charge weight (MIC) should be within the maximum MIC as specified for the given section.   | To ensure safe use of explosives  | Along tunnel alignment          | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13B.7<br>.2            | Temporary mitigation measures such as blast doors or heavy duty blast curtains should be installed at the access adits, shafts/ portals and at suitable locations underground to prevent flyrock and control the air overpressure. | To ensure safe use of explosives  | Along tunnel alignment          | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13B.7<br>.2            | Blasting from multiple faces as well as different locations will be carried out for this project. Good communication and control will need to be adopted in ensuring that the works are carried out safely.                        | To ensure safe use of explosives  | Along tunnel alignment          | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13B.7<br>.2            | It is intended that complete evacuation of the underground tunnels need not be carried out and secure refuge areas should be identified to workers in the area.  | To ensure safe use of explosives  | Along tunnel alignment          | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13B.7<br>.2            | A Chief Shotfirer and a Blasting Coordinator shall be employed in addition to the normal blasting personnel to ensure that the works are safe and coordinated between blasting areas and between adjacent contracts.               | To ensure safe use of explosives  | Along tunnel alignment          | Construction phase                     |  | N/A                          |
| Chapter         | A13B.7                  | Shotfirer to be provided with a lightning detector, and appropriate  | To ensure safe use of   | Along tunnel                    | Construction                           |  | N/A                          |

Notes (\*): ✓ - Compliance; N/A – Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C – Non Compliance

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| <b>EIA Ref.</b> | <b>EM&amp;A Log Ref</b> | <b>Recommended Mitigation Measures</b>   | <b>Objectives of the Recommended Measures &amp; Main Concerns to address</b> | <b>Location of the measures</b> | <b>When to implement the measures?</b> | <b>What requirements or standards for the measures to achieve?</b> | <b>Implementation Status</b> |
|-----------------|-------------------------|--|--|---------------------------------|--|--|------------------------------|
| 13.13           | .2                      | control measures should be in place.   | explosives   | alignment                       | phase                                  |  |                              |
| Chapter 13.13   | A13B.7 .2               | A speed limit for the diesel vehicle truck and bulk emulsion truck in the tunnel should be enforced. The truck may be escorted while underground to ensure route is clear from hazards and obstructions.   | To ensure safe use of explosives   | Along tunnel alignment          | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13B.7 .2               | Hot work should be suspended during passage of the diesel vehicle truck and bulk emulsion truck in the tunnel.   | To ensure safe use of explosives   | Along tunnel alignment          | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13B.7 .2               | For any construction works related to use of explosives near gas facilities and gas pipes, the requirements of the Code of Practice on Avoiding Danger from Gas Pipes must be respected, in particular, to ensure liaison/coordination with HKCG with sufficient notice of planned works and to follow prescribed emergency procedures in case of leaks. | To ensure safe use of explosives   | Along tunnel alignment          | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13B.7 .2               | A detailed liaison between the contractor and HKCG should be established. HKCG should be notified about the blasting schedule in written format within a reasonable period of time prior to blasting in order to ensure the gas safety during the construction period. Also, liaison should be made with HKCG to develop an emergency plan.              | To ensure safe use of explosives   | Along tunnel alignment          | Construction phase                     |  | N/A                          |
| Chapter 13.13   | A13C.8                  | Installation of on-site gas monitors in all relevant SCL construction/operation areas;   | To reduce the risks to the SCL staff, construction workers and passengers    | -                               | Construction and operation phases      |  | N/A                          |
| Chapter 13.13   | A13C.8                  | Establishment of emergency response and evacuation plans (co-operation of various parties/departments required. For the operational phase the emergency plan should also include adequate procedures for controlling the tunnel ventilation system and stopping  | To reduce the risks to the SCL staff, construction workers and passengers    | -                               | Construction and operation phases      |  | N/A                          |

Notes (\*): ✓ - Compliance; N/A – Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C – Non Compliance

**Environmental Mitigation Implementation Schedule – Works Contract 1103**

| EIA Ref.      | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the Recommended Measures & Main Concerns to address         | Location of the measures | When to implement the measures?   | What requirements or standards for the measures to achieve? | Implementation Status |
|---------------|--------------|--|---|--------------------------|-----------------------------------|---|-----------------------|
|               |              | of the SCL train traffic in order to prevent the trains moving into the affected areas.) |   |                          |                                   |   |                       |
| Chapter 13.13 | A13C.8       | Safety/emergency response/evacuation training and drills for all personnel               | To reduce the risks to the SCL staff, construction workers and passengers | -                        | Construction and operation phases |   | N/A                   |

## Appendix D

---

Calibration  
Certificates for Air  
Monitoring  
Equipment

# Ove Arup Partners (Hong Kong) Limited

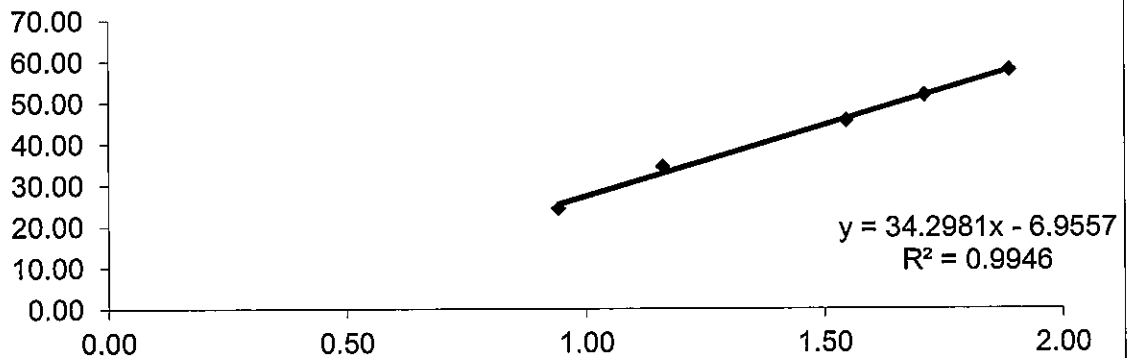
## High Volume Air Sampler Calibration Worksheet

|                       |                             |                     |           |
|-----------------------|-----------------------------|---------------------|-----------|
| Calibration date      | 7-Mar-17                    | Barometric pressure | 762 mm Hg |
| Next Calibration date | 6-May-17                    | Temperature (°C)    | 17.9 °C   |
| Sampler location      | DMS1 - Thomas Cheung School | Temperature (K)     | 290.9 K   |
| Sampler model         | TE-5170                     | P <sub>std</sub>    | 760 mm Hg |
| Sampler serial number | 3763                        | T <sub>std</sub>    | 298 K     |

|   |          |
|---|----------|
| Calibrator model                                | TE-5025A |
| Calibrator serial number                        | 2421     |
| Slope of the standard curve, m <sub>s</sub>     | 2.00576  |
| Intercept of the standard curve, b <sub>s</sub> | 0.00519  |

| Resistance Plate No. | Manometer Reading (inch H <sub>2</sub> O) | Flow Recorder Reading (CFM) | Calculated Q <sub>std</sub> (m <sup>3</sup> /min) | Continuous Flow Recorder Reading IC (CFM) |
|----------------------|---|-----------------------------|---|---|
| 5                    | 3.50                                      | 24.00                       | 0.94  | 24.32                                     |
| 7                    | 5.30                                      | 34.00                       | 1.16  | 34.46                                     |
| 10                   | 9.40                                      | 45.00                       | 1.55  | 45.61                                     |
| 13                   | 11.50                                     | 51.00                       | 1.71  | 51.69                                     |
| 18                   | 14.00                                     | 57.00                       | 1.89  | 57.77                                     |

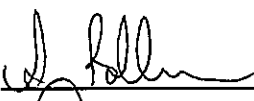

**Calibration Curve**



**Linear Regression**

Sampler slope (m) : **34.2981**  
 Sampler intercept (b) : **-6.9557**  
 Correlation coefficient (R<sup>2</sup>) : **0.9946**

**Correlation coefficient is greater than 0.9900 and the calibration result is accepted.**

Performed by:   
 Checked by: 

Date: 7 - March - 2017  
 Date: 7 Mar 2017

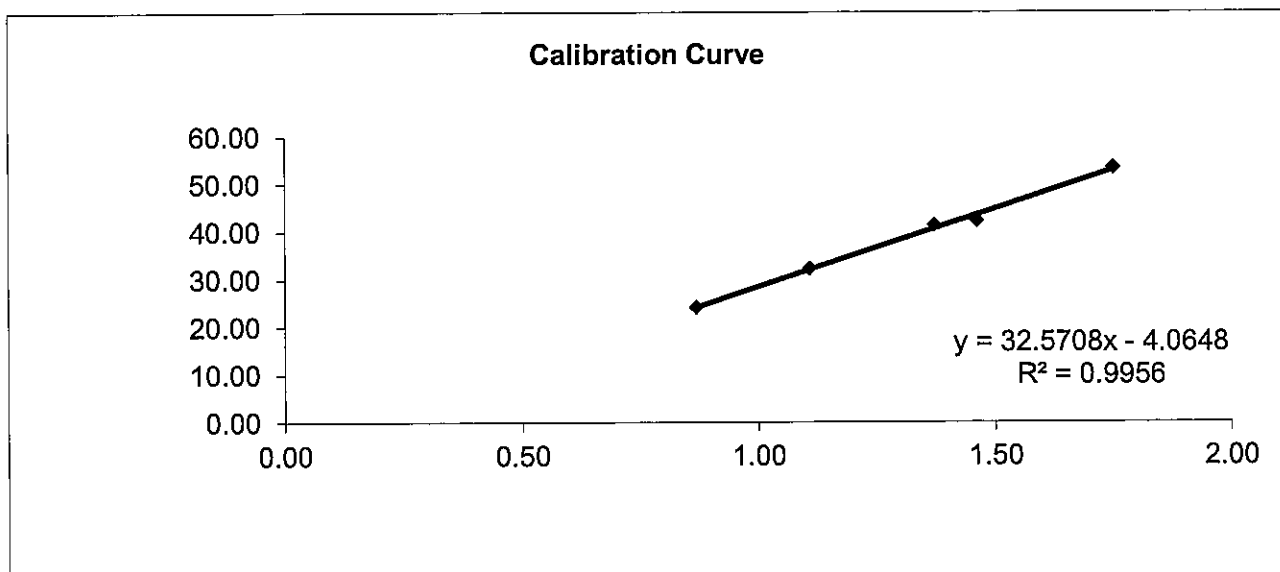
# Ove Arup Partners (Hong Kong) Limited

## High Volume Air Sampler Calibration Worksheet

|                       |                                    |                     |           |
|-----------------------|------------------------------------|---------------------|-----------|
| Calibration date      | 7-Mar-17                           | Barometric pressure | 760 mm Hg |
| Next Calibration date | 6-May-17                           | Temperature (°C)    | 21 °C     |
| Sampler location      | DMS2 - Price Memorial Catholic Pri | Temperature (K)     | 294 K     |
| Sampler model         | TE-5170                            | P <sub>std</sub>    | 760 mm Hg |
| Sampler serial number | 3761                               | T <sub>std</sub>    | 298 K     |

|   |          |
|---|----------|
| Calibrator model                                | TE-5025A |
| Calibrator serial number                        | 2421     |
| Slope of the standard curve, m <sub>s</sub>     | 2.00576  |
| Intercept of the standard curve, b <sub>s</sub> | 0.00519  |



| Resistance Plate No. | Manometer Reading (inch H <sub>2</sub> O) | Flow Recorder Reading (CFM) | Calculated Q <sub>std</sub> (m <sup>3</sup> /min) | Continuous Flow Recorder Reading IC (CFM) |
|----------------------|---|-----------------------------|---|---|
| 5                    | 3.00                                      | 24.00                       | 0.87  | 24.16                                     |
| 7                    | 4.90                                      | 32.00                       | 1.11  | 32.22                                     |
| 10                   | 7.50                                      | 41.00                       | 1.37  | 41.28                                     |
| 13                   | 8.50                                      | 42.00                       | 1.46  | 42.28                                     |
| 18                   | 12.20                                     | 53.00                       | 1.75  | 53.36                                     |



**Linear Regression**

Sampler slope (m) : **32.5708**  
 Sampler intercept (b) : **-4.0648**  
 Correlation coefficient (R<sup>2</sup>) : **0.9956**

**Correlation coefficient is greater than 0.9900 and the calibration result is accepted.**

Performed by:   
 Checked by: 

Date: 7 - March - 2017  
 Date: 7 Mar 2017

# Ove Arup Partners (Hong Kong) Limited

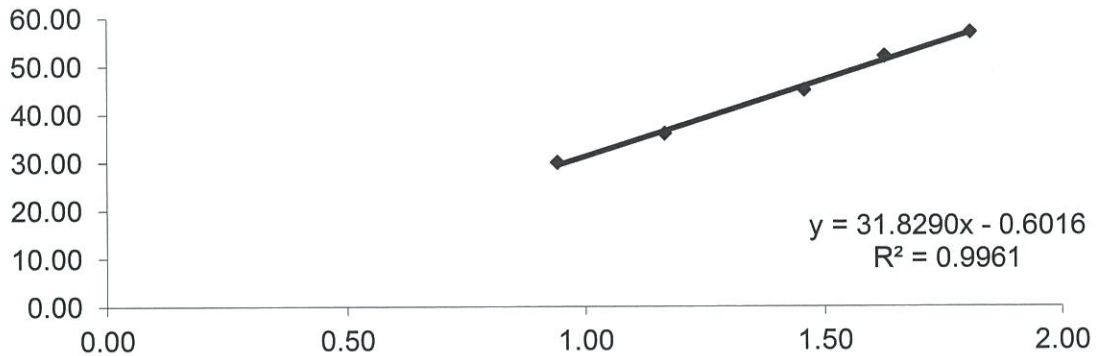
## High Volume Air Sampler Calibration Worksheet

|                       |                             |                     |             |
|-----------------------|-----------------------------|---------------------|-------------|
| Calibration date      | 6-May-17                    | Barometric pressure | 761.1 mm Hg |
| Next Calibration date | 5-Jul-17                    | Temperature (°C)    | 26.1 °C     |
| Sampler location      | DMS1 - Thomas Cheung School | Temperature (K)     | 299.1 K     |
| Sampler model         | TE-5170                     | P <sub>std</sub>    | 760 mm Hg   |
| Sampler serial number | 3763                        | T <sub>std</sub>    | 298 K       |

|   |          |
|---|----------|
| Calibrator model                                | TE-5025A |
| Calibrator serial number                        | 2421     |
| Slope of the standard curve, m <sub>s</sub>     | 2.00576  |
| Intercept of the standard curve, b <sub>s</sub> | 0.00519  |

| Resistance Plate No. | Manometer Reading (inch H <sub>2</sub> O) | Flow Recorder Reading (CFM) | Calculated Q <sub>std</sub> (m <sup>3</sup> /min) | Continuous Flow Recorder Reading IC (CFM) |
|----------------------|---|-----------------------------|---|---|
| 5                    | 3.60                                      | 30.00                       | 0.94  | 29.97                                     |
| 7                    | 5.50                                      | 36.00                       | 1.17  | 35.96                                     |
| 10                   | 8.60                                      | 45.00                       | 1.46  | 44.95                                     |
| 13                   | 10.70                                     | 52.00                       | 1.63  | 51.94                                     |
| 18                   | 13.20                                     | 57.00                       | 1.81  | 56.94                                     |



**Calibration Curve**



**Linear Regression**

Sampler slope (m) : **31.8290**  
 Sampler intercept (b) : **-0.6016**  
 Correlation coefficient (R<sup>2</sup>) : **0.9961**

**Correlation coefficient is greater than 0.9900 and the calibration result is accepted.**

Performed by:   
 Checked by: 

Date: 6 May 2017  
 Date: 6 May 2017

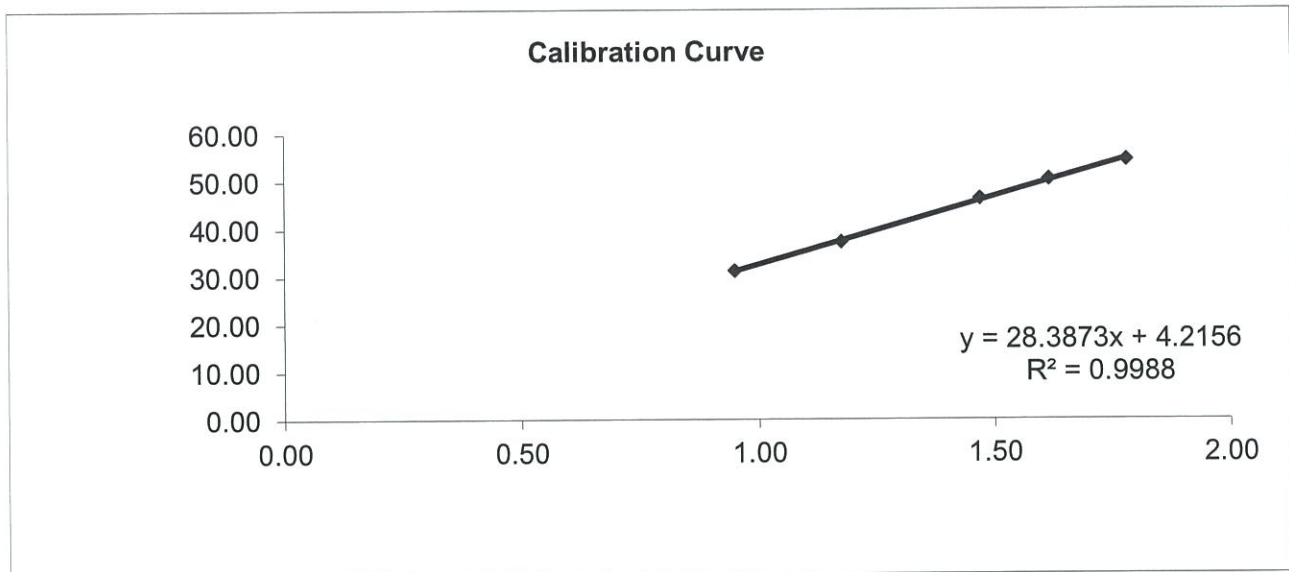
# Ove Arup Partners (Hong Kong) Limited

## High Volume Air Sampler Calibration Worksheet

|                       |                                    |                     |           |
|-----------------------|------------------------------------|---------------------|-----------|
| Calibration date      | 6-May-17                           | Barometric pressure | 760 mm Hg |
| Next Calibration date | 5-Jul-17                           | Temperature (°C)    | 21 °C     |
| Sampler location      | DMS2 - Price Memorial Catholic Pri | Temperature (K)     | 294 K     |
| Sampler model         | TE-5170                            | P <sub>std</sub>    | 760 mm Hg |
| Sampler serial number | 3761                               | T <sub>std</sub>    | 298 K     |

|   |          |
|---|----------|
| Calibrator model                                | TE-5025A |
| Calibrator serial number                        | 2421     |
| Slope of the standard curve, m <sub>s</sub>     | 2.00576  |
| Intercept of the standard curve, b <sub>s</sub> | 0.00519  |

| Resistance Plate No. | Manometer Reading (inch H <sub>2</sub> O) | Flow Recorder Reading (CFM) | Calculated Q <sub>std</sub> (m <sup>3</sup> /min) | Continuous Flow Recorder Reading IC (CFM) |
|----------------------|---|-----------------------------|---|---|
| 5                    | 3.60                                      | 31.00                       | 0.95  | 31.21                                     |
| 7                    | 5.50                                      | 37.00                       | 1.17  | 37.25                                     |
| 10                   | 8.60                                      | 46.00                       | 1.47  | 46.31                                     |
| 13                   | 10.40                                     | 50.00                       | 1.62  | 50.34                                     |
| 18                   | 12.60                                     | 54.00                       | 1.78  | 54.37                                     |



#### Linear Regression

|   |                |
|---|----------------|
| Sampler slope (m) :                         | <b>28.3873</b> |
| Sampler intercept (b) :                     | <b>4.2156</b>  |
| Correlation coefficient (R <sup>2</sup> ) : | <b>0.9988</b>  |

**Correlation coefficient is greater than 0.9900 and the calibration result is accepted.**

Performed by: 

Checked by: 

Date: 6 May 2017

Date: 6 May 2017





TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE  
 VILLAGE OF CLEVES, OH  
 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Jan 03, 2017 Roots-meter S/N 0438320 Ta (K) - 295  
 Operator Tisch Orifice I.D. - 2421 Pa (mm) - 742.95

| PLATE OR Run # | VOLUME START (m3) | VOLUME STOP (m3) | DIFF VOLUME (m3) | DIFF TIME (min) | METER        | ORFICE         |
|----------------|-------------------|------------------|------------------|-----------------|--------------|----------------|
|                |                   |                  |                  |                 | DIFF Hg (mm) | DIFF H2O (in.) |
| 1              | NA                | NA               | 1.00             | 1.4090          | 3.2          | 2.00           |
| 2              | NA                | NA               | 1.00             | 0.9910          | 6.4          | 4.00           |
| 3              | NA                | NA               | 1.00             | 0.8820          | 7.9          | 5.00           |
| 4              | NA                | NA               | 1.00             | 0.8430          | 8.8          | 5.50           |
| 5              | NA                | NA               | 1.00             | 0.6940          | 12.7         | 8.00           |

DATA TABULATION

| Vstd                               | (x axis) Qstd | (y axis) | Va                        | (x axis) Qa | (y axis) |
|------------------------------------|---------------|----------|---------------------------|-------------|----------|
| 0.9832                             | 0.6978        | 1.4054   | 0.9957                    | 0.7066      | 0.8911   |
| 0.9790                             | 0.9879        | 1.9875   | 0.9914                    | 1.0004      | 1.2603   |
| 0.9769                             | 1.1076        | 2.2221   | 0.9893                    | 1.1216      | 1.4090   |
| 0.9758                             | 1.1575        | 2.3305   | 0.9881                    | 1.1722      | 1.4778   |
| 0.9706                             | 1.3985        | 2.8107   | 0.9829                    | 1.4162      | 1.7823   |
| Qstd slope (m) = 2.00576           |               |          | Qa slope (m) = 1.25597    |             |          |
| intercept (b) = 0.00519            |               |          | intercept (b) = 0.00329   |             |          |
| coefficient (r) = 0.99997          |               |          | coefficient (r) = 0.99997 |             |          |
| y axis = SQRT[H2O(Pa/760)(298/Ta)] |               |          | y axis = SQRT[H2O(Ta/Pa)] |             |          |

CALCULATIONS

$$Vstd = \text{Diff. Vol} [(Pa - \text{Diff. Hg}) / 760] (298 / Ta)$$

$$Qstd = Vstd / \text{Time}$$

$$Va = \text{Diff Vol} [(Pa - \text{Diff Hg}) / Pa]$$

$$Qa = Va / \text{Time}$$

For subsequent flow rate calculations:

$$Qstd = 1/m \{ [\text{SQRT}(H2O(Pa/760)(298/Ta))] - b \}$$

$$Qa = 1/m \{ [\text{SQRT}(H2O(Ta/Pa))] - b \}$$

## Appendix E

---

### Dust Results

**Location: DMS-1 - C.U.H.K.A.A. Thomas Cheung School**

**Details of 24-Hour TSP Monitoring**

| Filter No. | Month  | Date      | Time periods |        | Receptor No. | Weather condition | Site condition   | Pressure (mmHg) |       | Temperature (oC) |       | Flow Recorder Reading (CFM) |       | Filter Weight (g) |        | TSP weight (g) | Flow Rate (m <sup>3</sup> /min) |        | Average Flow Rate (m <sup>3</sup> /min) | Elapse Time |         | Sampling Time (mins.) | Total vol. (m <sup>3</sup> ) | 24-hour TSP Level (µg/m <sup>3</sup> ) | Action Level (µg/m <sup>3</sup> ) | Limit Level (µg/m <sup>3</sup> ) |
|------------|--------|-----------|--------------|--------|--------------|-------------------|------------------|-----------------|-------|------------------|-------|-----------------------------|-------|-------------------|--------|----------------|---------------------------------|--------|---|-------------|---------|-----------------------|------------------------------|--|-----------------------------------|----------------------------------|
|            |        |           | Start        | Finish |              |                   |                  | Initial         | Final | Initial          | Final | Initial                     | Final | Initial           | Final  |                | Initial                         | Final  |   | Start       | Finish  |                       |                              |  |                                   |                                  |
| 128165     | May-17 | 5-May-17  | 0:00         | 0:00   | DMS1         | Fine              | Normal Operation | 760.3           | 761.1 | 26.1             | 27.5  | 40.0                        | 40.0  | 2.7758            | 2.8855 | 0.1097         | 1.2899                          | 1.2879 | 1.2889                                  | 6302.50     | 6326.50 | 1440.00               | 1856.02                      | 59.1                                   | 148.7                             | 260.0                            |
| 128167     | May-17 | 11-May-17 | 0:00         | 0:00   | DMS1         | Fine              | Normal Operation | 760.4           | 758.2 | 27.5             | 27.5  | 38.0                        | 38.0  | 2.7673            | 2.8440 | 0.0767         | 1.2301                          | 1.2285 | 1.2293                                  | 6326.51     | 6350.51 | 1440.00               | 1770.19                      | 43.3                                   | 148.7                             | 260.0                            |
| 103598     | May-17 | 17-May-17 | 0:00         | 0:00   | DMS1         | Fine              | Normal Operation | 757.3           | 759.0 | 26.0             | 25.5  | 38.0                        | 38.0  | 2.8307            | 2.9014 | 0.0707         | 1.2306                          | 1.2327 | 1.2317                                  | 6350.52     | 6374.52 | 1440.00               | 1773.58                      | 39.9                                   | 148.7                             | 260.0                            |
| 103600     | May-17 | 23-May-17 | 0:00         | 0:00   | DMS1         | Fine              | Normal Operation | 755.9           | 755.1 | 26.1             | 25.3  | 46.0                        | 46.0  | 2.8139            | 2.8599 | 0.0460         | 1.4582                          | 1.4594 | 1.4588                                  | 6374.53     | 6398.53 | 1440.00               | 2100.67                      | 21.9                                   | 148.7                             | 260.0                            |
| 103602     | May-17 | 29-May-17 | 0:00         | 0:00   | DMS1         | Fine              | Normal Operation | 757.4           | 757.1 | 26.6             | 27.0  | 44.0                        | 44.0  | 2.7965            | 2.8530 | 0.0565         | 1.4013                          | 1.4001 | 1.4007                                  | 6398.54     | 6422.54 | 1440.00               | 2017.01                      | 28.0                                   | 148.7                             | 260.0                            |

|                 |      |
|-----------------|------|
| Average (µg/m3) | 38.4 |
| Max (µg/m3)     | 59.1 |
| Min (µg/m3)     | 21.9 |

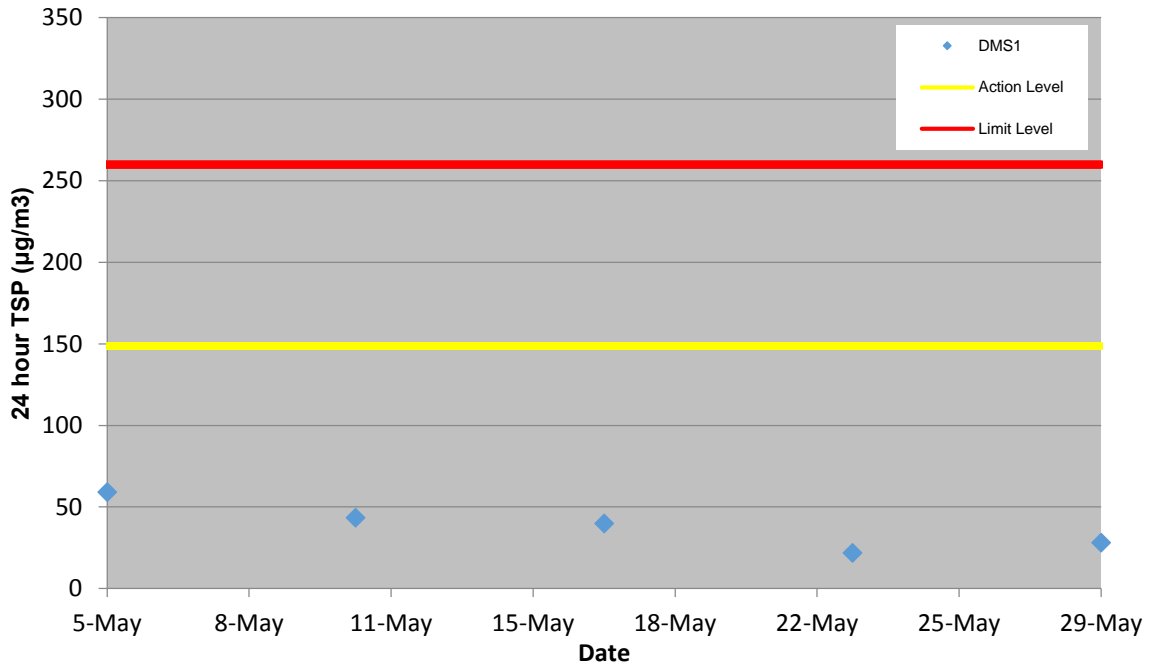
**Location: DMS-2 Price Memorial Catholic Primary School**

**Details of 24-Hour TSP Monitoring**

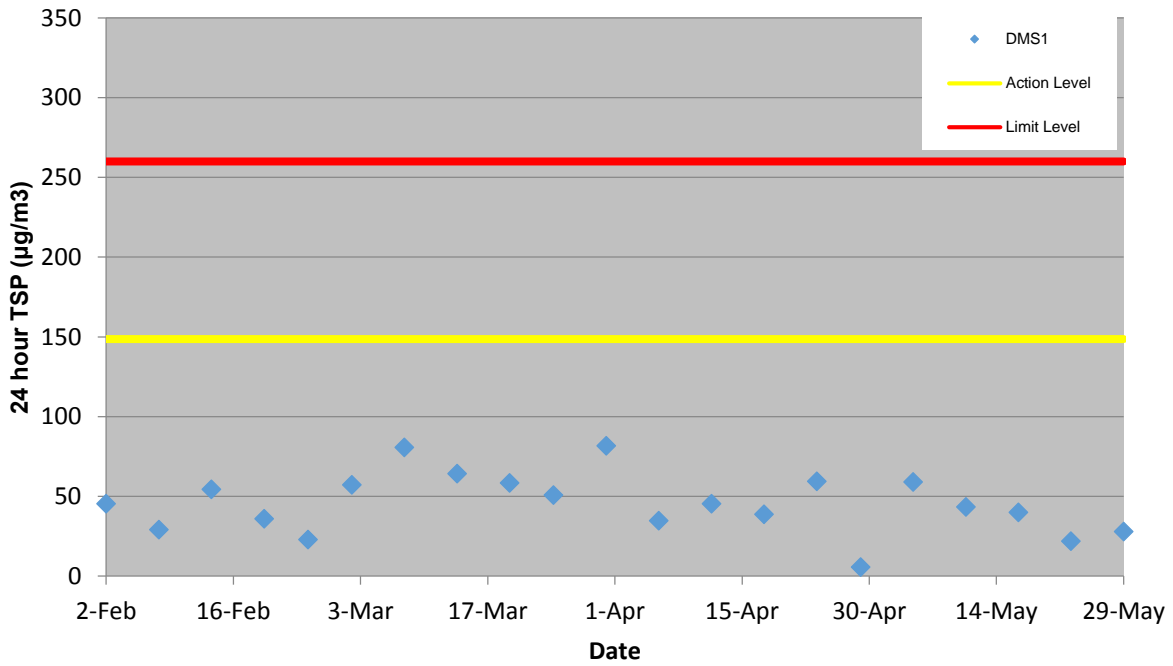
| Filter No. | Month  | Date      | Time periods |        | Receptor No. | Weather condition | Site condition   | Pressure (mmHg) |       | Temperature (oC) |       | Flow Recorder Reading (CFM) |       | Filter Weight (g) |        | TSP weight (g) | Flow Rate (m <sup>3</sup> /min) |        | Average Flow Rate (m <sup>3</sup> /min) | Elapse Time |         | Sampling Time (mins.) | Total vol. (m <sup>3</sup> ) | 24-hour TSP Level (µg/m <sup>3</sup> ) | Action Level (µg/m <sup>3</sup> ) | Limit Level (µg/m <sup>3</sup> ) |
|------------|--------|-----------|--------------|--------|--------------|-------------------|------------------|-----------------|-------|------------------|-------|-----------------------------|-------|-------------------|--------|----------------|---------------------------------|--------|---|-------------|---------|-----------------------|------------------------------|--|-----------------------------------|----------------------------------|
|            |        |           | Start        | Finish |              |                   |                  | Initial         | Final | Initial          | Final | Initial                     | Final | Initial           | Final  |                | Initial                         | Final  |   | Start       | Finish  |                       |                              |  |                                   |                                  |
| 128166     | May-17 | 5-May-17  | 0:00         | 0:00   | DMS2         | Fine              | Normal Operation | 760.3           | 761.1 | 26.1             | 27.5  | 38.0                        | 38.0  | 2.7678            | 2.9198 | 0.1520         | 1.2734                          | 1.2714 | 1.2724                                  | 5689.53     | 5713.53 | 1440.00               | 1832.26                      | 83.0                                   | 167.4                             | 260.0                            |
| 128168     | May-17 | 11-May-17 | 0:00         | 0:00   | DMS2         | Fine              | Normal Operation | 760.4           | 758.2 | 27.5             | 27.5  | 42.0                        | 42.0  | 2.7674            | 2.8527 | 0.0853         | 1.3908                          | 1.3890 | 1.3899                                  | 5713.54     | 5737.54 | 1440.00               | 2001.46                      | 42.6                                   | 167.4                             | 260.0                            |
| 103597     | May-17 | 17-May-17 | 0:00         | 0:00   | DMS2         | Fine              | Normal Operation | 757.3           | 759.0 | 26.0             | 25.5  | 38.0                        | 38.0  | 2.8149            | 2.8574 | 0.0425         | 1.2713                          | 1.2735 | 1.2724                                  | 5737.55     | 5761.55 | 1440.00               | 1832.26                      | 23.2                                   | 167.4                             | 260.0                            |
| 103599     | May-17 | 23-May-17 | 0:00         | 0:00   | DMS2         | Fine              | Normal Operation | 755.9           | 755.1 | 26.1             | 25.3  | 46.0                        | 46.0  | 2.8231            | 2.8932 | 0.0701         | 1.5098                          | 1.5111 | 1.5105                                  | 5761.56     | 5785.56 | 1440.00               | 2175.05                      | 32.2                                   | 167.4                             | 260.0                            |
| 103601     | May-17 | 29-May-17 | 0:00         | 0:00   | DMS2         | Fine              | Normal Operation | 757.4           | 757.1 | 26.6             | 27.0  | 44.0                        | 44.0  | 2.8150            | 2.8959 | 0.0809         | 1.4502                          | 1.4490 | 1.4496                                  | 5785.57     | 5809.57 | 1440.00               | 2087.42                      | 38.8                                   | 167.4                             | 260.0                            |

|                 |      |
|-----------------|------|
| Average (µg/m3) | 44.0 |
| Max (µg/m3)     | 83.0 |
| Min (µg/m3)     | 23.2 |

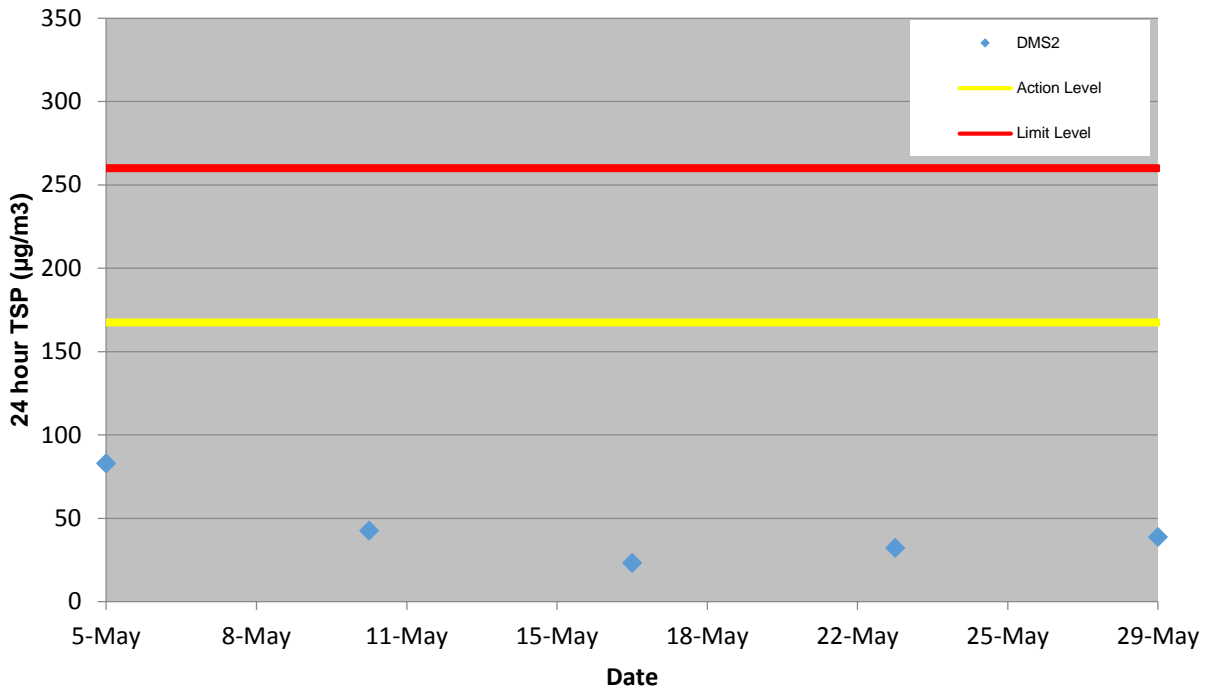
Impact 24-hour TSP Monitoring at Air Monitoring Station DMS-1



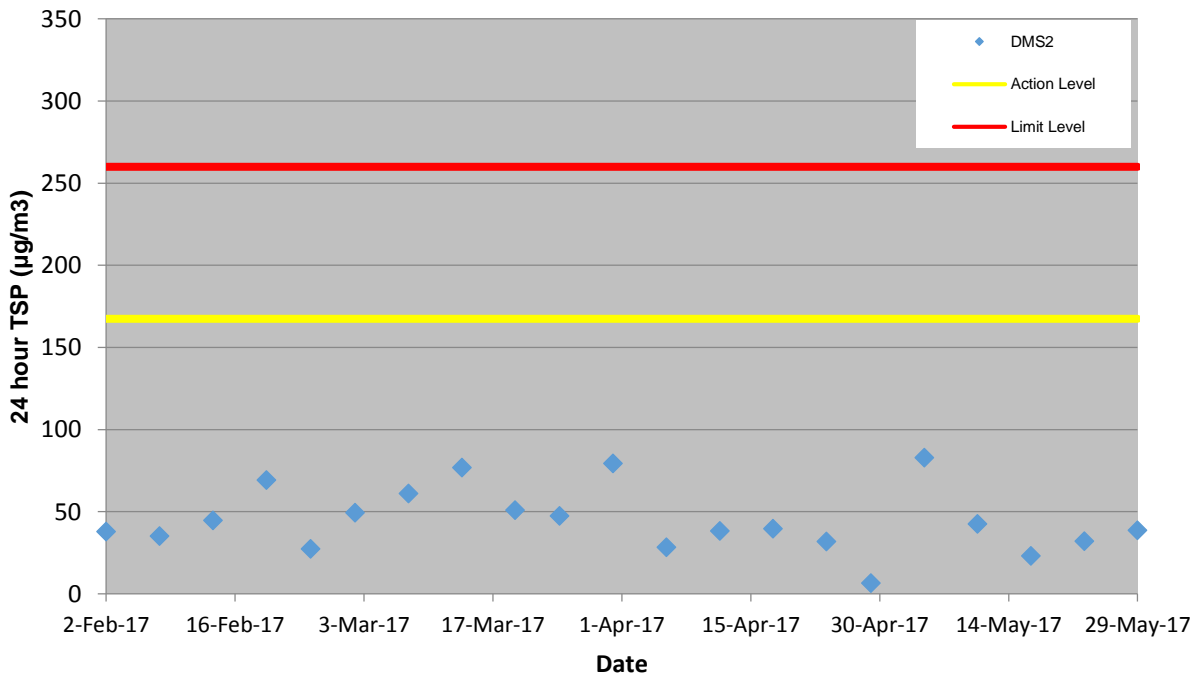
Impact 24-hour TSP Monitoring at Air Monitoring Station DMS-1  
From February 2017 to May 2017



Impact 24-hour TSP Monitoring at Air Monitoring Station DMS-2



Impact 24-hour TSP Monitoring at Air Monitoring Station DMS-2  
From February 2017 to May 2017



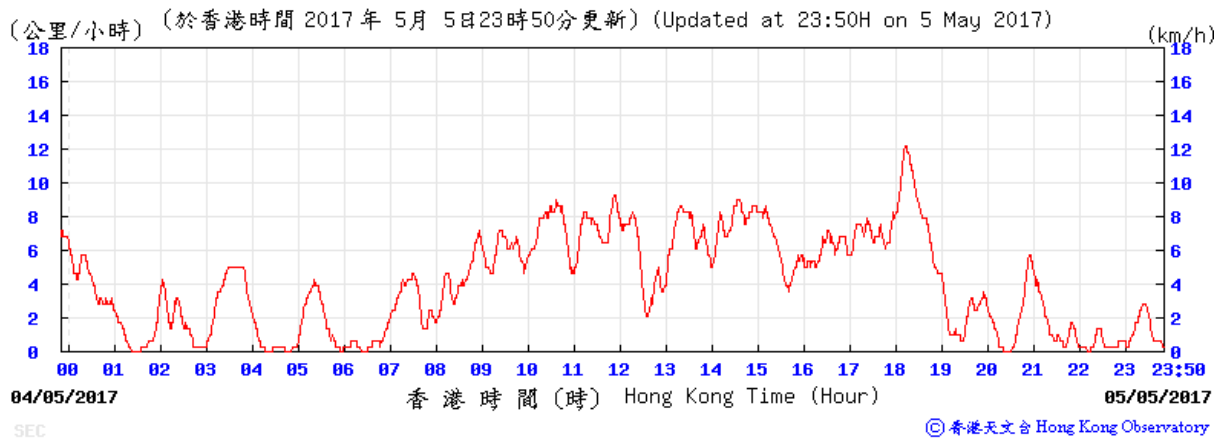
## Appendix F

---

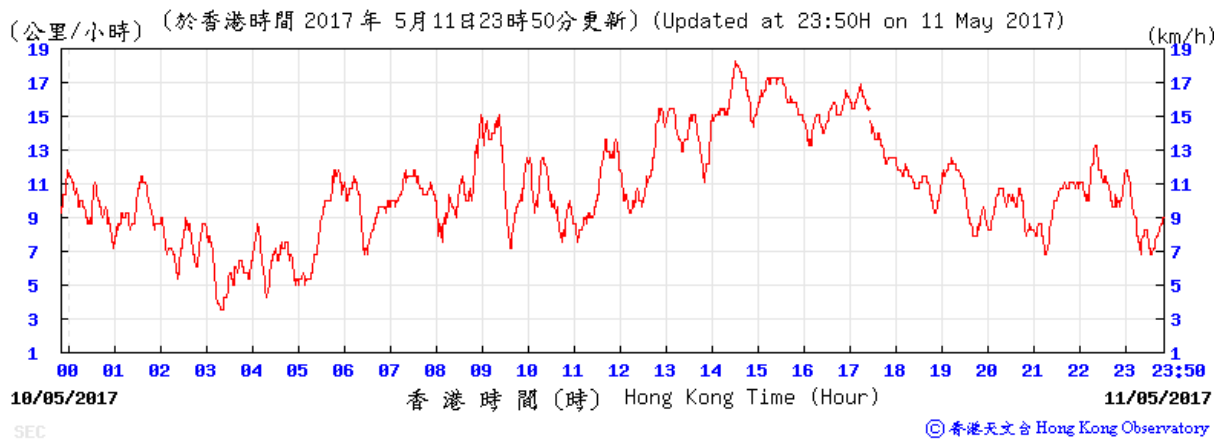
Wind data

# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

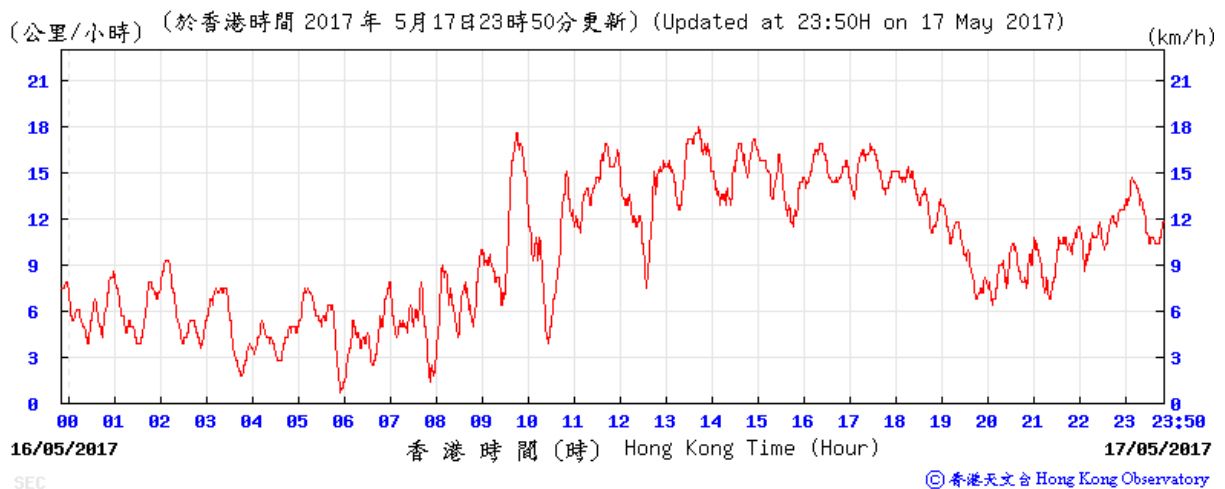
5 May 2017



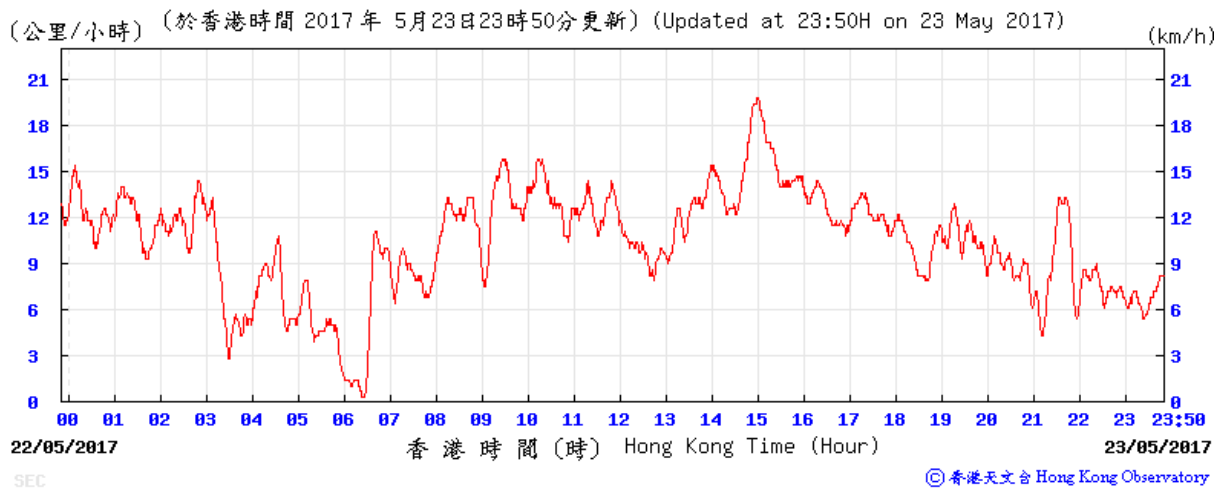
11 May 2017



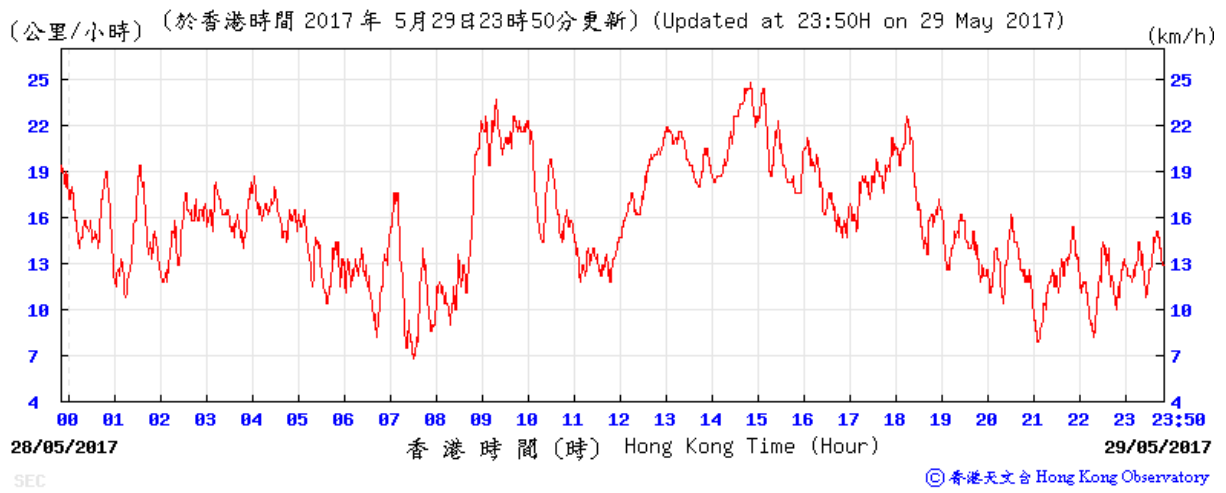
17 May 2017



## 23 May 2017



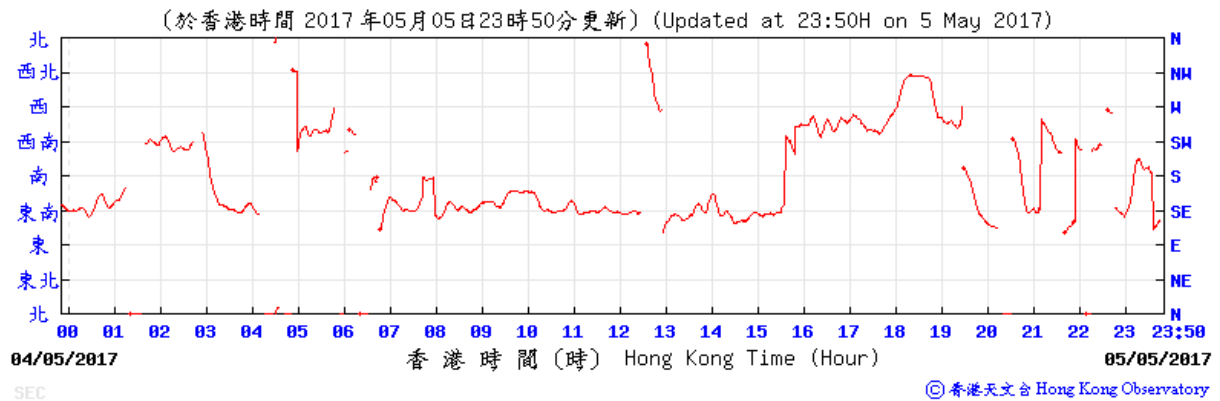
## 29 May 2017



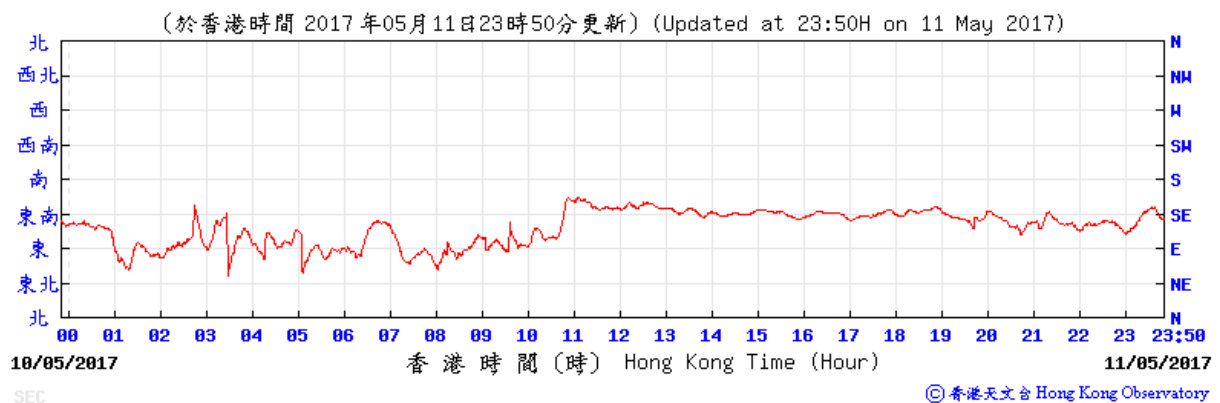


# Average wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

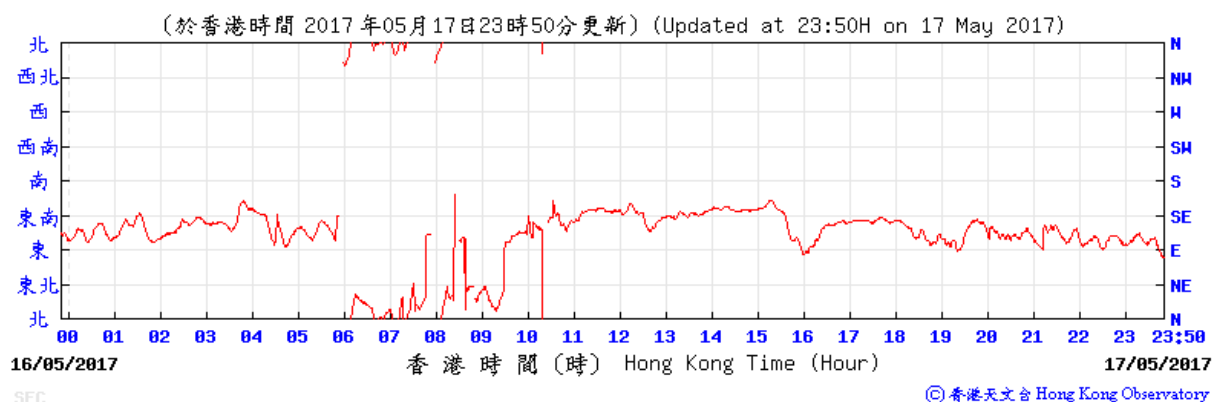
5 May 2017



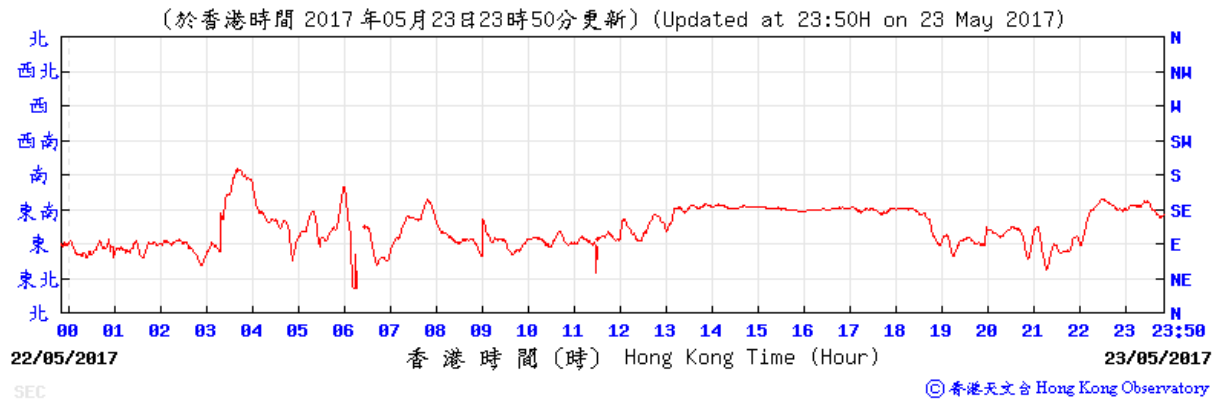
11 May 2017



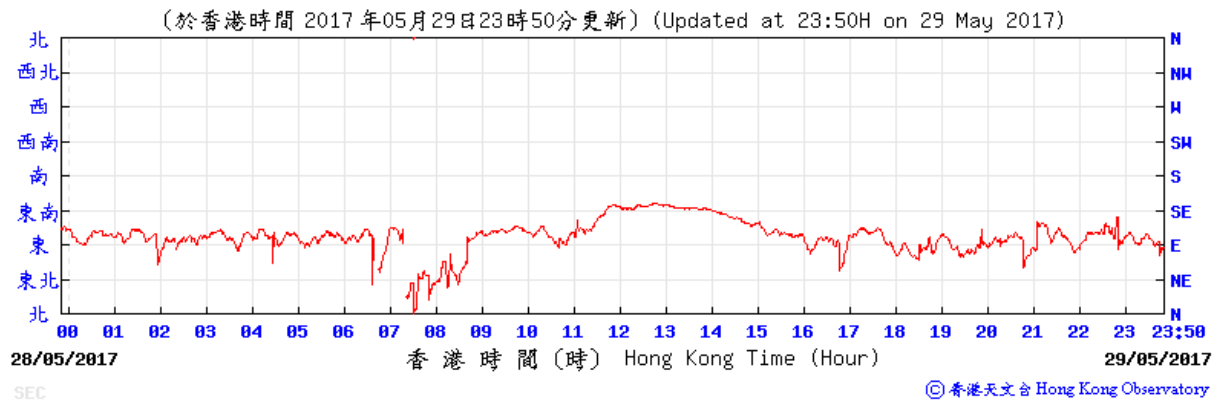
17 May 2017



## 23 May 2017

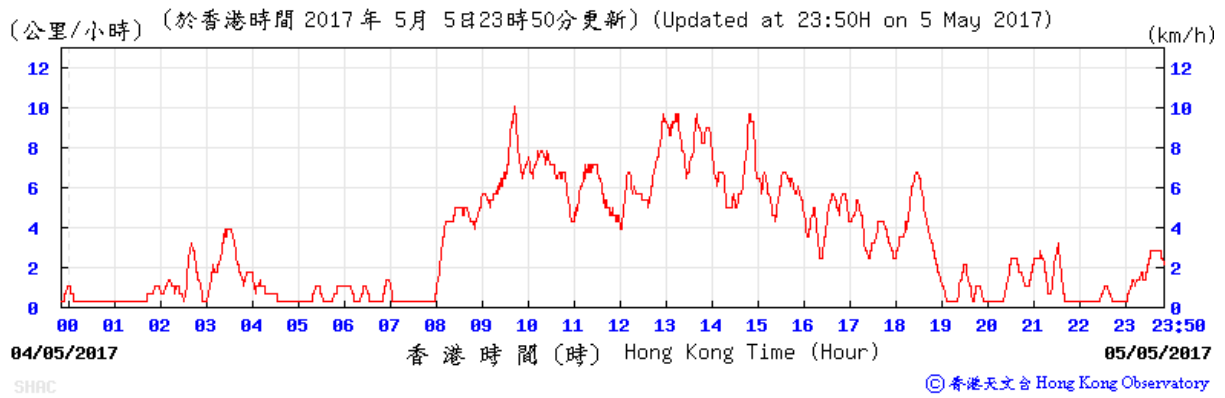


## 29 May 2017

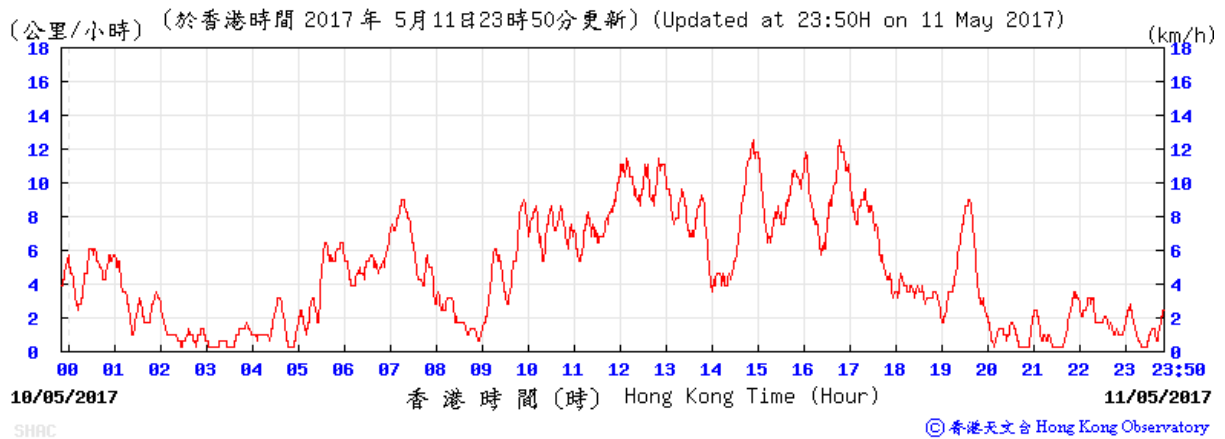


# Average wind speed obtained from the meteorological station at Sha Tin from the Hong Kong Observatory (HKO)

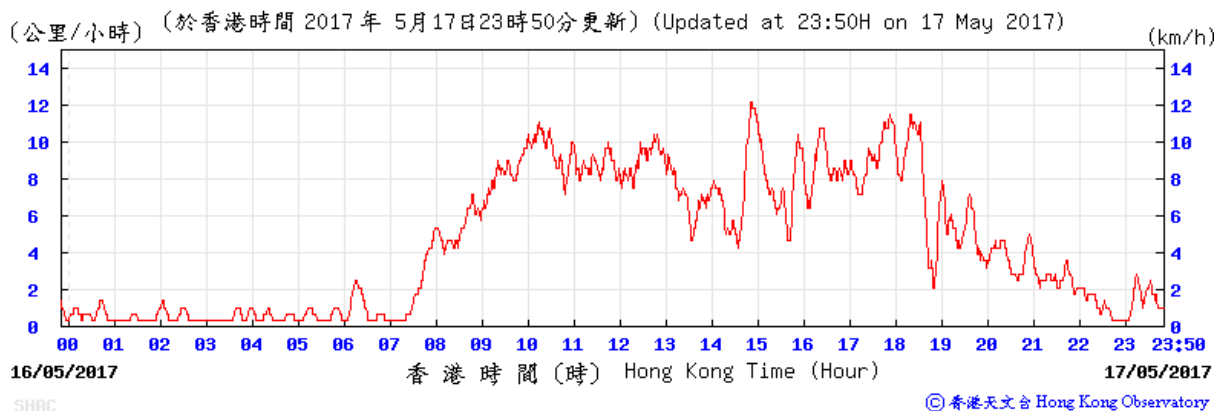
5 May 2017



11 May 2017

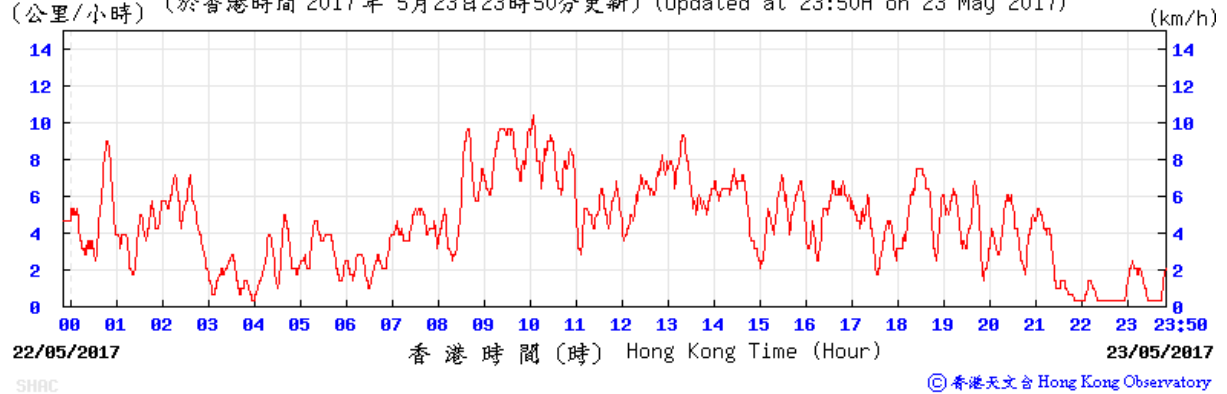


17 May 2017



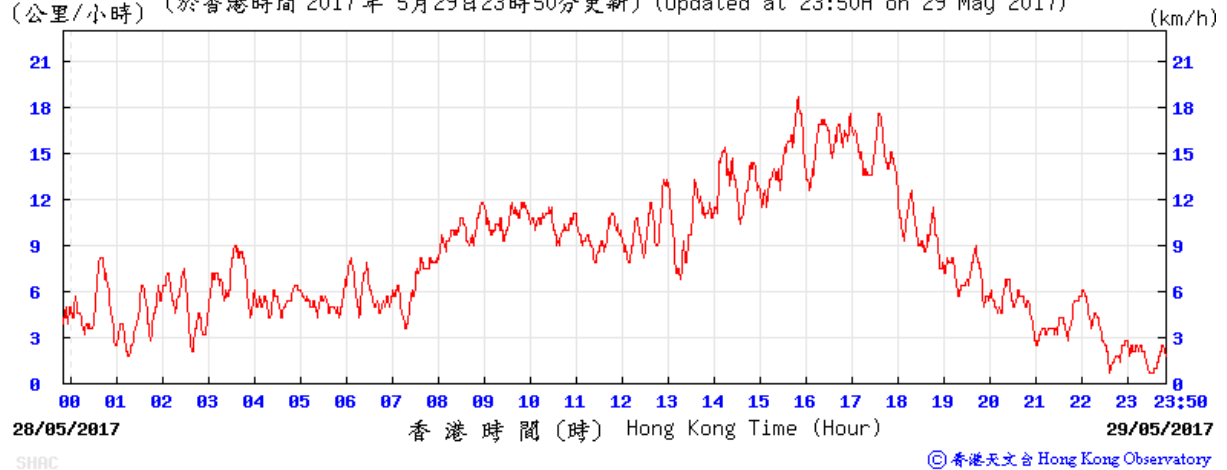
## 23 May 2017

(公里/小時) (於香港時間 2017 年 5月23日23時50分更新) (Updated at 23:50H on 23 May 2017)



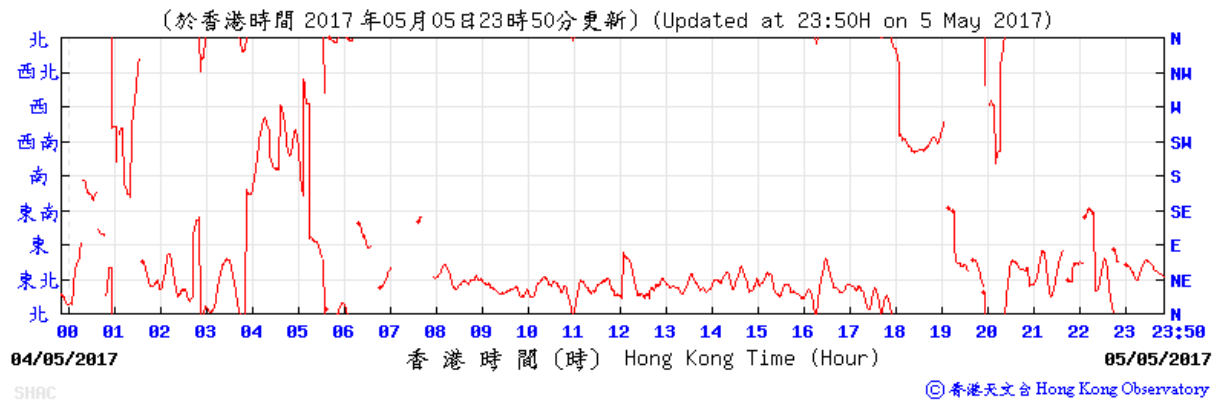
## 29 May 2017

(公里/小時) (於香港時間 2017 年 5月29日23時50分更新) (Updated at 23:50H on 29 May 2017)

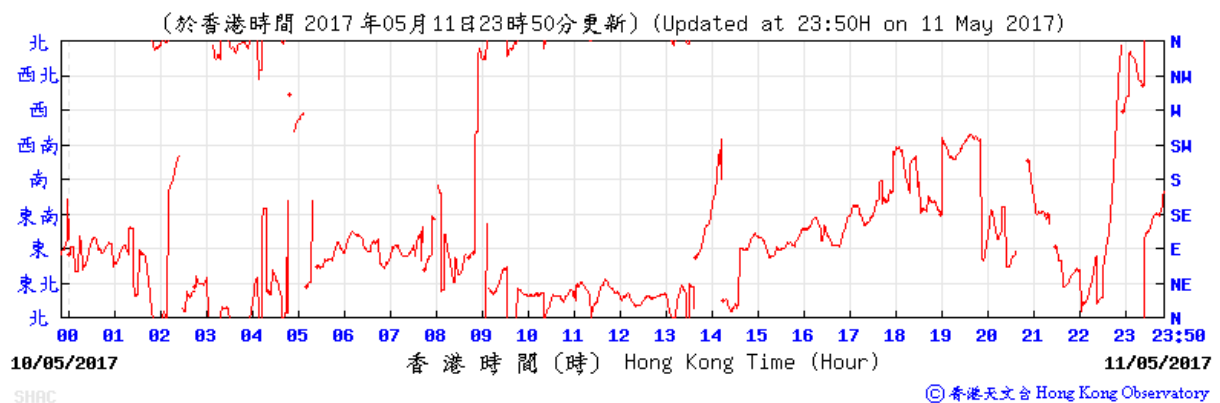


# Average wind direction obtained from the meteorological station at Sha Tin from the Hong Kong Observatory (HKO)

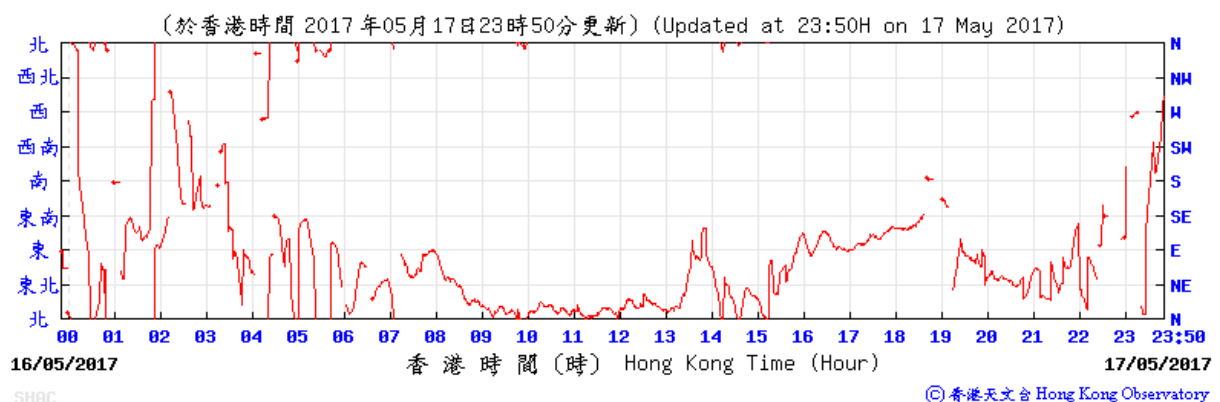
5 May 2017



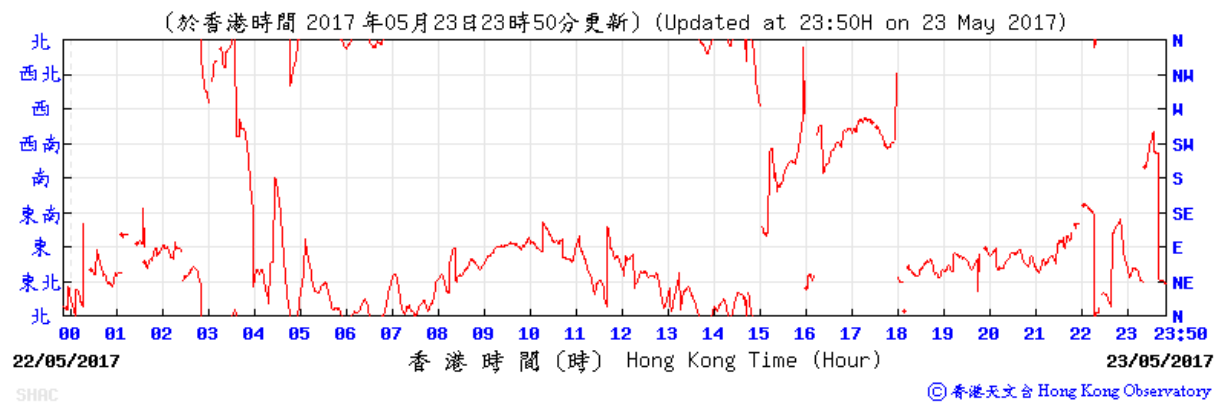
11 May 2017



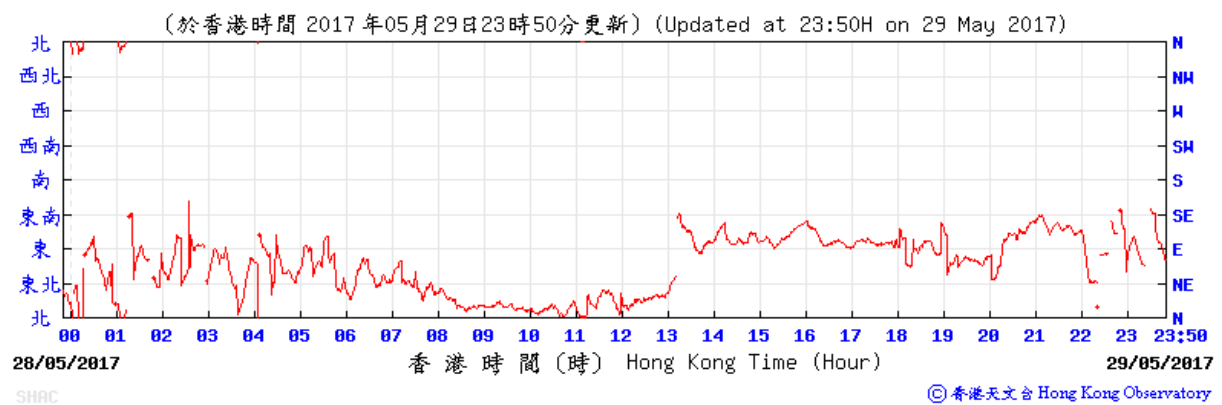
17 May 2017



## 23 May 2017



## 29 May 2017



## Appendix G

---

Calibration  
Certificates of Noise  
Monitoring  
Equipment



輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration

## 校正證書

Certificate No. : C170448

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0144)

Date of Receipt / 收件日期 : 19 January 2017

Description / 儀器名稱 : Integrating Sound Level Meter

Manufacturer / 製造商 : Brüel & Kjær

Model No. / 型號 : 2238

Serial No. / 編號 : 2654435

Supplied By / 委託者 : Ove Arup & Partners Hong Kong Co., Ltd.

Level 5, Festival Walk, 80 Tat Chee Avenue, Kowloon Tong,  
Kowloon

### TEST CONDITIONS / 測試條件

Temperature / 溫度 :  $(23 \pm 2)^{\circ}\text{C}$

Relative Humidity / 相對濕度 :  $(55 \pm 20)\%$

Line Voltage / 電壓 : ---

### TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 25 January 2017

### 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
- Rohde & Schwarz Laboratory, Germany

Tested By

測試

  
H T Wong  
Technical Officer

Certified By

核證

  
K C Lee  
Project Engineer

Date of Issue

簽發日期

27 January 2017

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

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 – 校正及檢測實驗室

c/o 香港新界屯門興安里一號青山灣機樓四樓

Tel/電話: 2927 2606

Fax/傳真: 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com



# Certificate of Calibration

## 校正證書

Certificate No. : C170448

證書編號

- 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.
- Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

| Equipment ID | Description                         | Certificate No. |
|--------------|-------------------------------------|-----------------|
| CL280        | 40 MHz Arbitrary Waveform Generator | C170048         |
| CL281        | Multifunction Acoustic Calibrator   | PA160023        |

- Test procedure : MA101N.

- Results :

### 6.1 Sound Pressure Level

#### 6.1.1 Reference Sound Pressure Level

##### 6.1.1.1 Before Self-calibration

| UUT Setting |                  |                     |                | Applied Value |             | UUT Reading (dB) |
|-------------|------------------|---------------------|----------------|---------------|-------------|------------------|
| Range (dB)  | Parameter        | Frequency Weighting | Time Weighting | Level (dB)    | Freq. (kHz) |                  |
| 50 - 130    | L <sub>AFP</sub> | A                   | F              | 94.00         | 1           | 94.1             |

##### 6.1.1.2 After Self-calibration

| UUT Setting |                  |                     |                | Applied Value |             | UUT Reading (dB) | IEC 60651 Type 1 Spec. (Db) |
|-------------|------------------|---------------------|----------------|---------------|-------------|------------------|-----------------------------|
| Range (dB)  | Parameter        | Frequency Weighting | Time Weighting | Level (dB)    | Freq. (kHz) |                  |                             |
| 50 - 130    | L <sub>AFP</sub> | A                   | F              | 94.00         | 1           | 94.1             | ± 0.7                       |

##### 6.1.2 Linearity

| UUT Setting |                  |                     |                | Applied Value |             | UUT Reading (dB) |
|-------------|------------------|---------------------|----------------|---------------|-------------|------------------|
| Range (dB)  | Parameter        | Frequency Weighting | Time Weighting | Level (dB)    | Freq. (kHz) |                  |
| 50 - 130    | L <sub>AFP</sub> | A                   | F              | 94.00         | 1           | 94.1 (Ref.)      |
|             |                  |                     |                | 104.00        |             | 104.1            |
|             |                  |                     |                | 114.00        |             | 114.1            |

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

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

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

# Certificate of Calibration

## 校正證書

Certificate No. : C170448

證書編號

### 6.2 Time Weighting

#### 6.2.1 Continuous Signal

| UUT Setting |                  |                     |                | Applied Value |             | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|-------------|------------------|---------------------|----------------|---------------|-------------|------------------|-----------------------------|
| Range (dB)  | Parameter        | Frequency Weighting | Time Weighting | Level (dB)    | Freq. (kHz) |                  |                             |
| 50 - 130    | L <sub>AFP</sub> | A                   | F              | 94.00         | 1           | 94.1             | Ref.                        |
|             | L <sub>ASP</sub> |                     | S              |               |             | 94.1             | ± 0.1                       |
|             | L <sub>AIP</sub> |                     | I              |               |             | 94.2             | ± 0.1                       |

#### 6.2.2 Tone Burst Signal (2 kHz)

| UUT Setting |                    |                     |                | Applied Value |                | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|-------------|--------------------|---------------------|----------------|---------------|----------------|------------------|-----------------------------|
| Range (dB)  | Parameter          | Frequency Weighting | Time Weighting | Level (dB)    | Burst Duration |                  |                             |
| 30 - 110    | L <sub>AFP</sub>   | A                   | F              | 106.0         | Continuous     | 106.0            | Ref.                        |
|             | L <sub>AFMax</sub> |                     |                |               | 200 ms         | 105.1            | -1.0 ± 1.0                  |
|             | L <sub>ASP</sub>   | S                   | Continuous     |               | 106.0          | Ref.             |                             |
|             | L <sub>ASMax</sub> |                     | 500 ms         |               | 102.1          | -4.1 ± 1.0       |                             |

### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

| UUT Setting |                  |                     |                | Applied Value |          | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|-------------|------------------|---------------------|----------------|---------------|----------|------------------|-----------------------------|
| Range (dB)  | Parameter        | Frequency Weighting | Time Weighting | Level (dB)    | Freq.    |                  |                             |
| 50 - 130    | L <sub>AFP</sub> | A                   | F              | 94.00         | 31.5 Hz  | 55.0             | -39.4 ± 1.5                 |
|             |                  |                     |                |               | 63 Hz    | 68.1             | -26.2 ± 1.5                 |
|             |                  |                     |                |               | 125 Hz   | 78.0             | -16.1 ± 1.0                 |
|             |                  |                     |                |               | 250 Hz   | 85.5             | -8.6 ± 1.0                  |
|             |                  |                     |                |               | 500 Hz   | 90.9             | -3.2 ± 1.0                  |
|             |                  |                     |                |               | 1 kHz    | 94.1             | Ref.                        |
|             |                  |                     |                |               | 2 kHz    | 95.3             | +1.2 ± 1.0                  |
|             |                  |                     |                |               | 4 kHz    | 95.1             | +1.0 ± 1.0                  |
|             |                  |                     |                |               | 8 kHz    | 93.0             | -1.1 (+1.5 ; -3.0)          |
|             |                  |                     |                |               | 12.5 kHz | 89.9             | -4.3 (+3.0 ; -6.0)          |

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

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

# Certificate of Calibration

## 校正證書

Certificate No. : C170448  
證書編號

### 6.3.2 C-Weighting

| UUT Setting |                  |                     |                | Applied Value |          | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|-------------|------------------|---------------------|----------------|---------------|----------|------------------|-----------------------------|
| Range (dB)  | Parameter        | Frequency Weighting | Time Weighting | Level (dB)    | Freq.    |                  |                             |
| 50 - 130    | L <sub>CFP</sub> | C                   | F              | 94.00         | 31.5 Hz  | 91.2             | -3.0 ± 1.5                  |
|             |                  |                     |                |               | 63 Hz    | 93.3             | -0.8 ± 1.5                  |
|             |                  |                     |                |               | 125 Hz   | 93.9             | -0.2 ± 1.0                  |
|             |                  |                     |                |               | 250 Hz   | 94.1             | 0.0 ± 1.0                   |
|             |                  |                     |                |               | 500 Hz   | 94.1             | 0.0 ± 1.0                   |
|             |                  |                     |                |               | 1 kHz    | 94.1             | Ref.                        |
|             |                  |                     |                |               | 2 kHz    | 93.9             | -0.2 ± 1.0                  |
|             |                  |                     |                |               | 4 kHz    | 93.3             | -0.8 ± 1.0                  |
|             |                  |                     |                |               | 8 kHz    | 91.1             | -3.0 (+1.5 ; -3.0)          |
|             |                  |                     |                |               | 12.5 kHz | 88.0             | -6.2 (+3.0 ; -6.0)          |

### 6.4 Time Averaging

| UUT Setting |                  |                     |                  | Applied Value   |                     |                   |                  |                       | UUT Reading (dB) | IEC 60804 Type 1 Spec. (dB) |       |
|-------------|------------------|---------------------|------------------|-----------------|---------------------|-------------------|------------------|-----------------------|------------------|-----------------------------|-------|
| Range (dB)  | Parameter        | Frequency Weighting | Integrating Time | Frequency (kHz) | Burst Duration (ms) | Burst Duty Factor | Burst Level (dB) | Equivalent Level (dB) |                  |                             |       |
| 30 - 110    | L <sub>Aeq</sub> | A                   | 10 sec.          | 4               | 1                   | 1/10              | 110.0            | 100                   | 99.9             | ± 0.5                       |       |
|             |                  |                     | 60 sec.          |                 |                     |                   |                  | 1/10 <sup>2</sup>     | 90               | 89.7                        | ± 0.5 |
|             |                  |                     |                  |                 |                     |                   |                  | 1/10 <sup>3</sup>     | 80               | 79.8                        | ± 1.0 |
|             |                  |                     |                  |                 |                     |                   |                  | 1/10 <sup>4</sup>     | 70               | 69.8                        | ± 1.0 |

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2793331

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

|                          |   |
|--------------------------|---|
| 94 dB : 31.5 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                                     |
| 12.5 kHz                 | : ± 0.70 dB                                     |
| 104 dB : 1 kHz           | : ± 0.10 dB (Ref. 94 dB)                        |
| 114 dB : 1 kHz           | : ± 0.10 dB (Ref. 94 dB)                        |
| Burst equivalent level   | : ± 0.2 dB (Ref. 110 dB continuous sound level) |

- 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.

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

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

# Certificate of Calibration

## 校正證書

Certificate No. : C166973  
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC16-2820)      Date of Receipt / 收件日期 : 9 December 2016

Description / 儀器名稱 : Sound Calibrator  
Manufacturer / 製造商 : Rion  
Model No. / 型號 : NC-74  
Serial No. / 編號 : 34304660  
Supplied By / 委託者 : Ove Arup & Partners Hong Kong Co., Ltd.  
Level 5, Festival Walk, 80 Tat Chee Avenue, Kowloon Tong,  
Kowloon

### TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C      Relative Humidity / 相對濕度 : (55 ± 20)%  
Line Voltage / 電壓 : ---

### TEST SPECIFICATIONS / 測試規範

Calibration check


DATE OF TEST / 測試日期 : 15 December 2016

### 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
- Rohde & Schwarz Laboratory, Germany

Tested By :   
測試 : \_\_\_\_\_  
H T Wong  
Technical Officer

Certified By :   
核證 : \_\_\_\_\_  
K C Lee  
Project Engineer

Date of Issue : 19 December 2016  
簽發日期

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

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

# Certificate of Calibration

## 校正證書

Certificate No. : C166973  
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

| <u>Equipment ID</u> | <u>Description</u>                | <u>Certificate No.</u> |
|---------------------|-----------------------------------|------------------------|
| CL130               | Universal Counter                 | C163709                |
| CL281               | Multifunction Acoustic Calibrator | PA160023               |
| TST150A             | Measuring Amplifier               | C161175                |

- Test procedure : MA100N.

- Results :

### 5.1 Sound Level Accuracy

| UUT<br>Nominal Value | Measured Value<br>(dB) | Mfr's Spec.<br>(dB) | Uncertainty of Measured Value<br>(dB) |
|----------------------|------------------------|---------------------|---------------------------------------|
| 94 dB, 1 kHz         | 94.0                   | ± 0.3               | ± 0.2                                 |

### 5.2 Frequency Accuracy

| UUT Nominal Value<br>(kHz) | Measured Value<br>(kHz) | Mfr's<br>Spec. | Uncertainty of Measured Value<br>(Hz) |
|----------------------------|-------------------------|----------------|---------------------------------------|
| 1                          | 1.003                   | 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.

## Appendix H

---

### Noise Results

**Location: NMS-CA-1 - C.U.H.K.A.A Thomas Cheung School**

**Daytime Noise Monitoring Results**

| Date      | Time        | Measured Noise Level, dB(A) |       |                       |                       | Baseline Noise Level, dB(A) | Baseline Corrected Level |
|-----------|-------------|-----------------------------|-------|-----------------------|-----------------------|-----------------------------|--------------------------|
|           |             | L <sub>Aeq,30min</sub>      | Limit | L <sub>10,30min</sub> | L <sub>90,30min</sub> | L <sub>Aeq,30min</sub>      | L <sub>Aeq,30min</sub>   |
| 4-May-17  | 13:30-14:00 | 55.2                        | 70.0  | 57.0                  | 53.0                  | 57.0                        | < Baseline Level         |
| 12-May-17 | 11:30-12:00 | 51.6                        | 70.0  | 53.0                  | 49.5                  | 57.0                        | < Baseline Level         |
| 17-May-17 | 12:00-12:30 | 55.8                        | 70.0  | 57.0                  | 54.0                  | 57.0                        | < Baseline Level         |
| 23-May-17 | 14:00-14:30 | 53.5                        | 70.0  | 54.8                  | 52.0                  | 57.0                        | < Baseline Level         |

|            |                        |      |
|------------|------------------------|------|
| <b>Max</b> | L <sub>Aeq,30min</sub> | 55.8 |
| <b>Min</b> | L <sub>Aeq,30min</sub> | 51.6 |

Notes: (\*) : Façade correction is included  
 (#) : Baseline Corrected Level = Measured Noise Level - Baseline Noise Level

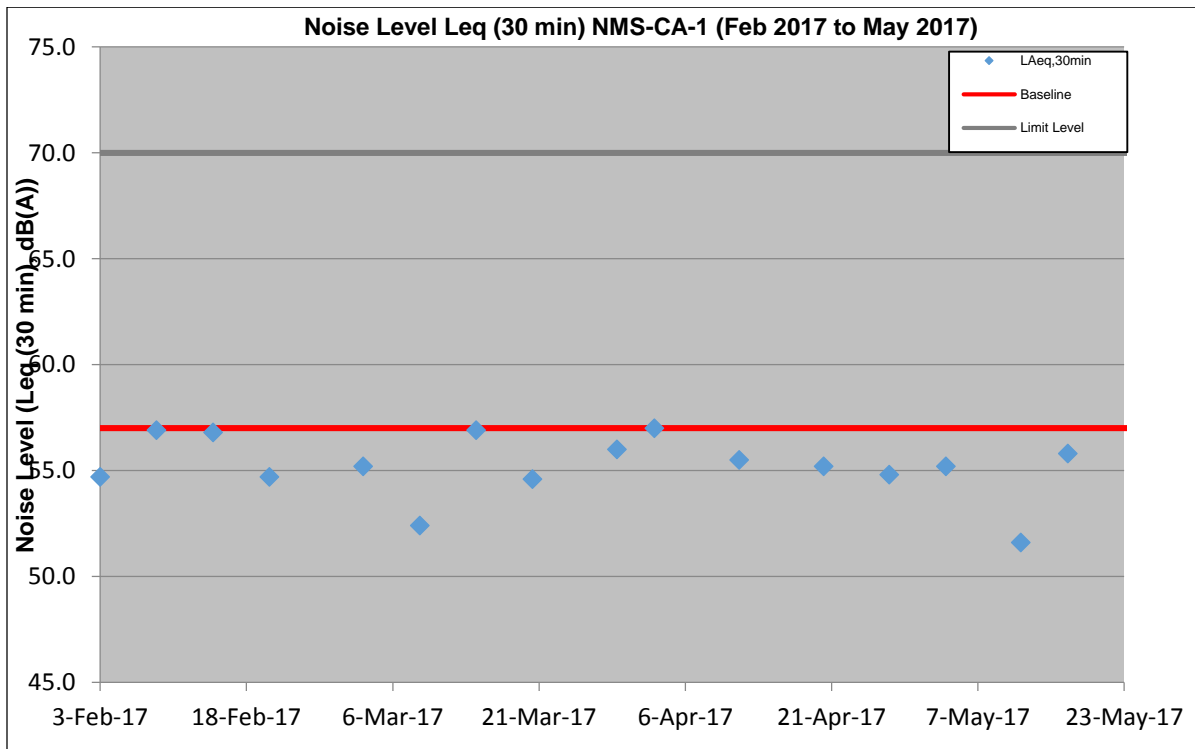
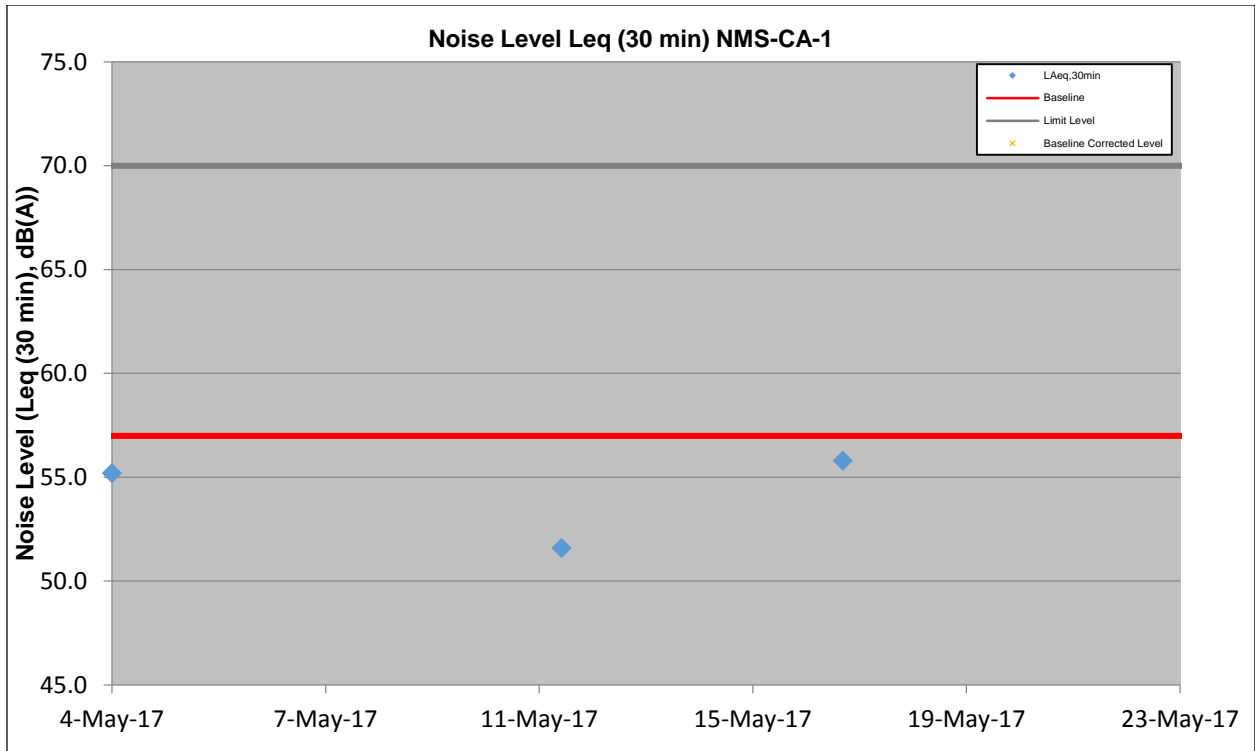
**Location: NMS-CA-2 - Price Memorial Catholic Primary School**

**Daytime Noise Monitoring Results**

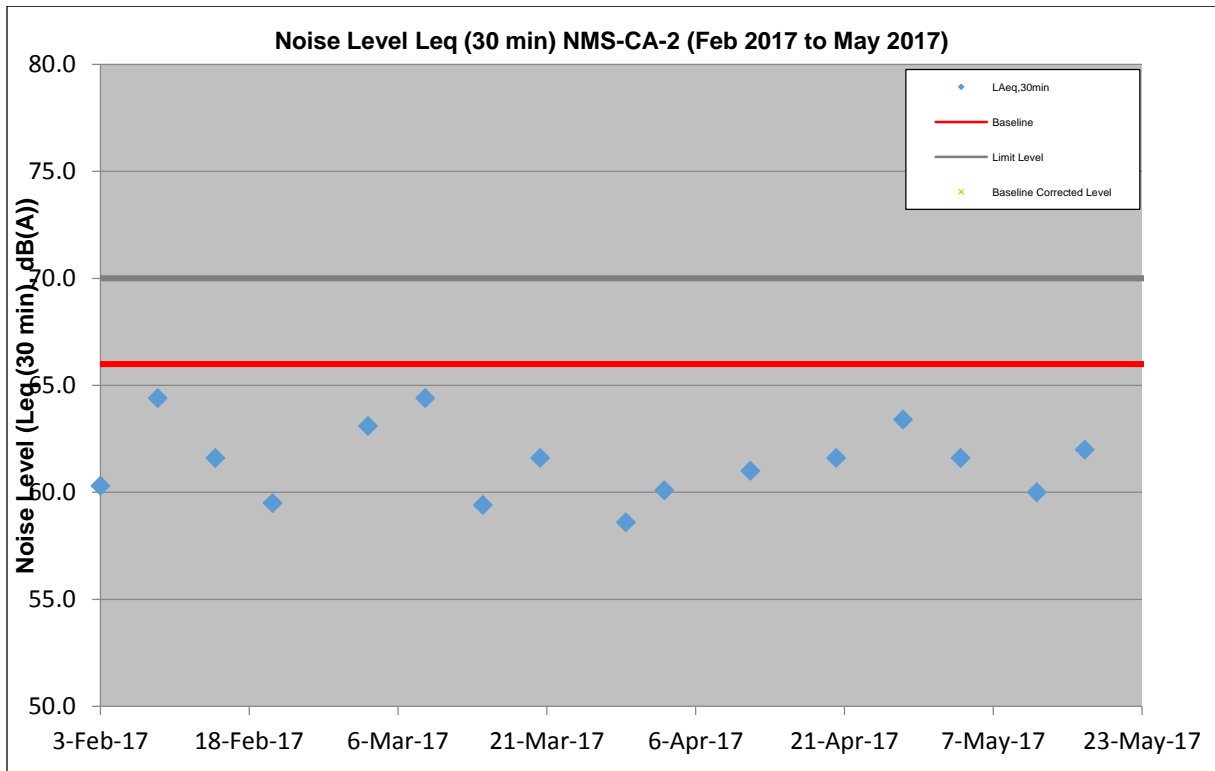
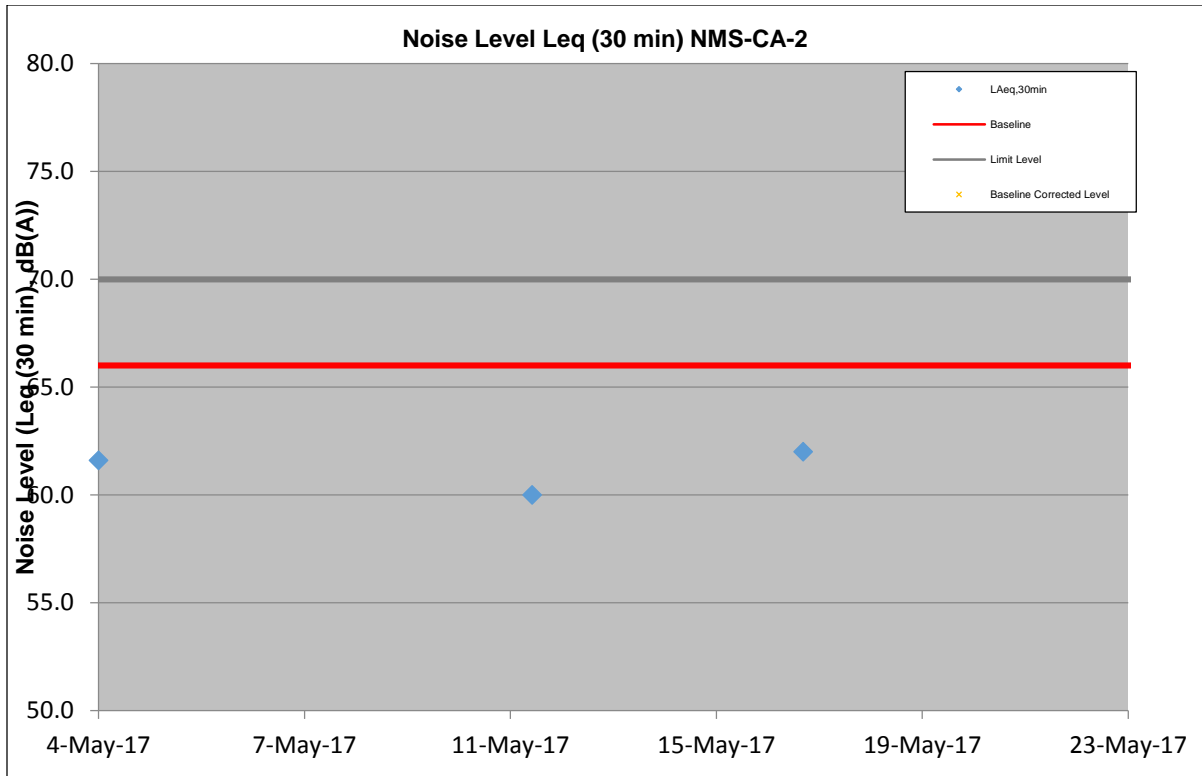
| Date      | Time        | Measured Noise Level, dB(A) |       |                       |                       | Baseline Noise Level, dB(A) | Baseline Corrected Level |
|-----------|-------------|-----------------------------|-------|-----------------------|-----------------------|-----------------------------|--------------------------|
|           |             | L <sub>Aeq,30min</sub>      | Limit | L <sub>10,30min</sub> | L <sub>90,30min</sub> | L <sub>Aeq,30min</sub>      | L <sub>Aeq,30min</sub>   |
| 4-May-17  | 11:00-11:30 | 61.6                        | 70.0  | 64.0                  | 58.5                  | 66.0                        | < Baseline Level         |
| 12-May-17 | 10:00-10:30 | 60.0                        | 70.0  | 61.4                  | 58.6                  | 66.0                        | < Baseline Level         |
| 17-May-17 | 09:30-10:00 | 62.0                        | 70.0  | 61.5                  | 59.0                  | 66.0                        | < Baseline Level         |
| 23-May-17 | 10:30-11:00 | 60.1                        | 70.0  | 61.4                  | 58.5                  | 66.0                        | < Baseline Level         |

|            |                        |      |
|------------|------------------------|------|
| <b>Max</b> | L <sub>Aeq,30min</sub> | 62.0 |
| <b>Min</b> | L <sub>Aeq,30min</sub> | 60.0 |

Notes: (\*) : Façade correction is included  
 (#) : Baseline Corrected Level = Measured Noise Level - Baseline Noise Level







## Appendix I

---

Event/Action Plan for  
Air Quality, Airborne  
Noise and Landscape  
and Visual

**Event and Action Plan for Air Quality**

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

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

**Event and Action Plan for Airborne Noise**

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

**Event / Action Plan for Landscape and Visual**

| Action Level                   | ET   | IEC   | ER   | Contractor   |
|--------------------------------|--|---|--|--|
| Non-conformity on one occasion | <ol style="list-style-type: none"> <li>1. Inform the Contractor, the IEC and the ER</li> <li>2. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>3. Monitor remedial actions until rectification has been completed</li> </ol>  | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET, ER and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of non-conformity in writing</li> <li>2. Review and agree on the remedial measures proposed by the Contractor</li> <li>3. Supervise implementation of remedial measures</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify Source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement</li> </ol>   |
| Repeated Non-conformity        | <ol style="list-style-type: none"> <li>1. Identify Source</li> <li>2. Inform the Contractor, the IEC and the ER</li> <li>3. Increase inspection frequency</li> <li>4. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>5. Monitor remedial actions until rectification has been completed</li> <li>6. If non-conformity stops, cease additional monitoring</li> </ol> | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> </ol>      | <ol style="list-style-type: none"> <li>1. Notify the Contractor</li> <li>2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>3. Supervise implementation of remedial measures.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Identify Source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by the ER until the non-conformity is abated.</li> </ol> |

Note:

ET – Environmental Team

IEC – Independent Environmental Checker

ER – Engineer's Representative

## Appendix J

---

### Waste Flow Table

Monthly Summary Waste Flow Table for 2017

| Month     | Actual Quantities of Inert C&D Materials Generated Monthly |                                     |                          |                          |                          |                          | Actual Quantities of C&D Wastes Generated Monthly |                             |             |                |                             |
|-----------|--|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|-----------------------------|-------------|----------------|-----------------------------|
|           | Total Quantity Generated                                   | Hard Rock and Large Broken Concrete | Reused in the Contract   | Reused in Other Projects | Disposed as Public Fill  | Imported Fill            | Metals  | Paper / Cardboard Packaging | Plastics    | Chemical Waste | Others, e.g. general refuse |
|           | (in '000m <sup>3</sup> )                                   | (in '000m <sup>3</sup> )            | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000kg)                                       | (in '000kg)                 | (in '000kg) | (in '000kg)    | (in '000m <sup>3</sup> )    |
| Jan       | 0.926  | 0.000                               | 0.000                    | 0.000                    | 0.542                    | 0.384                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.173                       |
| Feb       | 1.060  | 0.000                               | 0.000                    | 0.000                    | 0.486                    | 0.574                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.268                       |
| Mar       | 4.872  | 0.000                               | 0.000                    | 0.000                    | 0.649                    | 4.223                    | 5.510   | 0.000                       | 0.000       | 1.400          | 0.279                       |
| Apr       | 1.508  | 0.000                               | 0.000                    | 0.252                    | 0.794                    | 0.462                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.192                       |
| May       | 10.853   | 0.000                               | 0.000                    | 0.000                    | 1.365                    | 9.488                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.257                       |
| Jun       |  |                                     |                          |                          |                          |                          |   |                             |             |                |                             |
| Sub-total | 19.219   | 0.000                               | 0.000                    | 0.252                    | 3.837                    | 15.130                   | 5.510   | 0.000                       | 0.000       | 1.400          | 1.169                       |
| July      |  |                                     |                          |                          |                          |                          |   |                             |             |                |                             |
| August    |  |                                     |                          |                          |                          |                          |   |                             |             |                |                             |
| September |  |                                     |                          |                          |                          |                          |   |                             |             |                |                             |
| October   |  |                                     |                          |                          |                          |                          |   |                             |             |                |                             |
| November  |  |                                     |                          |                          |                          |                          |   |                             |             |                |                             |
| December  |  |                                     |                          |                          |                          |                          |   |                             |             |                |                             |
| Total     | 19.219   | 0.000                               | 0.000                    | 0.252                    | 3.837                    | 15.130                   | 5.510   | 0.000                       | 0.000       | 1.400          | 1.169                       |

## Comments:

- 1) Assumption: The densities of Rock, Soil, Mixed Rock and Soil, and Regular Spoil are 2.0 ton/m<sup>3</sup>; the density of general refuse is 1.0 ton/m<sup>3</sup>; the density of waste oil is 1.0 ton/m<sup>3</sup>.
- 2) The cut-off date of waste amount in May is 31/05/2017 for TKO137FB/TM38FB, NENT/SENT/WENT landfill.
- 3) The amount of waste in May is 257.06 tons for NENT/SENT/WENT Landfill, 2730.73 tons for TKO137FB/TM38FB.
- 4) The amount of C&D material reused in the Contract in May is 0 trucks, approximately 0 tons, for cut-off date as 31/05/2017.
- 5) The amount of chemical waste in May is 0L for cut-off date as 31/05/2017.
- 6) The value of waste amount would be rounded up in three decimal places.



## Appendix K

---

Environmental  
Monitoring  
Programme for  
Coming Month

**SCL Works Contract 1103 - Hin Keng to Diamond Hill Tunnels  
Tentative Impact Monitoring Schedule - June 2017**

| Date      |     | Air Quality  | Noise                     | Site Inspection |
|-----------|-----|--------------|---------------------------|-----------------|
|           |     | 24-hours TSP | L <sub>Aeq</sub> , 30 min |                 |
| 1-Jun-17  | Thu |              |                           |                 |
| 2-Jun-17  | Fri |              |                           |                 |
| 3-Jun-17  | Sat |              |                           |                 |
| 4-Jun-17  | Sun |              |                           |                 |
| 5-Jun-17  | Mon |              |                           |                 |
| 6-Jun-17  | Tue |              |                           |                 |
| 7-Jun-17  | Wed |              |                           |                 |
| 8-Jun-17  | Thu |              |                           |                 |
| 9-Jun-17  | Fri |              |                           |                 |
| 10-Jun-17 | Sat |              |                           |                 |
| 11-Jun-17 | Sun |              |                           |                 |
| 12-Jun-17 | Mon |              |                           |                 |
| 13-Jun-17 | Tue |              |                           |                 |
| 14-Jun-17 | Wed |              |                           |                 |
| 15-Jun-17 | Thu |              |                           |                 |
| 16-Jun-17 | Fri |              |                           |                 |
| 17-Jun-17 | Sat |              |                           |                 |
| 18-Jun-17 | Sun |              |                           |                 |
| 19-Jun-17 | Mon |              |                           |                 |
| 20-Jun-17 | Tue |              |                           |                 |
| 21-Jun-17 | Wed |              |                           |                 |
| 22-Jun-17 | Thu |              |                           |                 |
| 23-Jun-17 | Fri |              |                           |                 |
| 24-Jun-17 | Sat |              |                           |                 |
| 25-Jun-17 | Sun |              |                           |                 |
| 26-Jun-17 | Mon |              |                           |                 |
| 27-Jun-17 | Tue |              |                           |                 |
| 28-Jun-17 | Wed |              |                           |                 |
| 29-Jun-17 | Thu |              |                           |                 |
| 30-Jun-17 | Fri |              |                           |                 |

|  |                |
|--|----------------|
|  | Public Holiday |
|  | Monitoring Day |

**Monitoring Details**

| Monitoring  | Locations  | Parameters   |
|-------------|--|--|
| Air Quality | DMS-1 -<br>C.U.H.K.A.A<br>Thomas Cheung<br>School, DMS-2 -<br>Price Memorial<br>Catholic Primary<br>School       | 24-hour TSP  |
| Noise       | NMS-CA-1 -<br>C.U.H.K.A.A<br>Thomas Cheung<br>School, NMS-CA-2 -<br>Price Memorial<br>Catholic Primary<br>School | L <sub>Aeq</sub> (30 min), L <sub>10</sub> , L <sub>90</sub> |

## Appendix L

---

Cumulative Log for  
Complaints,  
Notifications of  
Summons and  
Successful  
Prosecutions



Ove Arup and Partners HK Ltd.

**Environmental Complaint Log (Cumulative)**

| <b>Reporting Month</b> | <b>Number of Complaints in Reporting Month</b> | <b>Number of Summons in Reporting Month</b> | <b>Number of Prosecutions in Reporting Month</b> |
|------------------------|--|---|--|
| February 2013          | 0  | 0   | 0  |
| March 2013             | 0  | 0   | 0  |
| April 2013             | 0  | 0   | 0  |
| May 2013               | 0  | 0   | 0  |
| June 2013              | 0  | 0   | 0  |
| July 2013              | 0  | 0   | 0  |
| August 2013            | 0  | 0   | 0  |
| September 2013         | 0  | 0   | 0  |
| October 2013           | 0  | 0   | 0  |
| November 2013          | 0  | 0   | 0  |
| December 2013          | 0  | 0   | 0  |
| January 2014           | 0  | 0   | 0  |
| February 2014          | 0  | 0   | 0  |
| March 2014             | 0  | 0   | 0  |
| April 2014             | 0  | 0   | 0  |
| May 2014               | 0  | 0   | 0  |
| June 2014              | 0  | 0   | 0  |
| July 2014              | 0  | 0   | 0  |
| August 2014            | 0  | 0   | 0  |
| September 2014         | 0  | 0   | 0  |
| October 2014           | 0  | 0   | 0  |
| November 2014          | 1  | 0   | 0  |
| December 2014          | 2  | 0   | 0  |
| January 2015           | 0  | 0   | 0  |
| February 2015          | 3  | 0   | 0  |
| March 2015             | 3  | 0   | 0  |
| April 2015             | 0  | 0   | 0  |
| May 2015               | 0  | 0   | 0  |
| June 2015              | 0  | 0   | 0  |
| July 2015              | 1  | 0   | 0  |
| August 2015            | 0  | 0   | 0  |
| September 2015         | 0  | 0   | 0  |
| October 2015           | 1  | 0   | 0  |
| November 2015          | 1  | 0   | 0  |
| December 2015          | 0  | 0   | 0  |
| January 2016           | 0  | 0   | 0  |
| February 2016          | 0  | 0   | 0  |
| March 2016             | 1  | 0   | 0  |
| April 2016             | 1  | 0   | 0  |
| May 2016               | 1  | 0   | 0  |
| June 2016              | 1  | 0   | 0  |

Ove Arup and Partners HK Ltd.

| <b>Reporting Month</b> | <b>Number of Complaints in Reporting Month</b> | <b>Number of Summons in Reporting Month</b> | <b>Number of Prosecutions in Reporting Month</b> |
|------------------------|--|---|--|
| July 2016              | 0  | 0   | 0  |
| August 2016            | 3  | 0   | 0  |
| September 2016         | 0  | 0   | 0  |
| October 2016           | 0  | 0   | 0  |
| November 2016          | 0  | 0   | 0  |
| December 2016          | 0  | 0   | 0  |
| January 2017           | 0  | 0   | 0  |
| February 2017          | 0  | 0   | 0  |
| March 2017             | 1  | 0   | 0  |
| April 2017             | 0  | 0   | 0  |
| May 2017               | 0  | 0   | 0  |
| <b>Total</b>           | 20   | 0   | 0  |

---

**Appendix D**

**51<sup>st</sup> EM&A Report for Works Contract 1106 –  
Diamond Hill Station**

---

MTR Corporation Limited

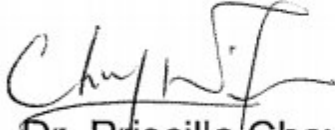
**Shatin to Central Link –  
Tai Wai to Hung Hom Section**

Monthly EM&A Report No. 51

[Period from 1 to 31 May 2017]

Works Contract 1106 – Diamond Hill Station

(June 2017)

Certified by:   
\_\_\_\_\_ Dr. Priscilla Choy

Position: Environmental Team Leader

Date: 9<sup>th</sup> June 2017




**Leader Joint Venture**

**Shatin to Central Link –  
Contract 1106  
Diamond Hill Station**

**Monthly Environmental  
Monitoring and Audit Report  
For May 2017**

(Version 1.0)

Certified By   
Dr. Priscilla Choy  
(Environmental Team Leader)

REMARKS:

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

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

**CINOTECH CONSULTANTS LTD**

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

## TABLE OF CONTENTS

|   | Page      |
|---|-----------|
| <b>EXECUTIVE SUMMARY .....</b>  | <b>1</b>  |
| Introduction .....  | 1         |
| Summary of Construction Works undertaken during the Reporting Month .....                   | 1         |
| Environmental Monitoring and Audit Progress .....   | 1         |
| Regular Construction Noise and Construction Dust Monitoring .....                           | 1         |
| Cultural Heritage .....   | 1         |
| Waste Management .....  | 2         |
| Landscape and Visual.....   | 2         |
| Environmental Site Inspection .....   | 2         |
| Environmental Exceedance/Non-conformance/Complaint/Summons and Successful Prosecution ..... | 2         |
| Future Key Issues .....   | 2         |
| <b>1 INTRODUCTION .....</b>   | <b>4</b>  |
| Purpose of the Report .....   | 4         |
| Structure of the Report .....   | 4         |
| <b>2 PROJECT INFORMATION.....</b>   | <b>5</b>  |
| Background .....  | 5         |
| General Site Description .....  | 5         |
| Construction Programme and Activities .....   | 5         |
| Project Organisation .....  | 5         |
| Status of Environmental Licences, Notification and Permits.....                             | 5         |
| Summary of EM&A Requirements .....  | 6         |
| <b>3 ENVIRONMENTAL MONITORING REQUIREMENTS .....</b>  | <b>7</b>  |
| Regular Construction Noise Monitoring .....   | 7         |
| Monitoring Parameter and Frequency .....  | 7         |
| Monitoring Equipment and Methodology .....  | 7         |
| Field Monitoring.....   | 7         |
| Monitoring Equipment .....  | 8         |
| Maintenance and Calibration.....  | 10        |
| Action & Limit Level for Construction Noise Monitoring .....                                | 10        |
| Regular Construction Dust Monitoring .....  | 10        |
| Monitoring Parameter and Frequency .....  | 11        |
| Monitoring Equipment .....  | 11        |
| Instrumentation.....  | 11        |
| HVS Installation .....  | 11        |
| Filters Preparation .....   | 12        |
| Operating/Analytical Procedures .....   | 12        |
| Maintenance/Calibration .....   | 13        |
| Action and Limit Levels for Dust Monitoring .....   | 13        |
| Cultural Heritage .....   | 13        |
| Landscape and Visual.....   | 13        |
| <b>4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS .....</b>               | <b>14</b> |
| <b>5 MONITORING RESULTS .....</b>   | <b>15</b> |
| Regular Construction Noise Monitoring .....   | 15        |
| Regular Dust Monitoring.....  | 15        |
| Cultural Heritage .....   | 16        |
| Waste Management .....  | 16        |

|  |           |
|--|-----------|
| Landscape and Visual.....  | 17        |
| <b>6 ENVIRONMENTAL SITE INSPECTION.....</b>                      | <b>18</b> |
| Site Audits .....  | 18        |
| Implementation Status of Environmental Mitigation Measures.....  | 18        |
| <b>7 ENVIRONMENTAL NON-CONFORMANCE.....</b>                      | <b>19</b> |
| Summary of Exceedances .....                                     | 19        |
| Summary of Environmental Non-Compliance.....                     | 19        |
| Summary of Environmental Complaint .....                         | 19        |
| Summary of Environmental Summon and Successful Prosecution ..... | 19        |
| <b>8 FUTURE KEY ISSUES .....</b>                                 | <b>20</b> |
| Construction Programme for the Next Month.....                   | 20        |
| Key Issues in the Next Month .....                               | 20        |
| Monitoring Schedule in the Next Month.....                       | 20        |
| <b>9 CONCLUSIONS AND RECOMMENDATIONS .....</b>                   | <b>21</b> |
| Conclusions .....  | 21        |
| Recommendations .....  | 21        |

## LIST OF TABLES

|           |   |
|-----------|---|
| Table 2.1 | Status of Environmental Licences, Notification and Permits          |
| Table 3.1 | Regular Construction Noise Monitoring Location                      |
| Table 3.2 | Noise Monitoring Equipment  |
| Table 3.3 | Dust Monitoring Location  |
| Table 3.4 | Dust Monitoring Parameters and Frequency                            |
| Table 3.5 | Dust Monitoring Equipment   |
| Table 4.1 | Status of Required Submissions under EP                             |
| Table 5.1 | Summary Table of Dust Monitoring Results during the reporting month |
| Table 5.2 | Quantities of Waste Generated from the Project                      |
| Table 6.1 | Observations and Recommendations of Site Audit                      |

## LIST OF FIGURES

|          |  |
|----------|--|
| Figure 1 | The Alignment and Works Area for Works Contract 1106 |
| Figure 2 | Locations of Construction Noise Monitoring           |
| Figure 3 | Locations of Dust Monitoring                         |
| Figure 4 | Organisation Chart and Key Contact of the Project    |

## LIST OF APPENDICES

|            |   |
|------------|---|
| Appendix A | Tentative Construction Programme  |
| Appendix B | Action and Limit Levels   |
| Appendix C | Calibration Certificates for Monitoring Equipment                                   |
| Appendix D | Impact Monitoring Schedule  |
| Appendix E | 24-hour TSP Monitoring Results and Graphical Presentations                          |
| Appendix F | Noise Monitoring Results and Graphical Presentations                                |
| Appendix G | Summary of Exceedance   |
| Appendix H | Site Audit Summary  |
| Appendix I | Event and Action Plans  |
| Appendix J | Updated Environmental Mitigation Implementation Schedule                            |
| Appendix K | Waste Generation in the Reporting Month   |
| Appendix L | Cumulative Log for Complaints, Notifications of Summons and Successful Prosecutions |

## EXECUTIVE SUMMARY

### Introduction

1. This is the 51<sup>th</sup> monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for **MTR Shatin to Central Link (SCL) Works Contract 1106 – Diamond Hill Station**. This report documents the findings of EM&A Works conducted from 1<sup>st</sup> to 31<sup>st</sup> May 2017.

### Summary of Construction Works undertaken during the Reporting Month

2. The major site activities undertaken in the reporting month include:
  - Construct Level U1 Wall and structural steel erection;
  - ABWF works at SCL-DIH station area;
  - Foundation works, temporary road diversion, TTA for site access and temporary footpath diversion at Choi Hung Road;
  - Excavation and lateral support works at Lung Cheung Road;
  - Construct Base Slab at MOE near Entrance B; and
  - Drilling works and raking pile installation at Entrance A2.

### Environmental Monitoring and Audit Progress

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

#### Regular Construction Noise and Construction Dust Monitoring

- Regular construction noise monitoring during normal working hours  
*Noise Monitoring Station ID*
  - NMS-CA-3<sup>(1)</sup>/NMS-CA-4<sup>(2)</sup> (H.K. Sheng Kung Hui Nursing Home) 5 times
  - NMS-CA-4<sup>(1)</sup>/NMS-CA-3<sup>(2)</sup> (Block 1, Rhythm Garden (north-eastern façade)) 5 times
  - NMS-CA-5<sup>(1)</sup>/NMS-CA-2<sup>(2)</sup> (Block 1, Rhythm Garden (northern façade)) 5 times
- Construction Dust (24-hour TSP) Monitoring  
*Dust Monitoring Station ID*
  - DMS-3<sup>(1)</sup>/DMS-4<sup>(2)</sup> (H.K. Sheng Kung Hui Nursing Home) 5 times
  - DMS-4<sup>(1)</sup>/DMS-3<sup>(2)</sup> (Block 1, Rhythm Garden) 5 times

#### Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).  
(2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

#### Cultural Heritage

4. An Archaeological Action Plan (AAP) for the survey-cum-excavation at the former Tai Hom Village site was approved by EPD on 8 April 2013. A Licence to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance has been subsequently obtained from Antiquities and Monuments Office (AMO) on 19 April 2013. The archaeological survey-cum-excavation at Former Tai Hom Village commenced on 9 May 2013 and the fieldwork had been completed in September 2013

in accordance with the Licence granted and the approved AAP. The finalized Archaeological Survey-cum-Excavation Report was submitted to AMO on 27 February 2017. Artefacts handover to AMO was completed on 18 May 2017.

5. The Conservation Plans for the two historic buildings, namely Former Royal Air Force Hangar and the Old Pillbox at the former Tai Hom Village site, were approved by EPD on 24 April 2013. Dismantling works on Former Royal Air Force Hangar was carried out in accordance with the approved Conservation Plan and completed in June 2013. Relocation works for the Old Pillbox had been completed in November 2013 in accordance with the approved Conservation Plan. Regular maintenance and inspection works of the two historic buildings were carried out in accordance with the approved Conservation Plan.

#### Waste Management

6. Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. About 32 m<sup>3</sup> of inert C&D materials were generated from the Project and were sent to Tseung Kwan O Area 137 Fill Bank during the reporting month. 105 m<sup>3</sup> of non-recyclable non-inert C&D materials, such as general refuse, were disposed of at NENT Landfill. No chemical waste was collected by licensed collector during the reporting month. No paper/ cardboard packaging, plastics and metal were generated in this reporting month.

#### Landscape and Visual

7. Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 4 and 18 May 2017. All necessary mitigation measures have been implemented and recommended follow-up actions have been discharged by the Contractor. Details of the audit findings and implementation status are presented in Section 6.

#### Environmental Site Inspection

8. Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 4, 11, 18 and 25 May 2017. The representative of the IEC joined the site inspection on 25 May 2017. Details of the audit findings and implementation status are presented in Section 6.

#### **Environmental Exceedance/Non-conformance/Complaint/Summons and Successful Prosecution**

9. No exceedance of the Action and Limit Levels of regular construction noise monitoring and 24-hour TSP monitoring was recorded during the reporting period.
10. No non-compliance event was recorded during the reporting period.
11. No Project related environmental complaint and no notification of summons/ successful prosecutions were received in this reporting period.

#### **Future Key Issues**

12. Major site activities for the coming reporting month will include:

- Superstructure works of SCL DIH station;
- ABWF works at SCL-DIH station area;
- Foundation works, temporary road diversion, TTA for site access and temporary footpath diversion at Choi Hung Road;
- Construct base slab at Lung Cheung Road;
- Construct columns and walls at MOE near Entrance B; and
- Excavation and lateral support works at Entrance A2.

## 1 INTRODUCTION

1.1 Cinotech Consultants Limited (Cinotech) was appointed by Leader Joint Venture (LJV) as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the MTR Shatin to Central Link (SCL) Works Contract 1106 – Diamond Hill Station (hereafter referred to as the Project).

### **Purpose of the Report**

1.2 This is the 51<sup>th</sup> EM&A report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from 1<sup>st</sup> to 31<sup>st</sup> May 2017.

### **Structure of the Report**

1.3 The structure of the report is as follows:

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

Section 2: **Project Information** - summarises background and scope of the project, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting period.

Section 3: **Environmental Monitoring Requirement** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, Event / Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

Section 4: **Implementation Status on Environmental Mitigation Measures** - summarises the implementation of environmental protection measures during the reporting period.

Section 5: **Monitoring Results** - summarises the monitoring results obtained in the reporting period.

Section 6: **Environmental Site Inspection** - summarises the audit findings of the weekly site inspections undertaken within the reporting period.

Section 7: **Environmental Non-conformance** - summarises any monitoring exceedance, environmental complaints and environmental summons within the reporting period.

Section 8: **Future Key Issues** - summarises the impact forecast and monitoring schedule for the next three months.

Section 9: **Conclusions and Recommendations**

## 2 PROJECT INFORMATION

### Background

- 2.1 The Shatin to Central Link – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH)) is an approximately 11 km long extension of the Ma On Shan Line and links 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).
- 2.2 The construction of the SCL (TAW-HUH) has been divided into a series of civil construction Works Contracts. This Works Contract 1106 covers the construction of Shatin-to-Central Link (SCL) station in Diamond Hill (DIH).

### General Site Description

- 2.3 For Works Contract 1106, the works area for the DIH station is located to the northeast of Choi Hung Road next to the existing Kwun Tong Line DIH Station. The DIH station will be constructed by cut-and-cover method. Since July 2016, southern portion of the works area at Choi Hung Road was handover to relevant government department. The latest alignment and works areas for the Works Contract 1106 are shown in **Figure 1**.

### Construction Programme and Activities

- 2.4 A summary of the major construction activities undertaken in this reporting period is shown as follows. The tentative construction programme is presented in **Appendix A**.
  - Construct Level U1 Wall and structural steel erection;
  - ABWF works at SCL-DIH station area;
  - Foundation works, temporary road diversion, TTA for site access and temporary footpath diversion at Choi Hung Road;
  - Excavation and lateral support works at Lung Cheung Road;
  - Construct Base Slab at MOE near Entrance B; and
  - Drilling works and raking pile installation at Entrance A2.

### Project Organisation

- 2.5 The project organizational chart and contact details are shown in **Figure 4**.

### Status of Environmental Licences, Notification and Permits

- 2.6 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since the commencement of the construction works in March 2013 is presented in Table 2.1.



**Table 2.1 Summary of the Status of Environmental Licences, Notification and Permits**

| Permit / License No.   | Valid Period |            | Status |
|--|--------------|------------|--------|
|  | From         | To         |        |
| <b>Environmental Permit (EP)</b>   |              |            |        |
| EP-438/2012/K  | 04/10/2016   | N/A        | Valid  |
| <b>Notification pursuant to Air Pollution Control (Construction Dust) Regulation</b> |              |            |        |
| No.: 378656  | 28/08/2014   | N/A        | Valid  |
| <b>Billing Account for Construction Waste Disposal</b>                               |              |            |        |
| Account No.: 7016601   | 27/12/2012   | N/A        | Valid  |
| <b>Registration of Chemical Waste Producer</b>                                       |              |            |        |
| 5213-281-S3711-02  | 28/01/2015   | N/A        | Valid  |
| <b>Effluent Discharge License under Water Pollution Control Ordinance</b>            |              |            |        |
| WT00025615-2016  | 24/10/2016   | 31/01/2018 | Valid  |
| WT00016920-2013  | 09/06/2013   | 30/09/2018 | Valid  |
| <b>Construction Noise Permit (CNP)</b>   |              |            |        |
| GW-RE0309-17   | 24/04/2017   | 21/10/2017 | Valid  |

### Summary of EM&A Requirements

- 2.7 The EM&A programme under Works Contract 1106 requires regular dust and noise monitoring as well as environmental site audits. The EM&A requirements are described in the following sections, including:
- All monitoring parameters;
  - Action and Limit levels for all environmental parameters;
  - Event / Action Plans;
  - Environmental mitigation measures, as recommended in the Project EIA study final report; and
  - Environmental requirements in contract documents.
- 2.8 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 6 of this report.
- 2.9 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely construction noise & dust monitoring as well as audit works for the Project in the reporting month.

### 3 ENVIRONMENTAL MONITORING REQUIREMENTS

#### **Regular Construction Noise Monitoring**

- 3.1 In accordance with the EM&A Manual, monitoring of construction noise impact should be conducted at the designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was rejected; alternative locations were proposed and agreed by the ER (Engineer’s Representative), IEC (Independent Environmental Checker) and EPD (Environmental Protection Department). The construction noise monitoring locations are listed in **Table 3.1** and shown in **Figure 2**.

**Table 3.1 Regular Construction Noise Monitoring Location**

| <b>Regular Construction Noise Monitoring Location</b>      | <b>Description</b>                            | <b>Type of Measurement</b> |
|--|---|----------------------------|
| NMS-CA-3 <sup>(1)(3)</sup> /<br>NMS-CA-4 <sup>(2)(3)</sup> | Hong Kong Sheng Kung Hui Nursing Home         | Façade                     |
| NMS-CA-4 <sup>(1)</sup> /<br>NMS-CA-3 <sup>(2)</sup>       | Block 1, Rhythm Garden (north-eastern façade) | Façade                     |
| NMS-CA-5 <sup>(1)(4)</sup> /<br>NMS-CA-2 <sup>(2)(4)</sup> | Block 1, Rhythm Garden (northern façade)      | Façade                     |

Note:

- (1) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Shek On House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Hong Kong S.K.H Nursing Home) was proposed and approved by the ER and agreed by the IEC and EPD.
- (4) Access to the monitoring location at Canossa Primary School (San Po Kong) (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Block 1, Rhythm Garden (northern façade)) was proposed and approved by the ER and agreed by the IEC and EPD.

#### **Monitoring Parameter and Frequency**

- 3.2 Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the 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 of monitoring stations at Rhythm Garden is shown in **Appendix D**.
- 3.3 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) (as six consecutive  $L_{eq, 5-min}$  readings) was used as the monitoring metric for the time period between 0700 – 1900 hours on normal weekdays.

#### **Monitoring Equipment and Methodology**

##### **Field Monitoring**

- 3.4 The monitoring procedures are as follows:
- The microphone head of the sound level meter was positioned 1m exterior of the noise sensitive facade and lowered sufficiently so that the building’s external wall

acts as a reflecting surface.

- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - measurement time : 5 minutes (obtaining six consecutive  $L_{eq,5min}$  readings for a  $L_{eq,30 min}$  reading )
- Prior to and after noise measurement, the meter was calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement was considered invalid and repeat of noise measurement was required after re-calibration or repair of the equipment.
- The wind speed at the monitoring station was checked with the portable wind meter. Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.
- Noise measurement was paused during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- At the end of the monitoring period, the  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- A façade correction of +3dB(A) shall be made to the noise parameter obtained by free field measurement.

### Monitoring Equipment

- 3.5 The sound level meters and calibrator used for the noise measurement, as listed in **Table 3.2**, compile with the IEC 651: 1979 and 804:1985 (Type 1) specification. The calibration certificates of the sound level meters are included in **Appendix C**.

**Table 3.2 Noise Monitoring Equipment**

| Monitoring Equipment | Model (Serial no.)           |
|----------------------|------------------------------|
| Sound Level Meter    | SVAN 955 (Serial no.: 12563) |
|                      | SVAN 955 (Serial no.: 14303) |
|                      | SVAN 957 (Serial no.: 21455) |
|                      | SVAN 957 (Serial no.: 23853) |
| Calibrator           | SV30A (Serial no.: 24791)    |
|                      | 4231 (Serial no.: 2326353)   |

## Maintenance and Calibration

3.6 Maintenance and Calibration procedures were as follows:

- The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator were checked and calibrated at yearly intervals. Copies of calibration certificates are attached in **Appendix C**.

### Action & Limit Level for Construction Noise Monitoring

3.7 The Action and Limit Levels are presented in **Appendix B** and the Event / Action Plan (EAP) for noise monitoring is presented in **Appendix I**.

### Continuous Noise Monitoring

3.8 With reference to the latest Continuous Noise Monitoring Plan (CNMP) and CNMMP prepared and submitted under EP Condition 2.9 and 2.10, it is predicted that no residual air-borne construction noise impacts exceeding the relevant noise criteria will be anticipated. Therefore, no continuous noise monitoring is required during the construction of the SCL (TAW-HUH) under Works Contract 1106.

### Regular Construction Dust Monitoring

3.9 The proposed dust monitoring stations for the construction phase of the Project, as recommended in the approved EM&A Manual, are listed in **Table 3.3** and shown in **Figure 3**. The proposed locations have been agreed with the ER, EPD and IEC.

**Table 3.3 Dust Monitoring Location**

| Regular Dust Monitoring Location                     | Description                           |
|--|---------------------------------------|
| DMS-3 <sup>(1)(3)</sup> /<br>DMS-4 <sup>(2)(3)</sup> | Hong Kong Sheng Kung Hui Nursing Home |
| DMS-4 <sup>(1)</sup> /<br>DMS-3 <sup>(2)</sup>       | Block 1, Rhythm Garden                |

Note:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Shek On House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Hong Kong S.K.H Nursing Home) was proposed and approved by the ER and agreed by the IEC and EPD.

### Monitoring Parameter and Frequency

- 3.10 The dust monitoring (in terms of Total Suspended Particulates (TSP)) was conducted at the designated monitoring stations in accordance with the requirements stipulated in the EM&A Manual. The 24-hour TSP levels were monitored at the frequency and duration stated in **Table 3.4**. The TSP monitoring at Rhythm Garden was conducted as per the schedule presented in **Appendix D**.

**Table 3.4 Dust Monitoring Parameters and Frequency**

| Monitoring Period                | Duration                           | Parameter   | Frequency       |
|----------------------------------|------------------------------------|-------------|-----------------|
| Impact Monitoring <sup>(1)</sup> | Throughout the construction period | 24-hour TSP | Once per 6 days |

Note:

- (1) 1- hour TSP shall be conducted when one documented valid complaint is received.

### Monitoring Equipment

- 3.11 **Table 3.5** summarizes the equipment used for the dust monitoring.

**Table 3.5 Dust Monitoring Equipment**

| Equipment           | Model and Make  | Qty. |
|---------------------|---|------|
| HVS                 | Tisch Environmental, Inc.; Model no. TE-5170,<br>Serial no.: 2352   | 1    |
| HVS                 | Tisch Environmental, Inc.; Model no. TE-5170,<br>Serial no.: 3223   | 1    |
| Calibration Orifice | Tisch Environmental, Inc.; Model no. TE – 5025A<br>Orifice ID: 0993 | 1    |

### Instrumentation

- 3.12 High Volume Samplers (HVS) connected with appropriate sampling inlets were employed for air quality monitoring. Each sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 Appendix B (Part 50).

### HVS Installation

- 3.13 The following guidelines were adopted during the installation of HVS:
- Sufficient support was provided to secure the samplers against gusty wind.
  - No two samplers were placed less than 2 meters apart.
  - The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
  - A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
  - A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
  - No furnaces or incineration flues were nearby.
  - Airflow around the sampler was unrestricted.

- The samplers were more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

### **Filters Preparation**

- 3.14 Fiberglass filters were used which have a collection efficiency of larger than 99% for particles of 0.3  $\mu\text{m}$  diameter. A HOKLAS accredited laboratory, Wellab Ltd. (HOKLAS Registration No. 083), was responsible for the preparation of pre-weighed filter papers for Cinotech's monitoring team.
- 3.15 All filters, which were prepared by Wellab Ltd., were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than  $\pm 3$  °C; the relative humidity (RH) was < 50% and not variable by more than  $\pm 5\%$ . A convenient working RH was 40%.
- 3.16 Wellab Ltd. has a comprehensive quality assurance and quality control programmes.

### **Operating/Analytical Procedures**

- 3.17 Operating/analytical procedures for the TSP monitoring were highlighted as follows:
- Prior to the commencement of the dust sampling, the flow rate of the HVS was properly set (between 1.1 and 1.4  $\text{m}^3/\text{min}.$ ) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard.
  - The power supply was checked to ensure the sampler worked properly.
  - The filter holding frame and the area surrounding the filter were cleaned.
  - On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the air quality monitoring station.
  - The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
  - The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts to avoid air leakage at the edges.
  - The shelter lid was closed and secured with the aluminum strip.
  - A new flow rate record chart was set into the flow recorder.
  - The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
  - The flow rate of the HVS sampler would be verified to be constant and recorded on the data sheet before and after sampling.
  - The elapsed time and other relevant information was recorded. After sampling, the sampled filter was removed carefully and folded in half-length so that only surfaces with collected particulate matter were in contact.
  - It was then placed in a clean plastic envelope and sealed and sent to the Wellab Ltd. for weighing.
  - Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment should be between 25°C and 30°C and not vary by more than  $\pm 3^\circ\text{C}$ ; the relative humidity (RH) should be < 50% and not vary by more than  $\pm 5\%$ . A convenient working RH is 40%. Weighing results were returned to Cinotech for further analysis of TSP concentrations.

### **Maintenance/Calibration**

- 3.18 The following maintenance/calibration was required for the HVS:
- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
  - Calibration of the HVS (five point calibration) using Calibration Kit was carried out every two months. Copies of calibration certificates are attached in **Appendix C**.
  - The HVS calibration orifice will be calibrated annually.

### **Action and Limit Levels for Dust Monitoring**

- 3.19 The Action and Limit levels have been established and are presented in **Appendix B** and the Event / Action Plan (EAP) for dust monitoring is presented in **Appendix I**.

### **Cultural Heritage**

- 3.20 An Archaeological Action Plan (AAP) for the survey-cum-excavation at the former Tai Hom Village site was approved by EPD on 8 April 2013. A Licence to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance has been subsequently obtained from Antiquities and Monuments Office (AMO) on 19 April 2013. The archaeological survey-cum-excavation at Former Tai Hom Village shall be conducted in accordance with the Licence granted and the approved AAP.
- 3.21 The Conservation Plans for the two historic buildings, namely Former Royal Air Force Hangar and the Old Pillbox at the former Tai Hom Village site, were approved by EPD on 24 April 2013. Dismantling works on Former Royal Air Force Hangar and relocation work of the Old Pillbox shall be carried out in accordance with the approved Conservation Plan. Regular maintenance and inspection works of the two historic buildings shall be carried out in accordance with the approved Conservation Plan.

### **Landscape and Visual**

- 3.22 In accordance with the EM&A Manual, the landscape and visual mitigation measures shall be implemented and a site inspection shall be conducted once every two weeks throughout the construction period. The implementation status is given in **Appendix J**. The Event / Action Plan (EAP) for landscape and visual are presented in **Appendix I**.



#### 4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

4.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status of the environmental mitigation measures of the reporting period is summarized in **Appendix J**. Status of required submissions under the Environmental Permit (EP) of the reporting period is presented in **Table 4.1**.

**Table 4.1 Status of Required Submissions under EP**

| EP Condition  | Submission                          | Submission Date           |
|---------------|-------------------------------------|---------------------------|
| Condition 3.4 | Monthly EM&A Report<br>(April 2017) | 12 <sup>th</sup> May 2017 |

## 5 MONITORING RESULTS

### Regular Construction Noise Monitoring

- 5.1 A total of 15 sets of 30-minute construction noise measurements were carried out at the monitoring stations during normal weekdays of the reporting period by ET of SCL Works Contract 1106. No exceedance of the Limit Level was recorded at designated monitoring stations.
- 5.2 The noise monitoring results recorded at NMS-CA-3<sup>(1)</sup>/NMS-CA-4<sup>(2)</sup> (Hong Kong S.K.H Nursing Home) and NMS-CA-5<sup>(1)</sup>/NMS-CA-2<sup>(2)</sup> (Block 1, Rhythm Garden (northern façade)) in May 2017 exceeded the daytime construction noise criterion except 8<sup>th</sup> May 2017 for Rhythm Garden (northern façade). However, the results are not considered as exceedance since the measured results were below the baseline noise levels. The noise monitoring results recorded at NMS-CA-4<sup>(1)</sup>/NMS-CA-3<sup>(2)</sup> (Block 1, Rhythm Garden (north-eastern façade)) in May 2017 did not exceed the daytime construction noise criterion.
- 5.3 Based on observation during the on-site monitoring, road traffic nearby, piling works in other construction site at 210-212 Choi Hung Road and foundation works in other construction site at former Tai Hom Village in May 2017 are considered as potential noise source other than construction works of the Project that affects the monitoring results in the reporting month.
- 5.4 The noise monitoring results together with their graphical presentations are presented in **Appendix F**<sup>(3)</sup>.
- 5.5 No exceedance of the Action and Limit Levels of construction noise due to the Project was recorded during the reporting period. The summary of exceedance in this reporting month is provided in **Appendix G**.

### Regular Dust Monitoring

- 5.6 A total of 10 sets of 24-hour TSP monitoring were carried out at the designated monitoring stations during normal weekdays of the reporting period by ET of SCL Works Contract 1106. The monitoring results together with their graphical presentations are presented in **Appendix E**<sup>(3)</sup> and a summary of the dust monitoring results in this reporting month is given in **Table 5.1**.

**Table 5.1 Summary Table of Dust Monitoring Results during the reporting month (Pending)**

| Parameter  | Minimum<br>µg/m <sup>3</sup> | Maximum<br>µg/m <sup>3</sup> | Average<br>µg/m <sup>3</sup> | Action Level,<br>µg/m <sup>3</sup> | Limit Level,<br>µg/m <sup>3</sup> |
|--|------------------------------|------------------------------|------------------------------|------------------------------------|-----------------------------------|
| 24-hr TSP<br>(DMS-3 <sup>(1)</sup> /<br>DMS-4 <sup>(2)</sup> ) | 29.4                         | 67.5                         | 42.2                         | 159.1                              | 260                               |
| 24-hr TSP<br>(DMS-4 <sup>(1)</sup> /<br>DMS-3 <sup>(2)</sup> ) | 28.2                         | 82.9                         | 40.7                         | 160.4                              | 260                               |

**Remarks:**

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).  
(2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

- 5.7 Based on observation during the on-site monitoring, road traffic emission nearby, piling works in other construction site at 210-212 Choi Hung Road and foundation works in other construction site at former Tai Hom Village in May 2017 are considered as potential dust source other than construction works of the Project that affects the monitoring results in the reporting month.
- 5.8 Wind monitoring data were obtained from Kai Tak Meteorological Station of Hong Kong Observatory and shown on **Appendix E**.
- 5.9 No exceedance of the Action and Limit Levels of the 24-hour TSP was recorded during the reporting period. The summary of exceedance in this reporting month is provided in **Appendix G**.

### **Cultural Heritage**

- 5.10 An Archaeological Action Plan (AAP) for the survey-cum-excavation at the former Tai Hom Village site was approved by EPD on 8 April 2013. A Licence to Excavate and Search for Antiquities under Antiquities and Monuments Ordinance has been subsequently obtained from Antiquities and Monuments Office (AMO) on 19 April 2013. The archaeological survey-cum-excavation at Former Tai Hom Village commenced on 9 May 2013 and completed in September 2013 in accordance with the Licence granted and the approved AAP. The finalized Archaeological Survey-cum-Excavation Report was submitted to AMO on 27 February 2017. Artefacts handover to AMO was completed on 18 May 2017.
- 5.11 The Conservation Plans for the two historic buildings, namely Former Royal Air Force Hangar and the Old Pillbox at the former Tai Hom Village site, were approved by EPD on 24 April 2013. Dismantling works on Former Royal Air Force Hangar was carried out in accordance with the approved Conservation Plan and completed in June 2013. Relocation works for the Old Pillbox had been completed in November 2013 in accordance with the approved Conservation Plan. Regular maintenance and inspection works of the two historic buildings were carried out in accordance with the approved Conservation Plan.

### **Waste Management**

- 5.12 Waste generated from this Project 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 like plastics and paper/cardboard packaging materials. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in **Table 5.2**. 32 m<sup>3</sup> of C&D materials was generated during the reporting period and were disposed as public fill. 105 m<sup>3</sup> of general refuse were generated during the reporting month. No chemical waste was collected by licensed collector during the reporting month. No paper/ cardboard packaging, plastics and metal were generated in this reporting month. Detail of waste management data is presented in **Appendix K**.

**Table 5.2 Quantities of Waste Generated from the Project**

| Reporting Month  | Quantity                             |  |                |                    |      |      |
|------------------|--------------------------------------|--|----------------|--------------------|------|------|
|                  | C&D Materials (inert) <sup>(a)</sup> | C&D Materials (non-inert) <sup>(b)</sup> |                |                    |      |      |
|                  |                                      | General Refuse                           | Chemical Waste | Recycled materials |      |      |
| Paper/ cardboard | Plastics                             |  |                | Metals             |      |      |
| May 2017         | 32 m <sup>3</sup>                    | 105 m <sup>3</sup>                       | 0 kg           | 0 kg               | 0 kg | 0 kg |

Notes:

- (a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil, which 32 m<sup>3</sup> was delivered to Tseung Kwan O Area 137 Fill Bank during the reporting month.
- (b) Non-inert C&D materials include steel, paper/cardboard packaging waste, plastics and other wastes such as general refuse and vegetative wastes. Steel materials generated from the project are grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. General refuse was delivered to designated landfill for disposal.

**Landscape and Visual**

5.13 Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 4 and 18 May 2017. The observations and recommendations made during the audit sessions are summarized in **Table 6.1**.

## 6 ENVIRONMENTAL SITE INSPECTION

### Site Audits

- 6.1 Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix H**.
- 6.2 Site audits were conducted on 4, 11, 18 and 25 May 2017. A joint site audit with the representative with IEC, ER, the Contractor and the ET was carried out on 25 May 2017. Site visit was conducted by EPD on 2 May 2017 in the reporting month. The details of observations during site audits carried out by ET can refer to **Table 6.1**.

### Implementation Status of Environmental Mitigation Measures

- 6.3 According to the EIA Study Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix J**.
- 6.4 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations made during the audit sessions are summarized in **Table 6.1**

**Table 6.1 Observations and Recommendations of Site Audit**

| Parameters                        | Date          | Observations and Recommendations  | Follow-up  |
|-----------------------------------|---------------|---|--|
| <i>Water Quality</i>              | 04 May 2017   | <u>Reminder:</u><br>The pH of the incoming water was found to be above 9. The contractor was reminded to adjust the dosage of acid. | As observed on 11 May 2017, the pH value of the treated water is within the discharge license requirement. |
|                                   | 27 April 2017 | <u>Reminder:</u><br>Sedimentation tank should be maintained more frequently to avoid the accumulation of silt.                      | As observed on 04 May 2017, silt was removed from the sedimentation tank.                                  |
| <i>Noise</i>                      | 11 May 2017   | <u>Reminder:</u><br>Noise emission label should be provided for the air compressor.   | As observed on 18 May 2017, noise emission label was provided for the air compressor.                      |
| <i>Landscape and Visual</i>       | --            | --  | --   |
| <i>Cultural Heritage</i>          | --            | --  | --   |
| <i>Air Quality</i>                | 18 May 2017   | <u>Reminder:</u><br>The frequent water spray should be provided within the haul road to prevent dust generation.                    | As observed on 18 May 2017, water spraying is being provided to the haul road.                             |
| <i>Waste/ Chemical Management</i> | 11 May 2017   | <u>Observation:</u><br>Drip tray should be provided to the chemical containers placed near AquaSed                                  | As observed on 18 May 2017, chemical containers were removed.  |
|                                   | 25 May 2017   | <u>Reminder:</u><br>Accumulated waste should be cleared more frequently.  | The follow up action will be reported in the next reporting month.   |

| Parameters                   | Date        | Observations and Recommendations   | Follow-up  |
|------------------------------|-------------|--|--|
|                              | 25 May 2017 | <u>Reminder:</u><br>Drip tray should be provided to the chemical container to avoid leakage of chemical. | The follow up action will be reported in the next reporting month. |
|                              | 25 May 2017 | <u>Reminder:</u><br>Drip tray should be maintained more frequently to avoid any chemical leakage.        | The follow up action will be reported in the next reporting month. |
| <i>Permits/<br/>Licenses</i> | --          | --   | --   |

## 7 ENVIRONMENTAL NON-CONFORMANCE

### Summary of Exceedances

- 7.1 No exceedance of the Action and Limit Levels of the regular construction noise and 24-hour TSP monitoring was recorded during the reporting month. The summary of exceedance is provided in **Appendix G**.

### Summary of Environmental Non-Compliance

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

### Summary of Environmental Complaint

- 7.3 No environmental Project-related complaints were received in the reporting month. The Cumulative Complaint Log since the commencement of the Project is presented in **Appendix L**.

### Summary of Environmental Summon and Successful Prosecution

- 7.4 There was no successful environmental prosecution or notification of summons received since the Project commencement. The Cumulative Log for environmental summon and successful prosecution since the commencement of the Project is presented in **Appendix L**.

## 8 FUTURE KEY ISSUES

### Construction Programme for the Next Month

8.1 A tentative construction programme is provided in **Appendix A**. The major construction activities in the coming month will include:

- Superstructure works of SCL DIH station;
- ABWF works at SCL-DIH station area;
- Foundation works, temporary road diversion, TTA for site access and temporary footpath diversion at Choi Hung Road;
- Construct base slab at Lung Cheung Road;
- Construct columns and walls at MOE near Entrance B; and
- Excavation and lateral support works at Entrance A2.

### Key Issues in the Next Month

8.2 Key issues to be considered in the coming month include:

- Dust arising from loading, unloading, transfer, handling or storage of bulk cement or dry PFA and excavated materials;
- Control of silty surface runoff;
- Preservation of Former Royal Air Force Hangar and Old Pillbox after dismantling and relocation;
- Preservation and protection of retained and transplanted trees; and
- Implementation of mitigation measures for noise nuisance from construction works.

### Monitoring Schedule in the Next Month

8.3 The tentative schedule of regular construction noise monitoring and 24-hour TSP monitoring at Rhythm Garden in the next reporting period is presented in **Appendix D**. The regular construction noise monitoring and 24-hour TSP monitoring will be conducted at the same monitoring locations in the next reporting period.

## 9 CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 9.1 The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1<sup>st</sup> to 31<sup>st</sup> May 2017 in accordance with EM&A Manual and the requirement under EP.
- 9.2 No exceedance of the Action and Limit Levels of regular construction noise and 24-hour TSP monitoring was recorded at the designated monitoring stations during the reporting month.
- 9.3 4 times of joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET and 2 times of bi-weekly inspection of the implementation of landscape and visual mitigation measures were conducted during the reporting period.
- 9.4 There was no Project related environmental complaint, and no successful prosecution or notification of summons received during the reporting month.
- 9.5 The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

### Recommendations

- 9.6 According to the environmental audit performed in the reporting month, the following recommendations were made:

#### Water Quality

- pH values of effluent should be closely monitoring to ensure compliance.

#### Waste / Chemical Management

- Drip tray should be provided to the chemical containers placed within site areas.
- Accumulated waste should be cleared more frequently.
- Drip tray should be properly maintained.

#### Construction Noise Impact

- Noise emission label should be affixed to all eligible working plants.

#### Air Quality

- Frequent water spraying should be provided within site area to prevent dust generation.



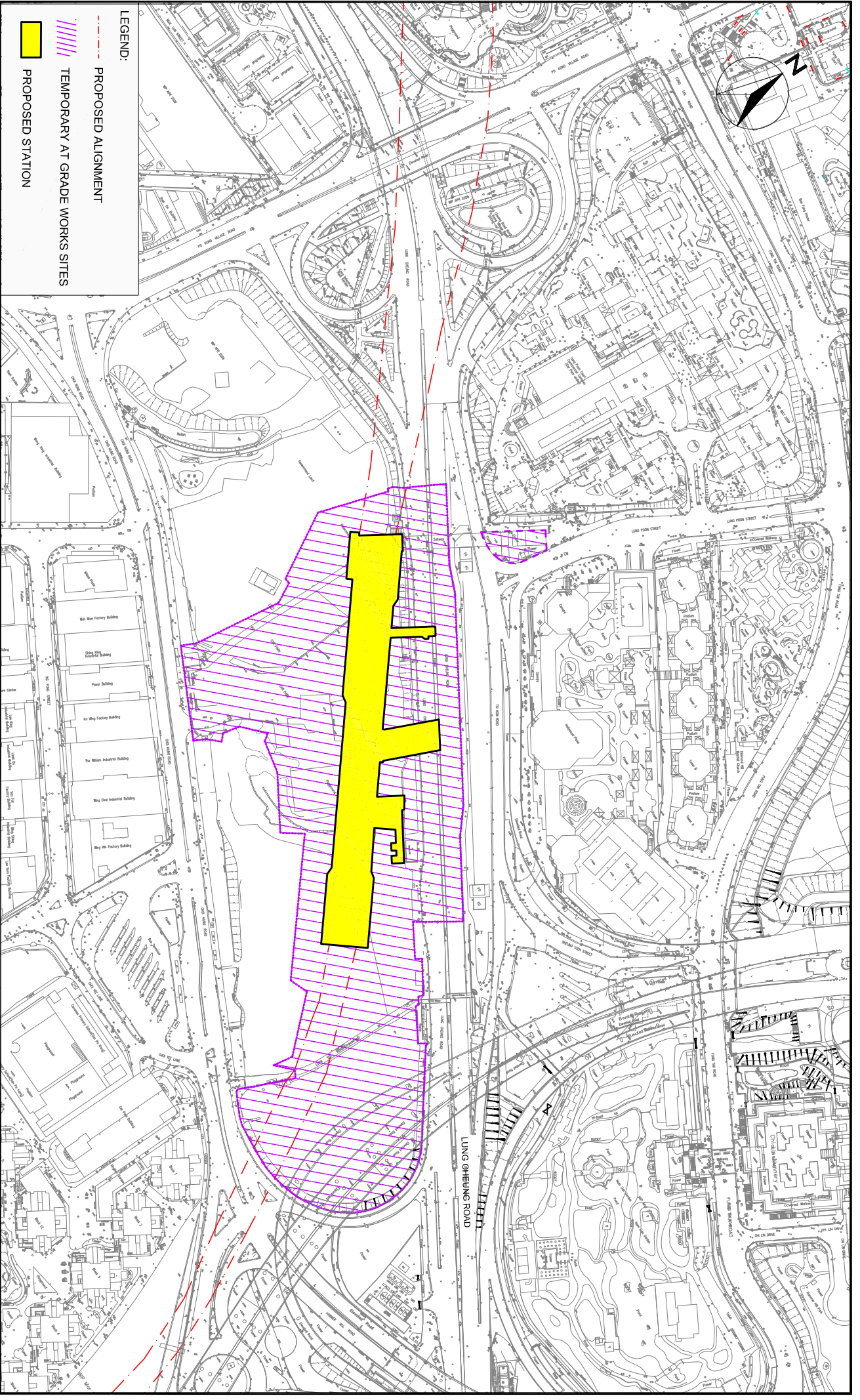
---

---

## FIGURES

---

---

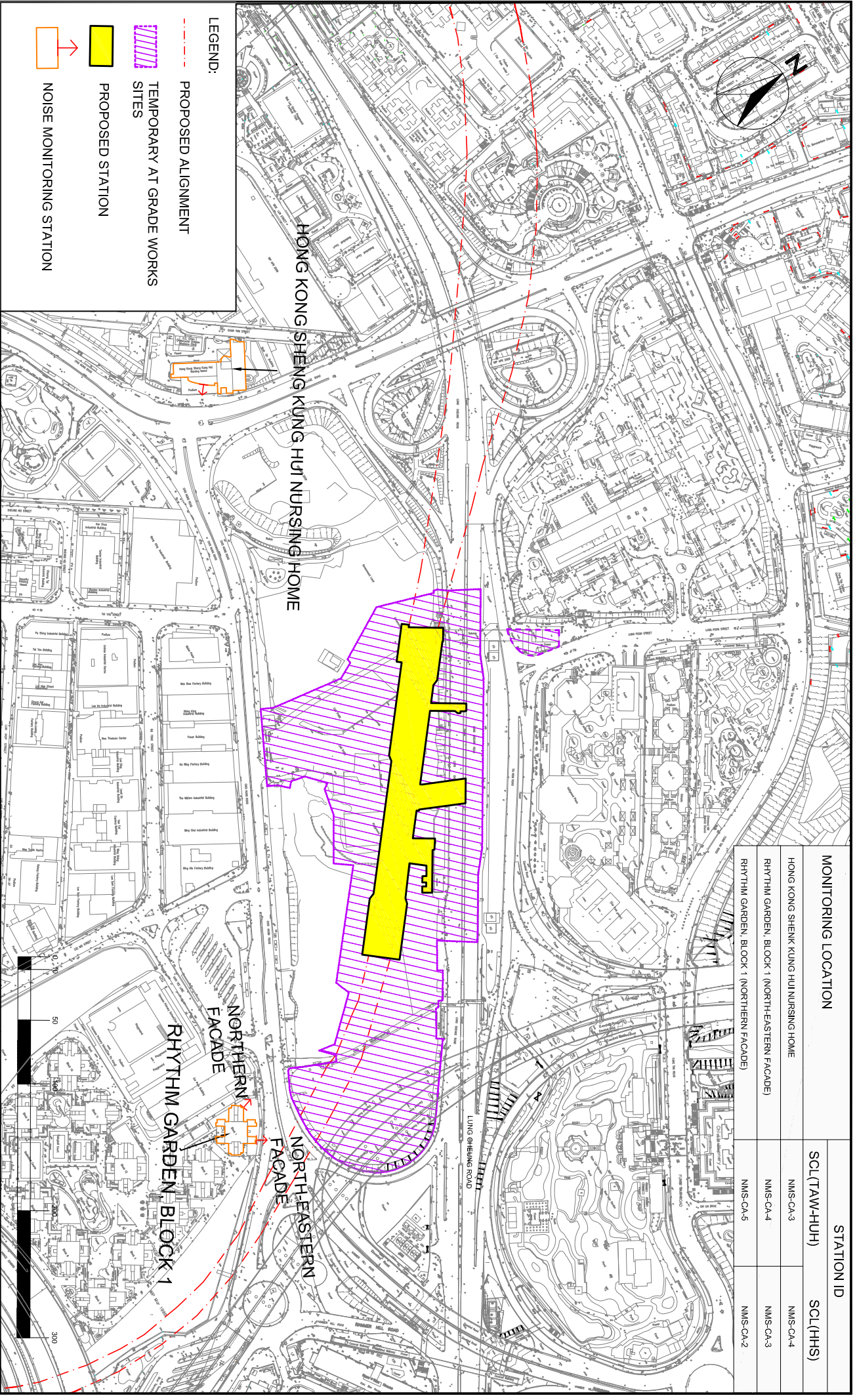


**LEGEND:**

- - - PROPOSED ALIGNMENT
- ||||| TEMPORARY AT GRADE WORKS SITES
- PROPOSED STATION

SHATIN TO CENTRAL LINK CONTRACT 1106  
DIAMOND HILL STATION  
**SITE LAYOUT PLAN**

|         |         |            |          |
|---------|---------|------------|----------|
| SCALE   | 1:80    | DATE       | SEP 2016 |
| CHECK   | BW      | DRAWN      | JW       |
| JOB NO. | MA12051 | FIGURE NO. | 1        |
|         |         | REV        | -        |

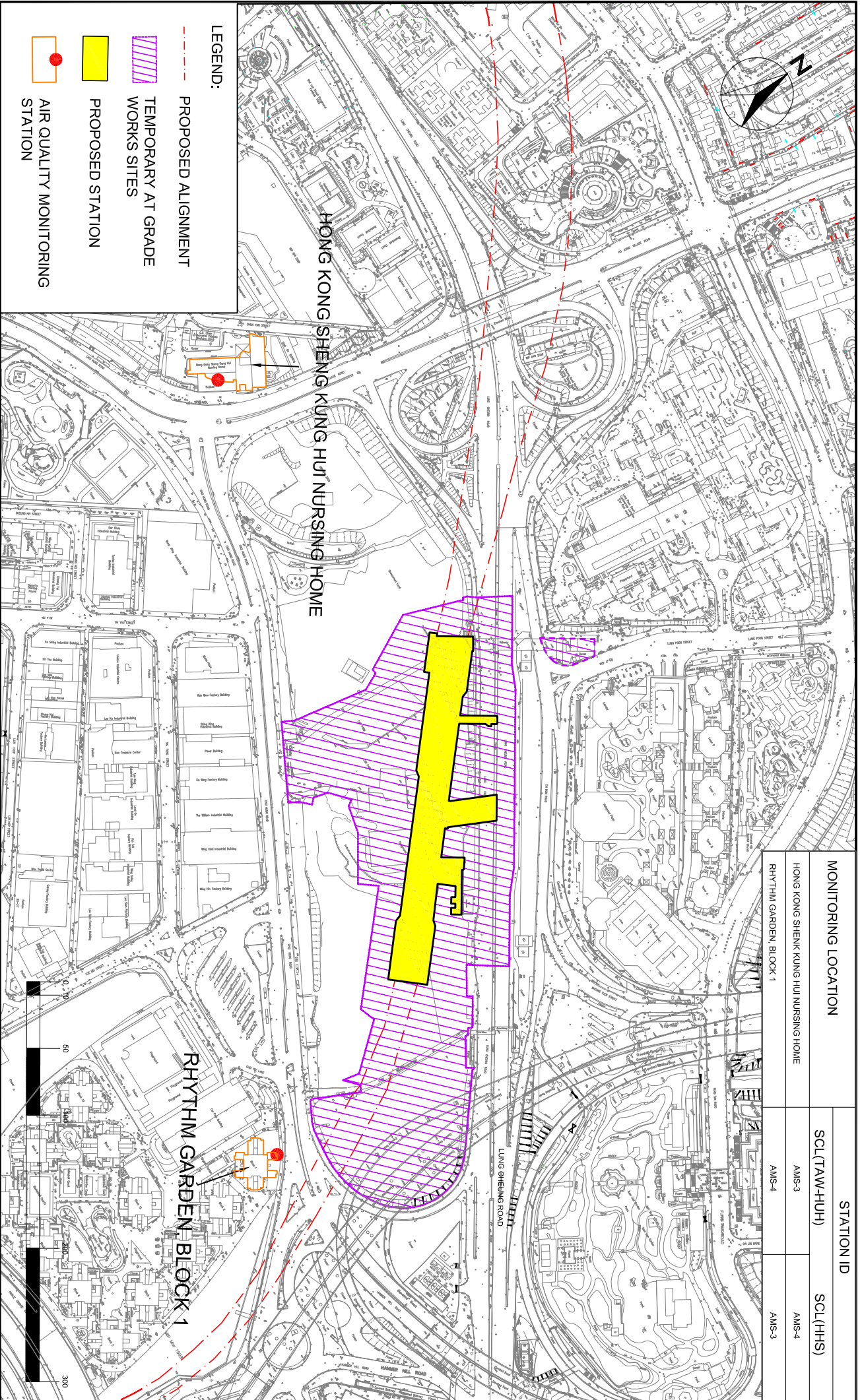


| MONITORING LOCATION                           |          | STATION ID   |          |
|---|----------|--------------|----------|
| HONG KONG SHENG KUNG HUI NURSING HOME         |          | SC1(TAW-HUH) | SC1(HHS) |
| RHYTHM GARDEN, BLOCK 1 (NORTH-EASTERN FACADE) | NMS-CA-3 |              | NMS-CA-4 |
| RHYTHM GARDEN, BLOCK 1 (NORTHERN FACADE)      | NMS-CA-4 |              | NMS-CA-3 |
|   | NMS-CA-5 |              | NMS-CA-2 |

**LEGEND:**

- - - PROPOSED ALIGNMENT
- TEMPORARY AT GRADE WORKS SITES
- PROPOSED STATION
- NOISE MONITORING STATION

|         |         |            |          |
|---------|---------|------------|----------|
| SCALE   | 1:100   | DATE       | SEP 2016 |
| CHECK   | BW      | DRAWN      | JW       |
| JOB NO. | MA12051 | FIGURE NO. | 2        |
|         |         | REV        | -        |

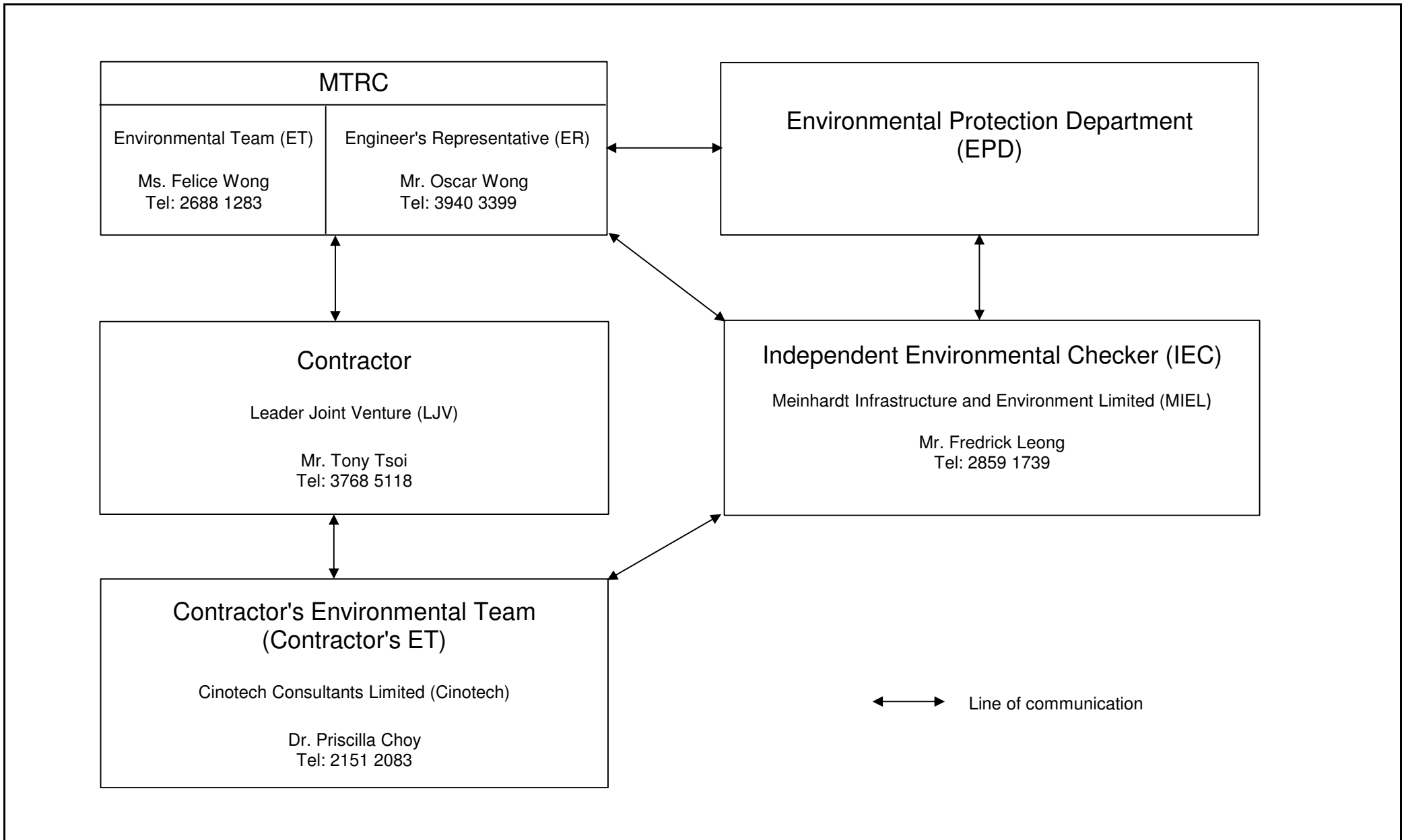


- LEGEND:**
- - - PROPOSED ALIGNMENT
  - TEMPORARY AT GRADE WORKS SITES
  - PROPOSED STATION
  - AIR QUALITY MONITORING STATION

| MONITORING LOCATION                   | STATION ID |       |
|---------------------------------------|------------|-------|
| HONG KONG SHENG KUNG HUI NURSING HOME | AMS-3      | AMS-4 |
| RHYTHM GARDEN, BLOCK 1                | AMS-4      | AMS-3 |

SHATIN TO CENTRAL LINK CONTRACT 1106  
DIAMOND HILL STATION  
**LOCATION OF AIR QUALITY MONITORING STATIONS**

|         |         |            |          |
|---------|---------|------------|----------|
| SCALE   | 1:100   | DATE       | SEP 2016 |
| CHECK   | BW      | DRAWN      | JW       |
| JOB NO. | MA12051 | FIGURE NO. | 3        |
|         |         | REV        | -        |



|       |   |       |        |              |         |          |
|-------|---|-------|--------|--------------|---------|----------|
| Title | MTR SCL Works Contract 1106<br>Diamond Hill Station | Scale | N.T.S  | Proposal No. | MA12051 | CINOTECH |
|       | Organisation Chart and Key Contact of the Project   | Date  | Mar-17 | Figure       | 4       |          |

---

**APPENDIX A  
TENTATIVE CONSTRUCTION  
PROGRAMME**

---



# Contract 1106 - Diamond Hill Station



| Activity ID   | Activity Name  | Orig Dur | Forecast Start | Forecast Finish | % Complete | May       |           |           |           |           | June      |           |           |           |           | July      |           |           |           | August    |           |  |           |
|---|--|----------|----------------|-----------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|-----------|
|   |  |          |                |                 |            | 01<br>229 | 08<br>230 | 15<br>231 | 22<br>232 | 29<br>233 | 05<br>234 | 12<br>235 | 19<br>236 | 26<br>237 | 03<br>238 | 10<br>239 | 17<br>240 | 24<br>241 | 31<br>242 | 07<br>243 | 14<br>244 | 21<br>245  | 28<br>246 |
| <b>Cost Centre B: SCL- DIH Station, Entrances and Adits</b> |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>TTMS Implementation</b>                                  |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>Lung Cheung Road</b>                                     |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>TTA Implementation</b>                                   |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| C1106.TMS0582   | TTA for the construction of SCL DIH MOE at Diamond Hill Station Entrance B (SLG/1106/017/DIH/004/001A)                   | 166      | 14-Jul-16 A    | 30-Jun-17       | 90%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | TTA for the construction of SCL DIH MOE at Diamond Hill Station Entrance B (SLG/1106/017/DIH/004/001A)                   |           |
| C1106.TMS0592   | TTA for Temporary Lung Cheung Road Diversion (Stage 3) (SLG/1106/005/DIH/012/001G-002G)                                  | 147      | 07-Aug-16 A    | 30-Jun-17       | 90%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | TTA for Temporary Lung Cheung Road Diversion (Stage 3) (SLG/1106/005/DIH/012/001G-002G)                                  |           |
| C1106.TMS0594   | TTA for Repair Works at Lung Cheung Road Diversion(Stage 3-Westbound Middle & Fast Lane)(SLG/1106/019/DIH/012/001A-004A) | 122      | 01-Sep-16 A    | 30-Jun-17       | 90%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | TTA for Repair Works at Lung Cheung Road Diversion(Stage 3-Westbound Middle & Fast Lane)(SLG/1106/019/DIH/012/001A-004A) |           |
| C1106.TMS0596   | TTA for Repair Works at Lung Cheung Road Diversion(Stage 3-Westbound Middle & Slow Lane)(SLG/1106/019/DIH/013/001A-004A) | 122      | 01-Sep-16 A    | 30-Jun-17       | 90%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | TTA for Repair Works at Lung Cheung Road Diversion(Stage 3-Westbound Middle & Slow Lane)(SLG/1106/019/DIH/013/001A-004A) |           |
| C1106.TMS0598   | TTA for Repair Works at Lung Cheung Road Diversion(Stage 3-Eastbound Middle & Slow Lane)(SLG/1106/019/DIH/014/001A-004A) | 108      | 15-Sep-16 A    | 30-Jun-17       | 90%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | TTA for Repair Works at Lung Cheung Road Diversion(Stage 3-Eastbound Middle & Slow Lane)(SLG/1106/019/DIH/014/001A-004A) |           |
| C1106.TMS0600   | TTA for Repair Works at Lung Cheung Road Diversion(Stage 3-Eastbound Fast & Middle Lane)(SLG/1106/019/DIH/015/001A-004A) | 108      | 15-Sep-16 A    | 30-Jun-17       | 90%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | TTA for Repair Works at Lung Cheung Road Diversion(Stage 3-Eastbound Fast & Middle Lane)(SLG/1106/019/DIH/015/001A-004A) |           |
| C1106.TMS0606   | TTA for Construction Drainage and Manhole Works at Diamond Hill Station Entrance B(SLG/1106/020/DIH/001/001B)            | 200      | 15-Mar-17 A    | 30-Sep-17       | 35%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | TTA for Construction Drainage and Manhole Works at Diamond Hill Station Entrance B(SLG/1106/020/DIH/001/001B)            |           |
| <b>Choi Hung Road</b>                                       |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>TTA Implementation</b>                                   |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| C1106.TMS0369   | TTA for Site Access and Temporary Footpath diversion at Ex-Tai Hom Village (SLG/001/DIH/003/001A)                        | 185      | 04-Jul-16 A    | 30-Jun-17       | 90%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | TTA for Site Access and Temporary Footpath diversion at Ex-Tai Hom Village (SLG/001/DIH/003/001A)                        |           |
| <b>Structural Works</b>                                     |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>Mezzanine Level (Level L4)</b>                           |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>Wall &amp; Column</b>                                    |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| C1106.BMZ4767   | GL 34.5-35.7 Remove Temp S4, S4a & Additional Shoring and Scaffold Erection to L3 Mezzanine E&M Zone Level               | 15       | 06-Mar-17 A    | 04-May-17 A     | 100%       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34.5-35.7 Remove Temp S4, S4a & Additional Shoring and Scaffold Erection to L3 Mezzanine E&M Zone Level               |           |
| C1106.BMZ4802   | GL 34.5-35.7 Construct Column and Wall to L3 Mezzanine E&M Zone Level  | 7        | 05-Apr-17 A    | 04-May-17 A     | 100%       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34.5-35.7 Construct Column and Wall to L3 Mezzanine E&M Zone Level  |           |
| <b>Mezzanine Level E&amp;M Zone (Level L3)</b>              |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>Beam &amp; Slab</b>                                      |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| C1106.BMZ4780   | GL 34-35 Construct Mezzanine E&M Zone Level Beam/Slab  | 5        | 24-Apr-17 A    | 10-May-17 A     | 100%       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-35 Construct Mezzanine E&M Zone Level Beam/Slab  |           |
| <b>Concourse Level (Level L2)</b>                           |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>Wall &amp; Column</b>                                    |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| C1106.BCW4628   | GL 31-34 Remove Temp S3, S2 & S1 Shoring and Scaffold Erection to L1 Public Access Level                                 | 16       | 23-May-17 A    | 10-Jun-17       | 65%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 31-34 Remove Temp S3, S2 & S1 Shoring and Scaffold Erection to L1 Public Access Level                                 |           |
| C1106.BCW4632   | GL 31-34 Construct Wall to Public Access Level   | 8        | 08-Jun-17      | 16-Jun-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 31-34 Construct Wall to Public Access Level   |           |
| C1106.BCW4634   | GL 31-34 Wall Formwork & Scaffold Removal and Backfilling Works and Lay Binding to Public Access                         | 5        | 17-Jun-17      | 22-Jun-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 31-34 Wall Formwork & Scaffold Removal and Backfilling Works and Lay Binding to Public Access                         |           |
| C1106.BCW4613   | GL 34-36.7 Remove Temp S3, S2 & S1 Shoring and Scaffold Erection to L1 Public Access Level                               | 21       | 19-Jun-17      | 13-Jul-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-36.7 Remove Temp S3, S2 & S1 Shoring and Scaffold Erection to L1 Public Access Level                               |           |
| C1106.BCW4620   | GL 34-36.7 Construct Wall & Column to Public Access Level  | 6        | 14-Jul-17      | 20-Jul-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-36.7 Construct Wall & Column to Public Access Level  |           |
| C1106.BCW4637   | GL 31-34 Scaffold Removal (Concourse Level to Public Access Level)   | 7        | 17-Jul-17      | 24-Jul-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 31-34 Scaffold Removal (Concourse Level to Public Access Level)   |           |
| C1106.BCW4623   | GL 34-36.7 Wall Formwork & Scaffold Removal and Backfilling Works and Lay Binding to Public Access Level                 | 5        | 21-Jul-17      | 26-Jul-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-36.7 Wall Formwork & Scaffold Removal and Backfilling Works and Lay Binding to Public Access Level                 |           |
| C1106.BCW4619   | GL 34-36.7 Scaffold Removal & Modification and Remove Temp S2 Shoring  | 10       | 14-Aug-17      | 24-Aug-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-36.7 Scaffold Removal & Modification and Remove Temp S2 Shoring  |           |
| C1106.BCW4627   | GL 34-36.7 Construct Remaining Wall to Public Access Level   | 6        | 25-Aug-17      | 31-Aug-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-36.7 Construct Remaining Wall to Public Access Level   |           |
| <b>Public Access Level (Level L1)</b>                       |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>Beam &amp; Slab</b>                                      |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| C1106.PLS6013   | GL 31-34.5 Fabricate, Hole Drilling and Install Temp Steel Corbel  | 40       | 02-Dec-16 A    | 19-May-17 A     | 100%       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 31-34.5 Fabricate, Hole Drilling and Install Temp Steel Corbel  |           |
| C1106.PLS6018   | GL 31-34 Install Additional Shoring at Corbel  | 12       | 18-Apr-17 A    | 13-May-17 A     | 100%       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 31-34 Install Additional Shoring at Corbel  |           |
| C1106.PLS6006   | GL 34-36.7 Fabricate, Hole Drilling and Install Temp Steel Corbel  | 24       | 01-Jun-17      | 28-Jun-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-36.7 Fabricate, Hole Drilling and Install Temp Steel Corbel  |           |
| C1106.PLS6015   | GL 31-34.5 Construct Public Access Level Beam/Slab   | 10       | 23-Jun-17      | 05-Jul-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 31-34.5 Construct Public Access Level Beam/Slab   |           |
| C1106.PLS6011   | GL 34-36.7 Install Additional Shoring at Corbel  | 8        | 29-Jun-17      | 08-Jul-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-36.7 Install Additional Shoring at Corbel  |           |
| C1106.PLS6017   | GL 31-34.5 Concrete Curing Public Access Level Beam/Slab and Formwork Removal  | 7        | 06-Jul-17      | 12-Jul-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 31-34.5 Concrete Curing Public Access Level Beam/Slab and Formwork Removal  |           |
| C1106.PLS6010   | GL 34-36.7 Construct Public Access Level Beam/Slab   | 9        | 27-Jul-17      | 05-Aug-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-36.7 Construct Public Access Level Beam/Slab   |           |
| C1106.PLS6012   | GL 34-36.7 Concrete Curing Public Access Level Beam/Slab and Formwork Removal  | 7        | 06-Aug-17      | 12-Aug-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-36.7 Concrete Curing Public Access Level Beam/Slab and Formwork Removal  |           |
| <b>ABWF &amp; Miscellaneous Works</b>                       |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>Platform Level (Level L5)</b>                            |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| <b>Passenger Areas</b>                                      |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| C1106.BAF1122   | GL 36-49 ABWF Deg.3 Works Platform Passenger Areas   | 191      | 25-Apr-16 A    | 16-Sep-17       | 31%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 36-49 ABWF Deg.3 Works Platform Passenger Areas   |           |
| C1106.BAF1124   | GL 36-49 Allow E&M Contractor for System Final Fix   | 138      | 05-Aug-16 A    | 12-Oct-17       | 21%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 36-49 Allow E&M Contractor for System Final Fix   |           |
| C1106.BAF1145   | GL 49-51 Allow E&M Contractor for Second Fix   | 8        | 05-Dec-16 A    | 09-Jun-17       | 65%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 49-51 Allow E&M Contractor for Second Fix   |           |
| C1106.BAF1154   | GL 49-51 Allow E&M Contractor for System Final Fix   | 19       | 10-Aug-17      | 31-Aug-17       | 0%         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 49-51 Allow E&M Contractor for System Final Fix   |           |
| <b>Back of House &amp; Plant Rooms</b>                      |  |          |                |                 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |           |
| C1106.BAF1520   | GL 49-53 ABWF Deg.2 Works Platform BOH Areas & Plant Rooms   | 63       | 05-Jan-16 A    | 08-Jun-17       | 97%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 49-53 ABWF Deg.2 Works Platform BOH Areas & Plant Rooms   |           |
| C1106.BAF1525   | GL 49-53 Allow E&M Contractor for Second Fix   | 62       | 18-Jan-16 A    | 15-Jun-17       | 95%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 49-53 Allow E&M Contractor for Second Fix   |           |
| C1106.BAF1535   | GL 49-53 ABWF Deg.3 Works Platform BOH Areas & Plant Rooms   | 116      | 26-Apr-16 A    | 29-Jul-17       | 50%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 49-53 ABWF Deg.3 Works Platform BOH Areas & Plant Rooms   |           |
| C1106.BAF1540   | GL 49-53 Allow E&M Contractor for System Final Fix   | 168      | 01-Jun-16 A    | 13-Sep-17       | 44%        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 49-53 Allow E&M Contractor for System Final Fix   |           |
| C1106.BAF2233   | GL 34-36 ABWF Deg.1 Works Platform BOH Areas & Plant Rooms   | 28       | 22-Apr-17 A    | 10-May-17 A     | 100%       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | GL 34-36 ABWF Deg.1 Works Platform BOH Areas & Plant Rooms   |           |

- Remaining Work
- Critical Remaining Work
- Actual Work
- Baseline Milestone
- Milestone

## MTR Contract 1106 - Diamond Hill Station Three Month Rolling Programme As of 31 May 2017

| 3 Month Rolling Programme |                 |         |          |
|---------------------------|-----------------|---------|----------|
| Date                      | Revision        | Checked | Approved |
| 31-May-17                 | C-1106-3MRP/ 53 |         |          |
|                           |                 |         |          |
|                           |                 |         |          |

| Activity ID                            | Activity Name   | Orig Dur | Forecast Start | Forecast Finish | % Complete | May   |           |           |           |           |           |           |           |           |           |           |           | June      |           |           |           |           | July      |  |  |  | August |  |  |  |
|--|---|----------|----------------|-----------------|------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|--|--|--------|--|--|--|
|  |   |          |                |                 |            | 01<br>229   | 08<br>230 | 15<br>231 | 22<br>232 | 29<br>233 | 05<br>234 | 12<br>235 | 19<br>236 | 26<br>237 | 03<br>238 | 10<br>239 | 17<br>240 | 24<br>241 | 31<br>242 | 07<br>243 | 14<br>244 | 21<br>245 | 28<br>246 |  |  |  |        |  |  |  |
| C1106.BAF2230                          | GL 31-34 ABWF Deg.1 Works Platform BOH Areas & Plant Rooms                                      | 14       | 22-Apr-17 A    | 10-May-17 A     | 100%       | GL 31-34 ABWF Deg.1 Works Platform BOH Areas & Plant Rooms                                      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF2237                          | GL 34-36 Allow E&M Contractor for First Fix   | 25       | 11-May-17 A    | 09-Jun-17       | 80%        | GL 34-36 Allow E&M Contractor for First Fix   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF2235                          | GL 31-34 Allow E&M Contractor for First Fix   | 25       | 11-May-17 A    | 09-Jun-17       | 80%        | GL 31-34 Allow E&M Contractor for First Fix   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF1142                          | GL 36-40 ABWF Deg.3 Works Platform BOH Areas & Plant Rooms                                      | 55       | 01-Jun-17      | 04-Aug-17       | 0%         | GL 36-40 ABWF Deg.3 Works Platform BOH Areas & Plant Rooms                                      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF2243                          | GL 34-36 ABWF Deg.2 Works Platform BOH Areas & Plant Rooms                                      | 45       | 01-Jun-17      | 24-Jul-17       | 0%         | GL 34-36 ABWF Deg.2 Works Platform BOH Areas & Plant Rooms                                      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF2240                          | GL 31-34 ABWF Deg.2 Works Platform BOH Areas & Plant Rooms                                      | 25       | 01-Jun-17      | 29-Jun-17       | 0%         | GL 31-34 ABWF Deg.2 Works Platform BOH Areas & Plant Rooms                                      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF2242                          | GL 31-34 Allow E&M Contractor for Second Fix  | 25       | 03-Jun-17      | 03-Jul-17       | 0%         | GL 31-34 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF1144                          | GL 36-40 Allow E&M Contractor for System Final Fix  | 56       | 05-Jun-17      | 09-Aug-17       | 0%         | GL 36-40 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF2244                          | GL 34-36 Allow E&M Contractor for Second Fix  | 45       | 05-Jun-17      | 27-Jul-17       | 0%         | GL 34-36 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF1162                          | GL 42-49 ABWF Deg.3 Works Platform BOH Areas & Plant Rooms                                      | 70       | 10-Jun-17      | 31-Aug-17       | 0%         | GL 42-49 ABWF Deg.3 Works Platform BOH Areas & Plant Rooms                                      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF2247                          | GL 34-36 ABWF Deg.3 Works Platform BOH Areas & Plant Rooms                                      | 65       | 14-Jun-17      | 29-Aug-17       | 0%         | GL 34-36 ABWF Deg.3 Works Platform BOH Areas & Plant Rooms                                      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF2252                          | GL 34-36 Allow E&M Contractor for System Final Fix  | 60       | 21-Jun-17      | 30-Aug-17       | 0%         | GL 34-36 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF2245                          | GL 31-34 ABWF Deg.3 Works Platform BOH Areas & Plant Rooms                                      | 35       | 26-Jun-17      | 05-Aug-17       | 0%         | GL 31-34 ABWF Deg.3 Works Platform BOH Areas & Plant Rooms                                      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF2250                          | GL 31-34 Allow E&M Contractor for System Final Fix  | 38       | 04-Jul-17      | 16-Aug-17       | 0%         | GL 31-34 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BAF1173                          | GL 42-49 Allow E&M Contractor for System Final Fix  | 45       | 28-Jul-17      | 18-Sep-17       | 0%         | GL 42-49 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Mezzanine Level (Level L4)</b>      |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Back of House &amp; Plant Rooms</b> |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BMF3070                          | GL 36-49 Mezzanine Construct Blockwork Walls, Plinth (TER. Chiller Plant Rm, BOH & Plant Rooms) | 72       | 11-Jan-16 A    | 09-Jun-17       | 98%        | GL 36-49 Mezzanine Construct Blockwork Walls, Plinth (TER. Chiller Plant Rm, BOH & Plant Rooms) |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BMF3080                          | GL 36-49 ABWF Deg.2 Works Mezzanine BOH & Plant Rooms   | 158      | 21-Mar-16 A    | 09-Jun-17       | 97%        | GL 36-49 ABWF Deg.2 Works Mezzanine BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BMF3082                          | GL 36-49 Allow E&M Contractor for Second Fix  | 170      | 05-Apr-16 A    | 28-Jun-17       | 93%        | GL 36-49 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BMF3085                          | GL 36-49 ABWF Deg.3 Works Mezzanine BOH & Plant Rooms   | 206      | 01-Jun-16 A    | 17-Nov-17       | 20%        | GL 36-49 ABWF Deg.3 Works Mezzanine BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BMF3090                          | GL 36-49 Allow E&M Contractor for System Final Fix  | 220      | 13-Jun-16 A    | 07-Dec-17       | 17%        | GL 36-49 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BMF3335                          | GL 49-53 ABWF Deg.3 Works Mezzanine BOH & Plant Rooms   | 178      | 22-Aug-16 A    | 08-Dec-17       | 5%         | GL 49-53 ABWF Deg.3 Works Mezzanine BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BMF3337                          | GL 49-53 Allow E&M Contractor for System Final Fix  | 181      | 21-Nov-16 A    | 28-Dec-17       | 3%         | GL 49-53 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Concourse Level (Level L2)</b>      |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Passenger Areas</b>                 |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5220                          | GL 40-47 ABWF Deg.2 Works Concourse Passenger Areas   | 58       | 02-Jun-16 A    | 28-Jun-17       | 82%        | GL 40-47 ABWF Deg.2 Works Concourse Passenger Areas   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5263                          | GL 36-40 ABWF Deg.2 Works Concourse Passenger Areas   | 80       | 13-Jun-16 A    | 07-Aug-17       | 56%        | GL 36-40 ABWF Deg.2 Works Concourse Passenger Areas   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5224                          | GL 40-47 Allow E&M Contractor for Second Fix  | 36       | 29-Jun-17      | 10-Aug-17       | 0%         | GL 40-47 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5230                          | GL 40-47 ABWF Deg.3 Works Concourse Passenger Areas   | 130      | 10-Jul-17      | 11-Dec-17       | 0%         | GL 40-47 ABWF Deg.3 Works Concourse Passenger Areas   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5265                          | GL 36-40 Allow E&M Contractor for Second Fix  | 18       | 08-Aug-17      | 28-Aug-17       | 0%         | GL 36-40 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Back of House &amp; Plant Rooms</b> |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5322                          | GL 36-40 ABWF Deg.2 Works Concourse BOH & Plant Rooms   | 89       | 02-Jun-16 A    | 07-Aug-17       | 56%        | GL 36-40 ABWF Deg.2 Works Concourse BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5323                          | GL 36-40 Allow E&M Contractor for Second Fix  | 81       | 22-Jun-16 A    | 29-Aug-17       | 52%        | GL 36-40 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5332                          | GL 49-53 ABWF Deg.2 Works Concourse BOH & Plant Rooms   | 76       | 09-Aug-16 A    | 12-Jul-17       | 89%        | GL 49-53 ABWF Deg.2 Works Concourse BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5240                          | GL 40-49 ABWF Deg.2 Works Concourse BOH & Plant Rooms   | 60       | 09-Aug-16 A    | 28-Jun-17       | 82%        | GL 40-49 ABWF Deg.2 Works Concourse BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5337                          | GL 49-53 Allow E&M Contractor for Second Fix  | 84       | 17-Aug-16 A    | 04-Aug-17       | 75%        | GL 49-53 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5242                          | GL 40-49 Allow E&M Contractor for Second Fix  | 51       | 26-Sep-16 A    | 15-Jul-17       | 75%        | GL 40-49 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5260                          | GL 40-49 ABWF Deg.3 Works Concourse BOH & Plant Rooms   | 91       | 01-Jun-17      | 15-Sep-17       | 0%         | GL 40-49 ABWF Deg.3 Works Concourse BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5335                          | GL 49-53 ABWF Deg.3 Works Concourse BOH & Plant Rooms   | 68       | 12-Jun-17      | 30-Aug-17       | 0%         | GL 49-53 ABWF Deg.3 Works Concourse BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5339                          | GL 49-53 Allow E&M Contractor for System Final Fix  | 48       | 05-Aug-17      | 29-Sep-17       | 0%         | GL 49-53 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BCF5262                          | GL 40-49 Allow E&M Contractor for System Final Fix  | 58       | 15-Aug-17      | 23-Oct-17       | 0%         | GL 40-49 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Public Access Level (Level L1)</b>  |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Passenger Areas</b>                 |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BPF6010                          | GL 36-38 ABWF Deg.1 Works Public Access Level Passenger Areas                                   | 18       | 14-Jul-17      | 03-Aug-17       | 0%         | GL 36-38 ABWF Deg.1 Works Public Access Level Passenger Areas                                   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BPF6012                          | GL 36-38 Allow E&M Contractor for First Fix   | 10       | 04-Aug-17      | 15-Aug-17       | 0%         | GL 36-38 Allow E&M Contractor for First Fix   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BPF6015                          | GL 36-38 ABWF Deg.2 Works Public Access Level Passenger Areas                                   | 24       | 16-Aug-17      | 12-Sep-17       | 0%         | GL 36-38 ABWF Deg.2 Works Public Access Level Passenger Areas                                   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Back of House &amp; Plant Rooms</b> |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BPF7130                          | GL 36-49 ABWF Deg.2 Works Public Access Level BOH & Plant Rooms                                 | 72       | 28-Sep-16 A    | 15-Jun-17       | 90%        | GL 36-49 ABWF Deg.2 Works Public Access Level BOH & Plant Rooms                                 |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BPF7132                          | GL 36-49 Allow E&M Contractor for Second Fix  | 80       | 24-Oct-16 A    | 13-Jul-17       | 84%        | GL 36-49 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BPF7242                          | GL 49-53 Allow E&M Contractor for Second Fix  | 102      | 23-Dec-16 A    | 13-Jun-17       | 94%        | GL 49-53 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BPF7250                          | GL 49-53 ABWF Deg.3 Works Public Access BOH & Plant Rooms                                       | 70       | 14-Jun-17      | 04-Sep-17       | 0%         | GL 49-53 ABWF Deg.3 Works Public Access BOH & Plant Rooms                                       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BPF7135                          | GL 36-49 ABWF Deg.3 Works Public Access Level BOH & Plant Rooms                                 | 103      | 16-Jun-17      | 17-Oct-17       | 0%         | GL 36-49 ABWF Deg.3 Works Public Access Level BOH & Plant Rooms                                 |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BPF7137                          | GL 36-49 Allow E&M Contractor for System Final Fix  | 110      | 14-Jul-17      | 22-Nov-17       | 0%         | GL 36-49 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BPF7252                          | GL 49-53 Allow E&M Contractor for System Final Fix  | 42       | 20-Jul-17      | 06-Sep-17       | 0%         | GL 49-53 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Ground Level (Level GL)</b>         |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Back of House &amp; Plant Rooms</b> |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BGF7320                          | GL 36-49 ABWF Deg.2 Works Ground BOH & Plant Rooms  | 118      | 03-Oct-16 A    | 04-May-17 A     | 100%       | GL 36-49 ABWF Deg.2 Works Ground BOH & Plant Rooms  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BGF7322                          | GL 36-49 Allow E&M Contractor for Second Fix  | 117      | 29-Oct-16 A    | 25-Jul-17       | 86%        | GL 36-49 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BGF7425                          | GL 49-53 ABWF Deg.2 Works Ground BOH & Plant Rooms  | 54       | 07-Nov-16 A    | 15-Jun-17       | 93%        | GL 49-53 ABWF Deg.2 Works Ground BOH & Plant Rooms  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BGF7427                          | GL 49-53 Allow E&M Contractor for Second Fix  | 50       | 28-Nov-16 A    | 12-Jul-17       | 84%        | GL 49-53 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BGF7430                          | GL 49-53 ABWF Deg.3 Works Ground BOH & Plant Rooms  | 68       | 01-Jun-17      | 19-Aug-17       | 0%         | GL 49-53 ABWF Deg.3 Works Ground BOH & Plant Rooms  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BGF7325                          | GL 36-49 ABWF Deg.3 Works Ground BOH & Plant Rooms  | 141      | 01-Jun-17      | 16-Nov-17       | 0%         | GL 36-49 ABWF Deg.3 Works Ground BOH & Plant Rooms  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BGF7432                          | GL 49-53 Allow E&M Contractor for System Final Fix  | 56       | 10-Jun-17      | 15-Aug-17       | 0%         | GL 49-53 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BGF7327                          | GL 36-49 Allow E&M Contractor for System Final Fix  | 135      | 12-Jun-17      | 20-Nov-17       | 0%         | GL 36-49 Allow E&M Contractor for System Final Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>First Floor Level (Level U1)</b>    |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| <b>Back of House &amp; Plant Rooms</b> |   |          |                |                 |            |   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BFF8140                          | GL 49-53 ABWF Deg.1 Works First Floor BOH & Plant Rooms   | 72       | 17-Sep-16 A    | 12-Jun-17       | 85%        | GL 49-53 ABWF Deg.1 Works First Floor BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BFF8142                          | GL 49-53 Allow E&M Contractor for First Fix   | 55       | 11-Oct-16 A    | 27-Jun-17       | 81%        | GL 49-53 Allow E&M Contractor for First Fix   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BFF8127                          | GL 36-49 Allow E&M Contractor for Second Fix  | 60       | 05-Dec-16 A    | 28-Jun-17       | 85%        | GL 36-49 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BFF8147                          | GL 49-53 Allow E&M Contractor for Second Fix  | 42       | 16-Mar-17 A    | 17-Jun-17       | 80%        | GL 49-53 Allow E&M Contractor for Second Fix  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BFF8150                          | GL 49-53 ABWF Deg.3 Works First Floor BOH & Plant Rooms   | 46       | 31-May-17 A    | 24-Jul-17       | 3%         | GL 49-53 ABWF Deg.3 Works First Floor BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |
| C1106.BFF8130                          | GL 36-49 ABWF Deg.3 Works First Floor BOH & Plant Rooms   | 75       | 01-Jun-17      | 28-Aug-17       | 0%         | GL 36-49 ABWF Deg.3 Works First Floor BOH & Plant Rooms   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |  |  |        |  |  |  |

|   |                         |
|---|-------------------------|
| ■ | Remaining Work          |
| ■ | Critical Remaining Work |
| ■ | Actual Work             |
| ◆ | Baseline Milestone      |
| ◆ | Milestone               |

## MTR Contract 1106 - Diamond Hill Station Three Month Rolling Programme As of 31 May 2017

| 3 Month Rolling Programme |                 |         |          |
|---------------------------|-----------------|---------|----------|
| Date                      | Revision        | Checked | Approved |
| 31-May-17                 | C-1106-3MRP/ 53 |         |          |
|                           |                 |         |          |
|                           |                 |         |          |



| Activity ID  | Activity Name  | Orig Dur | Forecast Start | Forecast Finish | % Complete | May |     |     |     |     | June |     |     |     |     | July |     |     |     | August |     |     |     |  |
|--|--|----------|----------------|-----------------|------------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|--------|-----|-----|-----|--|
|  |  |          |                |                 |            | 01  | 08  | 15  | 22  | 29  | 05   | 12  | 19  | 26  | 03  | 10   | 17  | 24  | 31  | 07     | 14  | 21  | 28  |  |
| C1106.BFF8152  | GL 49-53 Allow E&M Contractor for System Final Fix   | 47       | 21-Jun-17      | 15-Aug-17       | 0%         | 229 | 230 | 231 | 232 | 233 | 234  | 235 | 236 | 237 | 238 | 239  | 240 | 241 | 242 | 243    | 244 | 245 | 246 | GL 49-53 Allow E&M Contractor for System Final Fix |
| C1106.BFF8132  | GL 36-49 Allow E&M Contractor for System Final Fix   | 54       | 10-Jul-17      | 09-Sep-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     | GL 36-49 Allow E&M Contractor for System Final Fix |
| <b>Multi-Level</b>   |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Staircase - Fitout</b>  |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BSF5275  | GL 47-48 ABWF Deg.2 Staircases   | 65       | 23-Nov-16 A    | 10-Aug-17       | 10%        |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     | GL 47-48 ABWF Deg.2 Staircases                     |
| C1106.BSF5280  | GL 47-48 ABWF Deg.3 Staircases   | 70       | 11-Aug-17      | 03-Nov-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Lung Cheung Road</b>  |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Preliminary Site Works</b>  |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Utilities and Drainages</b>                                       |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA7095  | WUL Reprovision Sewer Pipes and Storm Drains   | 10       | 21-Aug-17      | 31-Aug-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Construction of Interchange Adit</b>                              |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Construction of Interchange Adit</b>                              |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Gridline S-U</b>  |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8429  | IA - Excavation and ELS Installation SC3, SC4 SE3 & SE4 to +2.17mPD (Total=3,730 m3) includ'g Cut & Removal of Sheetpile | 41       | 22-Apr-17 A    | 05-Jun-17       | 80%        |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8430  | IA - Excavation to Formation Level -0.655mPD (Total=1,183m3) and Cast Blinding Layer                                     | 8        | 06-Jun-17      | 14-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Interface Work with DIH (KTL)</b>                                 |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA7625  | Remove Jack Arch Wall, Eaves and Protection Concrete   | 8        | 20-Jun-17      | 28-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA7640  | Install Drill-in Bar at Concourse Level - Connection for Interchange Link Adit   | 12       | 20-Jun-17      | 04-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA7630  | Partial Removal of Existing Temporary Wall (Interface with Interchange Link Adit)  | 12       | 29-Jun-17      | 13-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8520  | Modification Works between KTL DIH Station and Interchange Adit  | 12       | 14-Jul-17      | 27-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Civil &amp; Structural Works</b>                                  |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8432  | IA - Base Slab Setting-out and Waterproofing Membrane Laying   | 4        | 15-Jun-17      | 19-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8440  | IA - Construct Base Slab   | 14       | 20-Jun-17      | 06-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8442  | IA - Base Slab Formwork Removal and Working Platform Erection  | 7        | 07-Jul-17      | 14-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8460  | IA - Construct Column & Walls and Bulk Head Wall   | 11       | 15-Jul-17      | 27-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8462  | IA - Formwork Removal and Scaffold Erection  | 7        | 28-Jul-17      | 04-Aug-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8473  | IA - Construct Wall & Roof Slab to +9.47mPD including Falsework Erection   | 14       | 05-Aug-17      | 21-Aug-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8482  | IA - Top Slab Working Platform Removal and Backfilling Works to Base Slab  | 6        | 22-Aug-17      | 28-Aug-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BIA8464  | IA - SB4, SB3, SE4 and SE3 Strut and Wailer Removal  | 10       | 29-Aug-17      | 08-Sep-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Construction of West Unpaid Link Adit</b>                         |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>West Adit Link - Middle Section &amp; North Section</b>           |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Adit - Excavation</b>   |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8561  | WUL - Excavation to Formation Level and Cast Blinding Layer (Total=255 m3)   | 5        | 28-Apr-17 A    | 09-May-17 A     | 100%       |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Interface Work with DIH (KTL)</b>                                 |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8653  | Install Drill-in Bar at Concourse Level - Connection for West Unpaid Link Structure                                      | 12       | 01-Jun-17      | 14-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Civil &amp; Structural Works</b>                                  |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8563  | WUL - Bored Pile & JAW Beam Breaking, Pipe Head Preparation & Coring Works and Bored Pile Remedial Works                 | 10       | 10-May-17 A    | 25-May-17 A     | 100%       |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8562  | WUL - Base Slab Setting-out and Waterproofing Membrane Laying  | 4        | 26-May-17 A    | 31-May-17 A     | 100%       |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8565  | WUL - Construct Base Slab  | 4        | 01-Jun-17      | 05-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8567  | WUL - Formwork Removal and Waterproofing Membrane Application  | 6        | 06-Jun-17      | 12-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8575  | WUL - Construct Walls and Bulk Head  | 8        | 13-Jun-17      | 21-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8577  | WUL - Side Wall Formwork Removal and Scaffold Erection   | 5        | 22-Jun-17      | 27-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8590  | WUL - Falsework Erection and Construct Top Slab  | 10       | 28-Jun-17      | 10-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8592  | WUL - Top Slab Working Platform Removal and Backfilling Works to Base Slab   | 8        | 11-Jul-17      | 19-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8589  | WUL - SB4, SB3, SE4 and SE3 Strut and Wailer Removal   | 10       | 20-Jul-17      | 31-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8584  | WUL - Make Good Side Wall, Waterproofing Membrane Application and Backfilling Works                                      | 9        | 01-Aug-17      | 10-Aug-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8593  | WUL - SB2, SB1, SE2 and SE1 Strut and Wailer Removal   | 8        | 11-Aug-17      | 19-Aug-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BWA8586  | WUL - Falsework Modification and Re-prop Removal RP2.1 to RP3, +2.5mPD ~ +5.5mPD   | 12       | 21-Aug-17      | 02-Sep-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Construction of East MOE (Entrance B)</b>                         |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>East MOE</b>  |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Civil &amp; Structural Works</b>                                  |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BEB8780  | East MOE - Construct Base Slab   | 18       | 21-Apr-17 A    | 01-Jun-17       | 98%        |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BEB8820  | East MOE - Base Slab Formwork Removal and Backfilling Works  | 8        | 17-May-17 A    | 10-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BEB8785  | East MOE - SB4 Strut and Wailer Removal  | 8        | 05-Jun-17      | 13-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BEB8790  | East MOE - Construct Columns & Wall  | 15       | 12-Jun-17      | 28-Jun-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BEB8800  | East MOE - Construct Suspended Slabs & Beams   | 15       | 29-Jun-17      | 17-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BEB8815  | East MOE - Construct Staircase   | 25       | 29-Jun-17      | 28-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BEB8810  | East MOE - Construct Top Slab  | 12       | 18-Jul-17      | 31-Jul-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BEB8820D   | East MOE - Formwork Removal, Backfilling Works and SB3, SB2 & SB1 and Compaction Works                                   | 18       | 01-Aug-17      | 21-Aug-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>ABWF Works</b>  |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| C1106.BEB8830  | L2-A05 & ST14 - ABWF Works Deg.1   | 36       | 22-Aug-17      | 03-Oct-17       | 0%         |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Cost Centre C: KTL - DIH Modification and Refurbishment Works</b> |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Entrance A2 (Alteration Works)</b>                                |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |
| <b>Existing Entrance A2</b>  |  |          |                |                 |            |     |     |     |     |     |      |     |     |     |     |      |     |     |     |        |     |     |     |  |

- Remaining Work
- Critical Remaining Work
- Actual Work
- ◆ Baseline Milestone
- ◆ Milestone

| 3 Month Rolling Programme |                 |         |          |
|---------------------------|-----------------|---------|----------|
| Date                      | Revision        | Checked | Approved |
| 31-May-17                 | C-1106-3MRP/ 53 |         |          |
|                           |                 |         |          |
|                           |                 |         |          |



# Contract 1106 - Diamond Hill Station



| Activity ID                         | Activity Name   | Orig Dur | Forecast Start | Forecast Finish | % Complete | May               |     |     |     |     | June                          |     |     |     |     | July |     |     |     | August |     |     |     |
|-------------------------------------|---|----------|----------------|-----------------|------------|-------------------|-----|-----|-----|-----|-------------------------------|-----|-----|-----|-----|------|-----|-----|-----|--------|-----|-----|-----|
|                                     |   |          |                |                 |            | 01                | 08  | 15  | 22  | 29  | 05                            | 12  | 19  | 26  | 03  | 10   | 17  | 24  | 31  | 07     | 14  | 21  | 28  |
|                                     |   |          |                |                 |            | 229               | 230 | 231 | 232 | 233 | 234                           | 235 | 236 | 237 | 238 | 239  | 240 | 241 | 242 | 243    | 244 | 245 | 246 |
| <b>General</b>                      |   |          |                |                 |            |                   |     |     |     |     |                               |     |     |     |     |      |     |     |     |        |     |     |     |
| C1106.BEA1930                       | Drilling Works and Install Raking Pile 610mm (RP2) for Stage1                                       | 10       | 08-May-17 A    | 19-May-17 A     | 100%       | [Actual Work Bar] |     |     |     |     | [Remaining Work Bar]          |     |     |     |     |      |     |     |     |        |     |     |     |
| C1106.BEA1932                       | Load Test for H-pile and Raking Pile and Removal of the Loading Test Equipment                      | 8        | 01-Jun-17      | 09-Jun-17       | 0%         |                   |     |     |     |     | [Critical Remaining Work Bar] |     |     |     |     |      |     |     |     |        |     |     |     |
| <b>Civil &amp; Structural Works</b> |   |          |                |                 |            |                   |     |     |     |     |                               |     |     |     |     |      |     |     |     |        |     |     |     |
| C1106.BEA2048                       | Excavation and ELS Installation   | 12       | 01-Jun-17      | 14-Jun-17       | 0%         |                   |     |     |     |     | [Critical Remaining Work Bar] |     |     |     |     |      |     |     |     |        |     |     |     |
| C1106.BEA2050                       | FRP for Partial Base Slab of Subway at Level +8.40mPD for Stage1                                    | 10       | 15-Jun-17      | 26-Jun-17       | 0%         |                   |     |     |     |     | [Critical Remaining Work Bar] |     |     |     |     |      |     |     |     |        |     |     |     |
| C1106.BEA2053                       | Shoring Modification and Repropping for Stage1  | 6        | 27-Jun-17      | 04-Jul-17       | 0%         |                   |     |     |     |     | [Critical Remaining Work Bar] |     |     |     |     |      |     |     |     |        |     |     |     |
| C1106.BEA2054                       | FRP for Remaining Base Slab of Subway at Level +8.40mPD for Stage1                                  | 10       | 05-Jul-17      | 15-Jul-17       | 0%         |                   |     |     |     |     | [Critical Remaining Work Bar] |     |     |     |     |      |     |     |     |        |     |     |     |
| C1106.BEA2063                       | Construct Protective Walkway (Temporary Entrance A2)  | 10       | 17-Jul-17      | 27-Jul-17       | 0%         |                   |     |     |     |     | [Critical Remaining Work Bar] |     |     |     |     |      |     |     |     |        |     |     |     |
| C1106.BEA2055                       | Hoarding Modification, Remove Temporary Bulk Head, Make Good and Open for Access (3.0 m)            | 28       | 28-Jul-17      | 29-Aug-17       | 0%         |                   |     |     |     |     | [Critical Remaining Work Bar] |     |     |     |     |      |     |     |     |        |     |     |     |
| C1106.BEA2072                       | Erect Temp Falsework, Demolish the Remaining Structures and Excavate to Formation Level at +6.70mPD | 45       | 30-Aug-17      | 23-Oct-17       | 0%         |                   |     |     |     |     | [Critical Remaining Work Bar] |     |     |     |     |      |     |     |     |        |     |     |     |

- Remaining Work
- Critical Remaining Work
- Actual Work
- ◆ Baseline Milestone
- ◆ Milestone

4 of 4

**MTR Contract 1106 - Diamond Hill Station  
Three Month Rolling Programme  
As of 31 May 2017**

| 3 Month Rolling Programme |                 |         |          |
|---------------------------|-----------------|---------|----------|
| Date                      | Revision        | Checked | Approved |
| 31-May-17                 | C-1106-3MRP/ 53 |         |          |
|                           |                 |         |          |
|                           |                 |         |          |

---

---

**APPENDIX B  
ACTION AND LIMIT LEVELS**

---

---

## APPENDIX B – Action and Limit Levels

### 24-Hour TSP

| Regular Dust Monitoring Location                     | Description                           | Action Level, $\mu\text{g}/\text{m}^3$ | Limit Level, $\mu\text{g}/\text{m}^3$ |
|--|---------------------------------------|--|---------------------------------------|
| DMS-3 <sup>(1)(3)</sup> /<br>DMS-4 <sup>(2)(3)</sup> | Hong Kong Sheng Kung Hui Nursing Home | 159.1                                  | 260                                   |
| DMS-4 <sup>(1)</sup> /<br>DMS-3 <sup>(2)</sup>       | Block 1, Rhythm Garden                | 160.4                                  |                                       |

Note:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Shek On House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Hong Kong S.K.H Nursing Home) was proposed and approved by the ER and agreed by the IEC and EPD.

### Construction Noise

| Regular Construction Noise Monitoring Location <sup>(1)</sup> | Description                                   | Time Period                      | Action Level                              | Limit Level (Leq (30-min))   |
|---|---|----------------------------------|---|------------------------------|
| NMS-CA-3 <sup>(1)(3)</sup> /<br>NMS-CA-4 <sup>(2)(3)</sup>    | Hong Kong Sheng Kung Hui Nursing Home         | 0700-1900 hrs on normal weekdays | When one documented complaint is received | 70 dB(A)                     |
| NMS-CA-4 <sup>(1)</sup> /<br>NMS-CA-3 <sup>(2)</sup>          | Block 1, Rhythm Garden (north-eastern façade) |                                  |   | 75 dB(A)                     |
| NMS-CA-5 <sup>(1)(4)</sup> /<br>NMS-CA-2 <sup>(2)(4)</sup>    | Block 1, Rhythm Garden (northern façade)      |                                  |   | 65 / 70 dB(A) <sup>(5)</sup> |

Note:

- (1) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Shek On House (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Hong Kong S.K.H Nursing Home) was proposed and approved by the ER and agreed by the IEC and EPD.
- (4) Access to the monitoring location at Canossa Primary School (San Po Kong) (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Block 1, Rhythm Garden (northern façade)) was proposed and approved by the ER and agreed by the IEC and EPD.
- (5) Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period.

---

---

**APPENDIX C  
CALIBRATION CERTIFICATES FOR  
MONITORING EQUIPEMENT**

---

---

## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

File No. MA12051664/0004

Station: DMS-3 - Hong Kong Sheng Kung Hui Nursing Hon Operator: WK  
 Date: 5-Apr-17 Next Due Date: 4-Jun-17  
 Equipment No.: A-01-64 Serial No. 3223

| Ambient Condition   |       |                     |       |
|---------------------|-------|---------------------|-------|
| Temperature, Ta (K) | 296.8 | Pressure, Pa (mmHg) | 764.7 |

| Orifice Transfer Standard Information |           |   |        |               |          |
|---------------------------------------|-----------|---|--------|---------------|----------|
| Serial No.:                           | 0993      | Slope, mc (CFM)   | 0.0578 | Intercept, bc | -0.04890 |
| Last Calibration Date:                | 28-Feb-17 | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$<br>$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$ |        |               |          |
| Next Calibration Date:                | 27-Feb-18 |   |        |               |          |

| Calibration of TSP Sampler |                                    |  |                   |                                |   |
|----------------------------|------------------------------------|--|-------------------|--------------------------------|---|
| Calibration Point          | Orifice                            |  |                   | HVS                            |   |
|                            | $\Delta H$ (orifice), in. of water | $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ | Qstd (CFM) X-axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis |
| 1                          | 16.5                               | 4.08   | 71.52             | 10.3                           | 3.23  |
| 2                          | 14.2                               | 3.79   | 66.41             | 8.7                            | 2.96  |
| 3                          | 10.7                               | 3.29   | 57.76             | 6.8                            | 2.62  |
| 4                          | 6.8                                | 2.62   | 46.21             | 4.5                            | 2.13  |
| 5                          | 4.2                                | 2.06   | 36.50             | 2.7                            | 1.65  |

By Linear Regression of Y on X

Slope,  $mw =$  0.0441 Intercept,  $bw =$  0.0645  
 Correlation coefficient<sup>2</sup> = 0.9993

\*If Correlation Coefficient < 0.990, check and recalibrate.

| Set Point Calculation   |             |
|---|-------------|
| From the TSP Field Calibration Curve, take Qstd = <u>43 CFM</u>                           |             |
| From the Regression Equation, the "Y" value according to                                  |             |
| $mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$                  |             |
| Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ | <u>3.80</u> |

Remarks: \_\_\_\_\_

Conducted by: Wk Tang Signature: [Signature]  
 Checked by: [Signature] Signature: [Signature]

Date: 17/3/17  
 Date: 17 March 2017

## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

File No. MA12051/57/0025

Station DMS-4 - Rhythm Garden, Block 1 Operator: WK  
 Date: 17-Mar-17 Next Due Date: 16-May-17  
 Equipment No.: A-01-57 Serial No. 2352

| Ambient Condition   |       |                     |       |
|---------------------|-------|---------------------|-------|
| Temperature, Ta (K) | 290.5 | Pressure, Pa (mmHg) | 766.7 |

| Orifice Transfer Standard Information |           |  |        |               |          |
|---------------------------------------|-----------|--|--------|---------------|----------|
| Serial No.:                           | 0993      | Slope, mc (CFM)  | 0.0578 | Intercept, bc | -0.04890 |
| Last Calibration Date:                | 28-Feb-17 | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |        |               |          |
| Next Calibration Date:                | 27-Feb-18 | $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$  |        |               |          |

| Calibration of TSP Sampler |                                    |  |                        |                                |   |
|----------------------------|------------------------------------|--|------------------------|--------------------------------|---|
| Calibration Point          | Orifice                            |  |                        | HVS                            |   |
|                            | $\Delta H$ (orifice), in. of water | $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ | Qstd (CFM)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis |
| 1                          | 11.8                               | 3.49   | 61.33                  | 7.8                            | 2.84  |
| 2                          | 9.5                                | 3.14   | 55.12                  | 6.4                            | 2.57  |
| 3                          | 7.8                                | 2.84   | 50.02                  | 5.1                            | 2.30  |
| 4                          | 5.2                                | 2.32   | 41.00                  | 3.3                            | 1.85  |
| 5                          | 3.3                                | 1.85   | 32.83                  | 2.2                            | 1.51  |

**By Linear Regression of Y on X**

Slope, mw = 0.0476 Intercept, bw : -0.0736  
 Correlation coefficient\* = 0.9992

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

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

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

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

Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.76

Remarks: \_\_\_\_\_

Conducted by: Wk Tang Signature: [Signature] Date: 17/3/17  
 Checked by: [Signature] Signature: [Signature] Date: 17 March 2017

## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

 File No. MA12051/57/0026

 Station DMS-4 - Rhythm Garden, Block 1 Operator: WK  
 Date: 12-May-17 Next Due Date: 11-Jul-17  
 Equipment No.: A-01-57 Serial No. 2352

| Ambient Condition   |       |                     |       |
|---------------------|-------|---------------------|-------|
| Temperature, Ta (K) | 301.3 | Pressure, Pa (mmHg) | 761.7 |

| Orifice Transfer Standard Information |           |  |        |               |          |
|---------------------------------------|-----------|--|--------|---------------|----------|
| Serial No.:                           | 0993      | Slope, mc (CFM)  | 0.0578 | Intercept, bc | -0.04890 |
| Last Calibration Date:                | 28-Feb-17 | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |        |               |          |
| Next Calibration Date:                | 27-Feb-18 | $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$  |        |               |          |

| Calibration of TSP Sampler |                                    |  |                        |                                |   |
|----------------------------|------------------------------------|--|------------------------|--------------------------------|---|
| Calibration Point          | Orifice                            |  |                        | HVS                            |   |
|                            | $\Delta H$ (orifice), in. of water | $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ | Qstd (CFM)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis |
| 1                          | 11.4                               | 3.36   | 59.03                  | 7.7                            | 2.76  |
| 2                          | 9.7                                | 3.10   | 54.52                  | 6.4                            | 2.52  |
| 3                          | 7.5                                | 2.73   | 48.04                  | 5.0                            | 2.23  |
| 4                          | 5.1                                | 2.25   | 39.76                  | 3.3                            | 1.81  |
| 5                          | 3.2                                | 1.78   | 31.67                  | 2.0                            | 1.41  |

### By Linear Regression of Y on X

 Slope, mw = 0.0492 Intercept, bw = -0.1485

 Correlation coefficient\* = 0.9998

\*If Correlation Coefficient &lt; 0.990, check and recalibrate.

### Set Point Calculation

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

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

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

 Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.90

Remarks: \_\_\_\_\_

 Conducted by: ink Tang

Signature: \_\_\_\_\_

 Date: 12/5/17

 Checked by: [Signature]

Signature: \_\_\_\_\_

 Date: 12 May 2017





TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE  
 VILLAGE OF CLEVELAND, OH  
 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Feb 28, 2017 Rootsmeter S/N 0438320 Ta (K) - 294  
 Operator Tisch Orifice I.D. - 0993 Pa (mm) - 750.57

| PLATE OR Run # | VOLUME START (m3) | VOLUME STOP (m3) | DIFF VOLUME (m3) | DIFF TIME (min) | METER        | ORFICE         |
|----------------|-------------------|------------------|------------------|-----------------|--------------|----------------|
|                |                   |                  |                  |                 | DIFF Hg (mm) | DIFF H2O (in.) |
| 1              | NA                | NA               | 1.00             | 1.3860          | 3.2          | 2.00           |
| 2              | NA                | NA               | 1.00             | 0.9910          | 6.4          | 4.00           |
| 3              | NA                | NA               | 1.00             | 0.8840          | 7.9          | 5.00           |
| 4              | NA                | NA               | 1.00             | 0.8430          | 8.7          | 5.50           |
| 5              | NA                | NA               | 1.00             | 0.6970          | 12.6         | 8.00           |

DATA TABULATION

| Vstd                                | (x axis) Qstd | (y axis) | Va                        | (x axis) Qa | (y axis) |
|-------------------------------------|---------------|----------|---------------------------|-------------|----------|
| 0.9967                              | 0.7191        | 1.4149   | 0.9957                    | 0.7184      | 0.8851   |
| 0.9925                              | 1.0015        | 2.0010   | 0.9915                    | 1.0005      | 1.2517   |
| 0.9904                              | 1.1204        | 2.2372   | 0.9894                    | 1.1192      | 1.3995   |
| 0.9894                              | 1.1737        | 2.3464   | 0.9884                    | 1.1725      | 1.4678   |
| 0.9842                              | 1.4120        | 2.8299   | 0.9832                    | 1.4106      | 1.7702   |
| Qstd slope (m) = 2.04055            |               |          | Qa slope (m) = 1.27776    |             |          |
| intercept (b) = -0.04890            |               |          | intercept (b) = -0.03059  |             |          |
| coefficient (r) = 0.99995           |               |          | coefficient (r) = 0.99995 |             |          |
| y axis = SQRT[H2O(Pa/760) (298/Ta)] |               |          | y axis = SQRT[H2O(Ta/Pa)] |             |          |

CALCULATIONS

Vstd = Diff. Vol [(Pa-Diff. Hg)/760] (298/Ta)  
 Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]  
 Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{ [SQRT(H2O(Pa/760) (298/Ta))] - b}  
 Qa = 1/m{ [SQRT H2O(Ta/Pa)] - b}

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |             |
|------------------|-------------|
| Test Report No.: | C/N/160917C |
| Date of Issue:   | 2016-09-19  |
| Date Received:   | 2016-09-17  |
| Date Tested:     | 2016-09-17  |
| Date Completed:  | 2016-09-19  |
| Next Due Date:   | 2017-09-18  |

**ATTN:** Mr. W.K. Tang

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

|                |   |
|----------------|---|
| Description    | : 'SVANTEK' Integrating Sound Level Meter |
| Manufacturer   | : SVANTEK                                 |
| Model No.      | : SVAN 955                                |
| Serial No.     | : 12563                                   |
| Microphone No. | : 34377                                   |
| Equipment No.  | : N-08-03                                 |

**Test conditions:**

|                   |                     |
|-------------------|---------------------|
| Room Temperature  | : 24 degree Celsius |
| Relative Humidity | : 57%               |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

| Reference Set Point, dB | Instrument Readings, dB |
|-------------------------|-------------------------|
| 94                      | 94.0                    |
| 114                     | 114.0                   |

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |            |
|------------------|------------|
| Test Report No.: | C/N/161230 |
| Date of Issue:   | 2017-01-03 |
| Date Received:   | 2016-12-30 |
| Date Tested:     | 2016-12-30 |
| Date Completed:  | 2017-01-03 |
| Next Due Date:   | 2018-01-02 |

**ATTN:** Mr. W. K. Tang

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

|                |   |
|----------------|---|
| Description    | : 'SVANTEK' Integrating Sound Level Meter |
| Manufacturer   | : SVANTEK                                 |
| Model No.      | : SVAN 955                                |
| Serial No.     | : 14303                                   |
| Microphone No. | : 35222                                   |
| Equipment No.  | : N-08-05                                 |

**Test conditions:**

|                   |                     |
|-------------------|---------------------|
| Room Temperature  | : 21 degree Celsius |
| Relative Humidity | : 62 %              |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

| Reference Set Point, dB | Instrument Readings, dB |
|-------------------------|-------------------------|
| 94                      | 94.0                    |
| 114                     | 114.0                   |

Remark: 1) This report supersedes the one dated 2012/01/21 with certificate number C/N/120120/1.

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |             |
|------------------|-------------|
| Test Report No.: | C/N/160826A |
| Date of Issue:   | 2016-08-29  |
| Date Received:   | 2016-08-26  |
| Date Tested:     | 2016-08-26  |
| Date Completed:  | 2016-08-29  |
| Next Due Date:   | 2017-08-28  |

**ATTN:** Mr. W.K. Tang

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description : 'SVANTEK' Integrating Sound Level Meter  
Manufacturer : SVANTEK  
Model No. : SVAN 957  
Serial No. : 21455  
Microphone No. : 43730  
Equipment No. : N-08-07

**Test conditions:**

Room Temperature : 25 degree Celsius  
Relative Humidity : 57%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

| Reference Set Point, dB | Instrument Readings, dB |
|-------------------------|-------------------------|
| 94                      | 94.0                    |
| 114                     | 114.0                   |

*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |            |
|------------------|------------|
| Test Report No.: | C/N/161128 |
| Date of Issue:   | 2016-11-30 |
| Date Received:   | 2016-11-28 |
| Date Tested:     | 2016-11-28 |
| Date Completed:  | 2016-11-30 |
| Next Due Date:   | 2017-11-29 |

**ATTN:** Mr. W.K. Tang

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

|                |   |
|----------------|---|
| Description    | : 'SVANTEK' Integrating Sound Level Meter |
| Manufacturer   | : SVANTEK                                 |
| Model No.      | : SVAN 957                                |
| Serial No.     | : 23853                                   |
| Microphone No. | : 48530                                   |
| Equipment No.  | : N-08-10                                 |

**Test conditions:**

|                   |                     |
|-------------------|---------------------|
| Room Temperature  | : 21 degree Celsius |
| Relative Humidity | : 66%               |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

| Reference Set Point, dB | Instrument Readings, dB |
|-------------------------|-------------------------|
| 94                      | 94.0                    |
| 114                     | 114.0                   |

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |             |
|------------------|-------------|
| Test Report No.: | C/N/160930B |
| Date of Issue:   | 2016-10-03  |
| Date Received:   | 2016-09-30  |
| Date Tested:     | 2016-09-30  |
| Date Completed:  | 2016-10-03  |
| Next Due Date:   | 2017-10-02  |

**ATTN:** Mr. W.K. Tang

Page: 1 of 1

**Item for calibration:**

|               |                         |
|---------------|-------------------------|
| Description   | : Acoustical Calibrator |
| Manufacturer  | : SVANTEK               |
| Model No.     | : SV30A                 |
| Serial No.    | : 24791                 |
| Equipment No. | : N-09-04               |

**Test conditions:**

|                   |                     |
|-------------------|---------------------|
| Room Temperature  | : 25 degree Celsius |
| Relative Humidity | : 60%               |

**Methodology:**

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

**Results:**

| Sound Pressure Level (1kHz) | Measured SPL | Tolerance      |
|-----------------------------|--------------|----------------|
| At 94 dB SPL                | 94.0         | 94.0 ± 0.1 dB  |
| At 114 dB SPL               | 114.0        | 114.0 ± 0.1 dB |

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
*Laboratory Manager*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |              |
|------------------|--------------|
| Test Report No.: | C/N/161104/1 |
| Date of Issue:   | 2016-11-07   |
| Date Received:   | 2016-11-04   |
| Date Tested:     | 2016-11-04   |
| Date Completed:  | 2016-11-07   |
| Next Due Date:   | 2017-11-06   |

**ATTN:** Mr. W.K. Tang

Page: 1 of 1

### Item for calibration:

Description : Acoustical Calibrator  
Manufacturer : Brüel & Kjær  
Model No. : 4231  
Serial No. : 2326353  
Equipment No. : N-02-01

### Test conditions:

Room Temperature : 21 degree Celsius  
Relative Humidity : 62 %

### Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

| Sound Pressure Level (1kHz) | Measured SPL | Tolerance      |
|-----------------------------|--------------|----------------|
| At 94 dB SPL                | 94.0         | 94.0 ± 0.1 dB  |
| At 114 dB SPL               | 114.0        | 114.0 ± 0.1 dB |

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

---

---

**APPENDIX D**  
**IMPACT MONITORING SCHEDULE**

---

---



**Shatin to Central Link – Contract 1106 Diamond Hill Station  
Impact Air Quality and Noise Monitoring Schedule for May 2017**

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

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

**Air Quality Monitoring Station**

DMS-3<sup>(1)</sup>/4<sup>(2)</sup>: - Hong Kong Sheng Kung Hui Nursing Home

DMS-4<sup>(1)</sup>/3<sup>(2)</sup>: - Rhythm Garden, Block 1

**Noise Monitoring Station**

NMS-CA-3<sup>(1)</sup>/4<sup>(2)</sup>: - Hong Kong Sheng Kung Hui Nursing Home

NMS-CA-4<sup>(1)</sup>/3<sup>(2)</sup>: - Block 1, Rhythm Garden (north-eastern façade)

NMS-CA-5<sup>(1)</sup>/2<sup>(2)</sup>: - Block 1, Rhythm Garden (northern façade)

(1) NSR ID/ ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

(2) NSR ID/ ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

**Shatin to Central Link – Contract 1106 Diamond Hill Station  
Tentative Impact Air Quality and Noise Monitoring Schedule for June 2017**

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

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

**Air Quality Monitoring Station**

DMS-3<sup>(1)</sup>/4<sup>(2)</sup>: - Hong Kong Sheng Kung Hui Nursing Home

DMS-4<sup>(1)</sup>/3<sup>(2)</sup>: - Rhythm Garden, Block 1

**Noise Monitoring Station**

NMS-CA-3<sup>(1)</sup>/4<sup>(2)</sup>: - Hong Kong Sheng Kung Hui Nursing Home

NMS-CA-4<sup>(1)</sup>/3<sup>(2)</sup>: - Block 1, Rhythm Garden (north-eastern façade)

NMS-CA-5<sup>(1)</sup>/2<sup>(2)</sup>: - Block 1, Rhythm Garden (northern façade)

(1) NSR ID/ ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

(2) NSR ID/ ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

---

---

**APPENDIX E  
24-HOUR TSP MONITORING RESULTS  
AND GRAPHICAL PRESENTATIONS**

---

---

## Appendix E - 24-hour TSP Monitoring Results

### Location DMS-3: - Hong Kong Sheng Kung Hui Nursing Home

| Sampling Date | Start Time | Weather Condition | Air Temp. (K) | Atmospheric Pressure, Pa (mmHg) | Filter Weight (g) |        | Particulate weight (g) | Elapse Time |        | Sampling Time(hrs.) | Flow Rate (m <sup>3</sup> /min.) |       | Av. flow (m <sup>3</sup> /min) | Total vol. (m <sup>3</sup> ) | Conc. (µg/m <sup>3</sup> ) |
|---------------|------------|-------------------|---------------|---------------------------------|-------------------|--------|------------------------|-------------|--------|---------------------|----------------------------------|-------|--------------------------------|------------------------------|----------------------------|
|               |            |                   |               |                                 | Initial           | Final  |                        | Initial     | Final  |                     | Initial                          | Final |                                |                              |                            |
| 5-May-17      | 9:00       | Cloudy            | 297.6         | 763.4                           | 3.5843            | 3.7023 | 0.1180                 | 2786.3      | 2810.3 | 24.0                | 1.21                             | 1.21  | 1.21                           | 1746.9                       | 67.5                       |
| 11-May-17     | 9:00       | Cloudy            | 299.9         | 764.7                           | 3.6093            | 3.6605 | 0.0512                 | 2810.3      | 2834.3 | 24.0                | 1.21                             | 1.21  | 1.21                           | 1741.5                       | 29.4                       |
| 17-May-17     | 9:00       | Cloudy            | 298.8         | 760.0                           | 3.3270            | 3.3916 | 0.0646                 | 2834.3      | 2858.3 | 24.0                | 1.21                             | 1.21  | 1.21                           | 1739.4                       | 37.1                       |
| 23-May-17     | 9:00       | Cloudy            | 300.2         | 759.3                           | 3.2703            | 3.3351 | 0.0648                 | 2858.3      | 2882.3 | 24.0                | 1.20                             | 1.20  | 1.20                           | 1734.3                       | 37.4                       |
| 29-May-17     | 9:00       | Sunny             | 299.4         | 761.0                           | 3.2332            | 3.3023 | 0.0691                 | 2882.3      | 2906.3 | 24.0                | 1.21                             | 1.21  | 1.21                           | 1738.7                       | 39.7                       |
|               |            |                   |               |                                 |                   |        |                        |             |        |                     |                                  |       |                                | Min                          | 29.4                       |
|               |            |                   |               |                                 |                   |        |                        |             |        |                     |                                  |       |                                | Max                          | 67.5                       |
|               |            |                   |               |                                 |                   |        |                        |             |        |                     |                                  |       |                                | Average                      | 42.2                       |

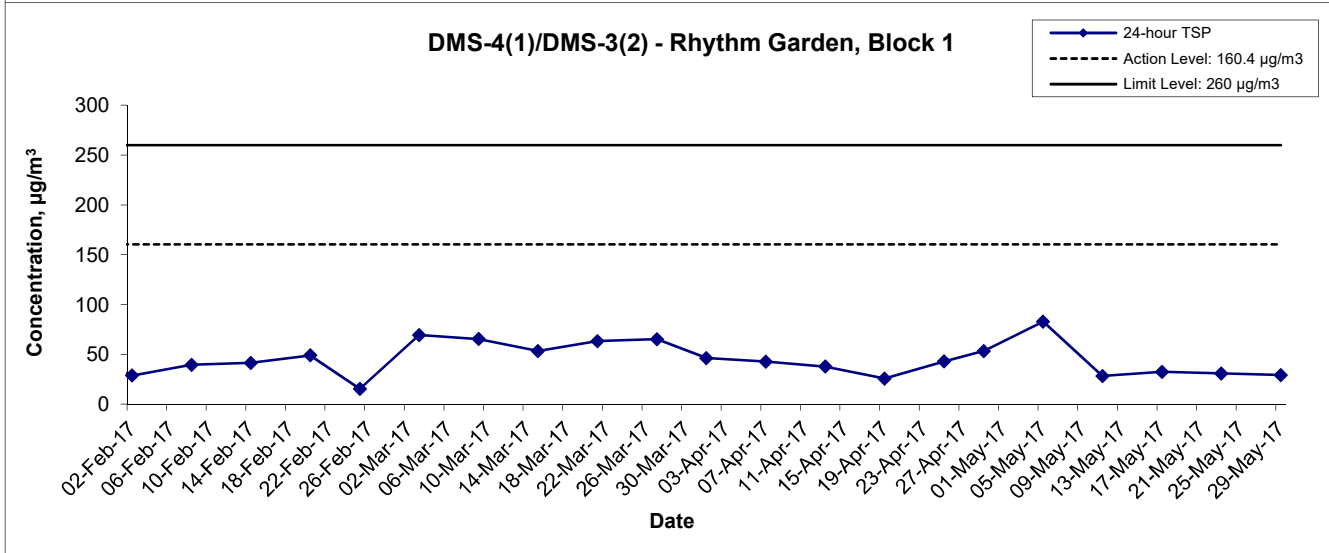
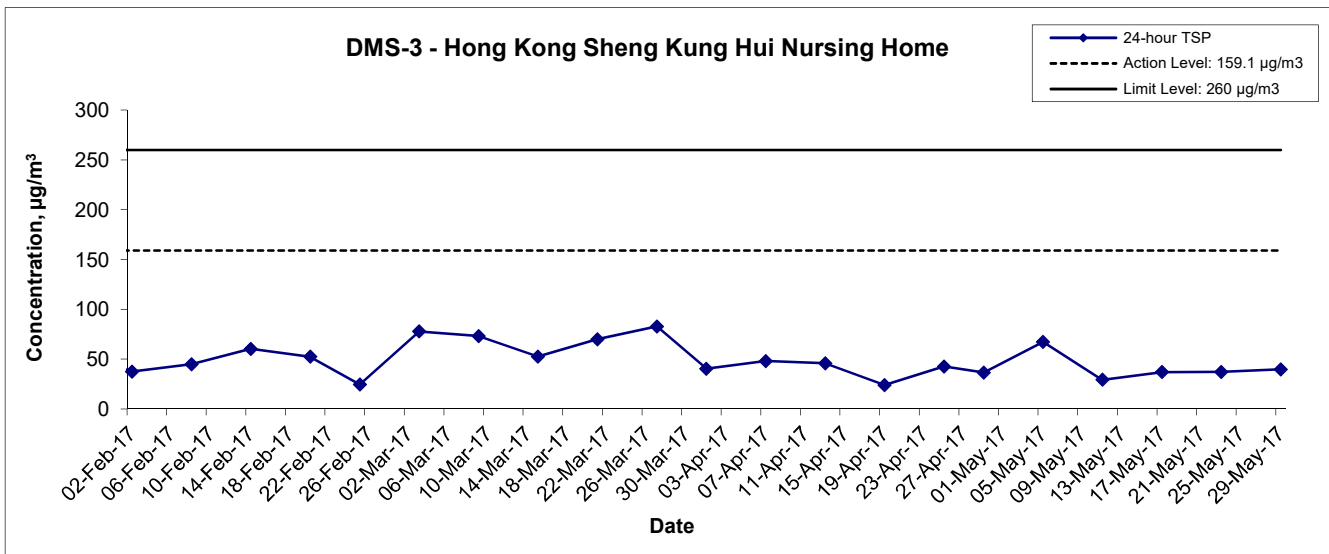
### Location DMS-4(1)/DMS-3(2) - Rhythm Garden, Block 1

| Sampling Date | Start Time | Weather Condition | Air Temp. (K) | Atmospheric Pressure, Pa (mmHg) | Filter Weight (g) |        | Particulate weight (g) | Elapse Time |        | Sampling Time(hrs.) | Flow Rate (m <sup>3</sup> /min.) |       | Av. flow (m <sup>3</sup> /min) | Total vol. (m <sup>3</sup> ) | Conc. (µg/m <sup>3</sup> ) |
|---------------|------------|-------------------|---------------|---------------------------------|-------------------|--------|------------------------|-------------|--------|---------------------|----------------------------------|-------|--------------------------------|------------------------------|----------------------------|
|               |            |                   |               |                                 | Initial           | Final  |                        | Initial     | Final  |                     | Initial                          | Final |                                |                              |                            |
| 5-May-17      | 9:00       | Cloudy            | 297.6         | 763.4                           | 2.8853            | 3.0292 | 0.1439                 | 7294.5      | 7318.5 | 24.0                | 1.21                             | 1.21  | 1.21                           | 1736.7                       | 82.9                       |
| 11-May-17     | 9:00       | Cloudy            | 299.9         | 764.7                           | 3.5906            | 3.6395 | 0.0489                 | 7318.5      | 7342.5 | 24.0                | 1.20                             | 1.20  | 1.20                           | 1731.7                       | 28.2                       |
| 17-May-17     | 9:00       | Cloudy            | 298.8         | 760.0                           | 3.3004            | 3.3573 | 0.0569                 | 7342.5      | 7366.5 | 24.0                | 1.22                             | 1.22  | 1.22                           | 1756.6                       | 32.4                       |
| 23-May-17     | 9:00       | Cloudy            | 300.2         | 759.3                           | 3.2982            | 3.3524 | 0.0542                 | 7366.5      | 7390.5 | 24.0                | 1.22                             | 1.22  | 1.22                           | 1752.0                       | 30.9                       |
| 29-May-17     | 9:00       | Sunny             | 299.4         | 761.0                           | 3.3112            | 3.3625 | 0.0513                 | 7390.5      | 7414.5 | 24.0                | 1.22                             | 1.22  | 1.22                           | 1756.0                       | 29.2                       |
|               |            |                   |               |                                 |                   |        |                        |             |        |                     |                                  |       |                                | Min                          | 28.2                       |
|               |            |                   |               |                                 |                   |        |                        |             |        |                     |                                  |       |                                | Max                          | 82.9                       |
|               |            |                   |               |                                 |                   |        |                        |             |        |                     |                                  |       |                                | Average                      | 40.7                       |

#### Remarks:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

### 24-hour TSP Concentration Levels



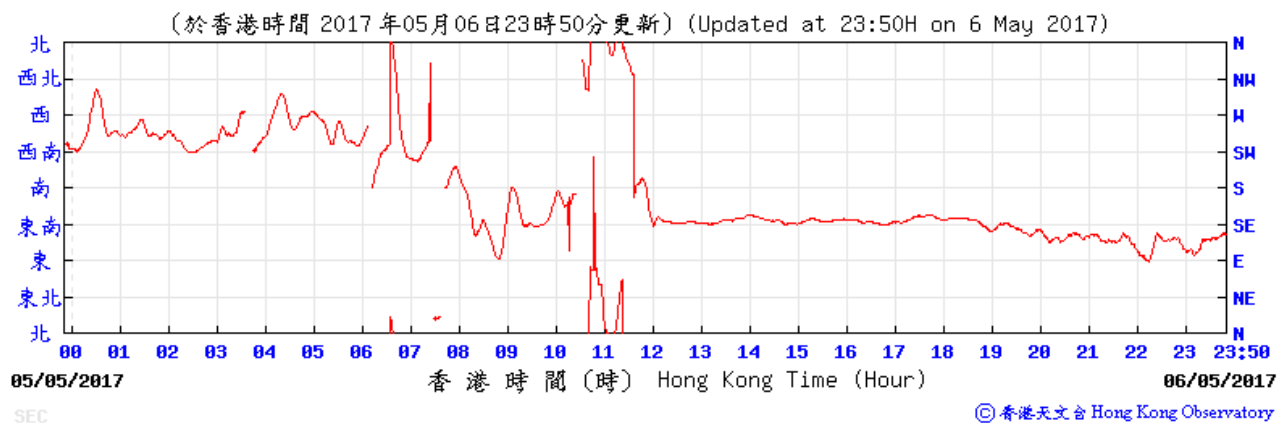
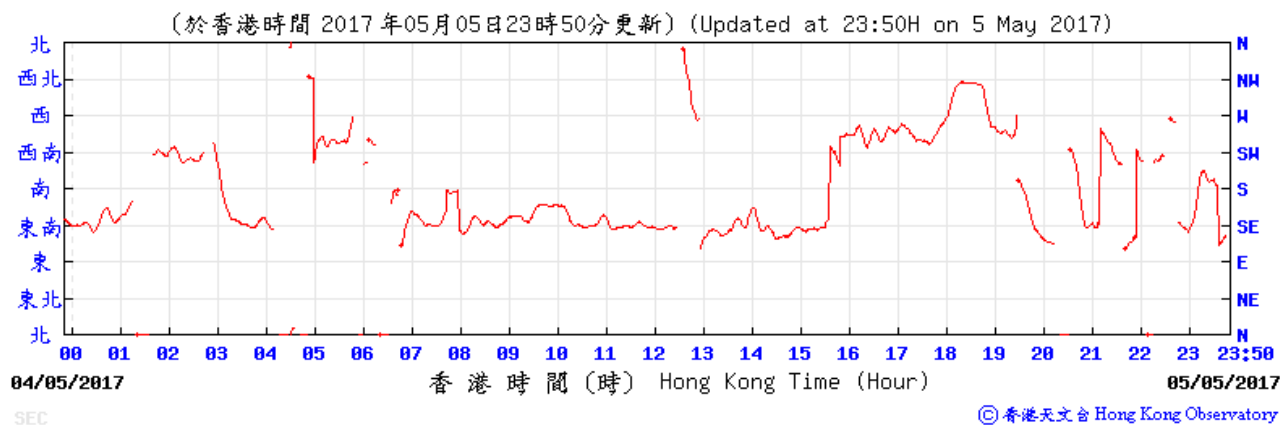
**Remarks:**

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) 24 hours TSP concentration level of DMS-3 from July to September 2016 were extracted from the Project 1103.

|   |                |                        |          |
|---|----------------|------------------------|----------|
| Title<br>Shatin to Central Link –<br>Contract 1106 Diamond Hill Station<br><br>Graphical Presentation of 24-hour TSP Monitoring Results | Scale<br>N.T.S | Project No.<br>MA12051 | CINOTECH |
|   | Date<br>May-17 | Appendix<br>E          |          |

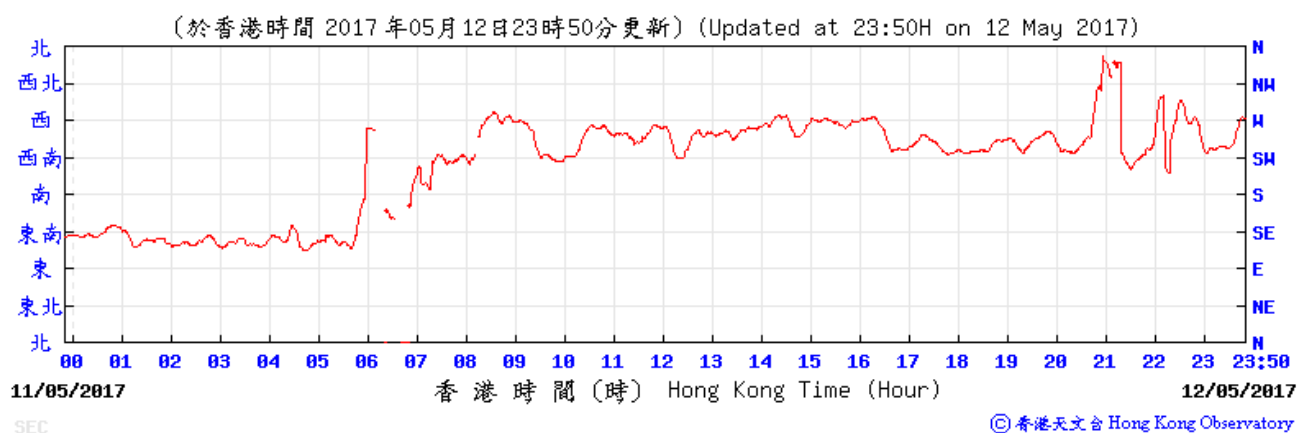
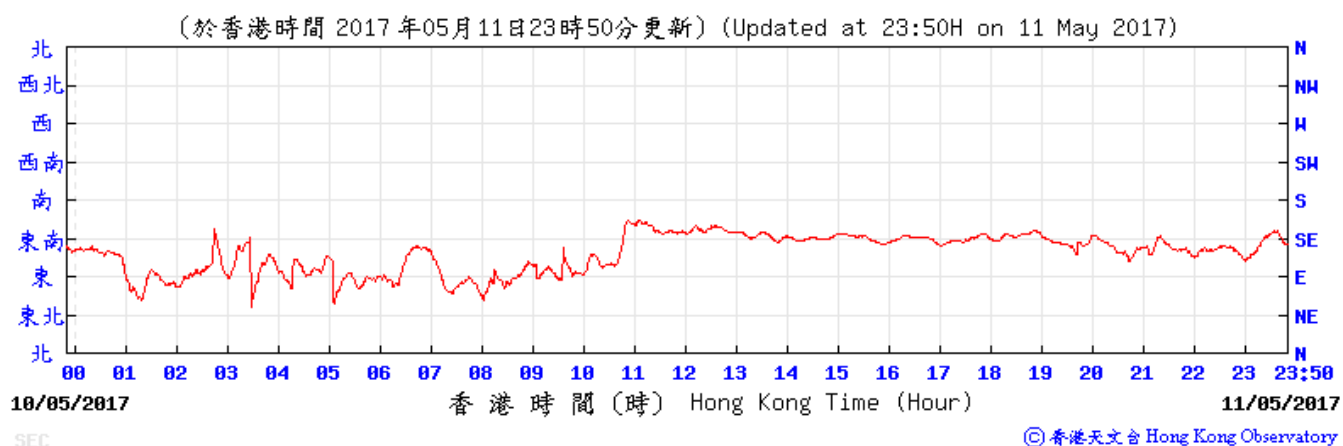
# Wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

5-6 May 2017



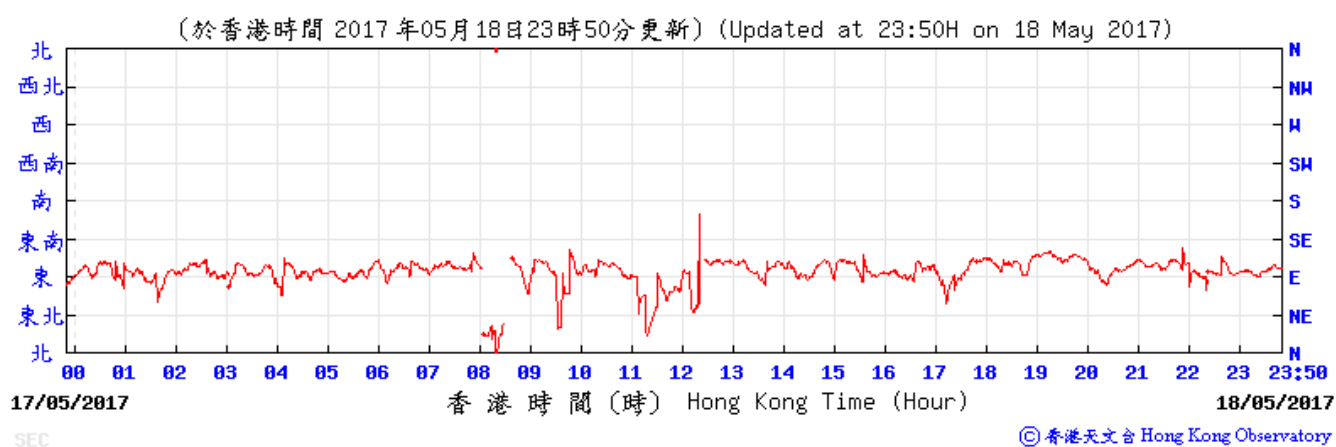
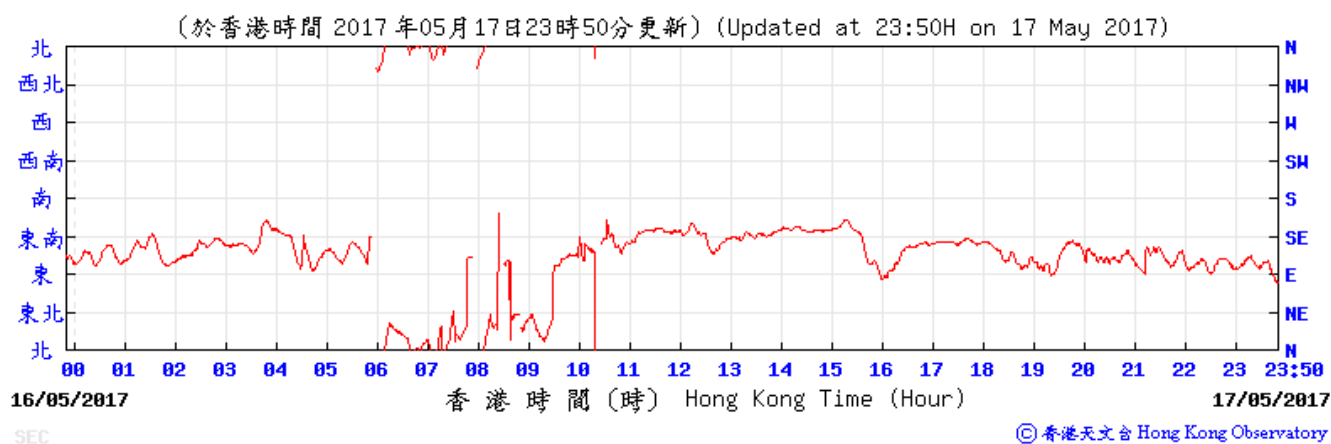
# Wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

11-12 May 2017



# Wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

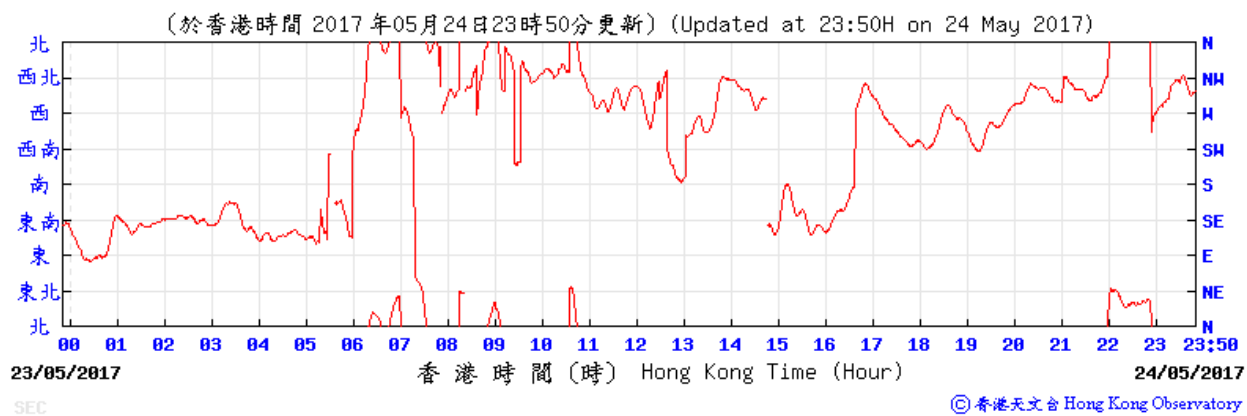
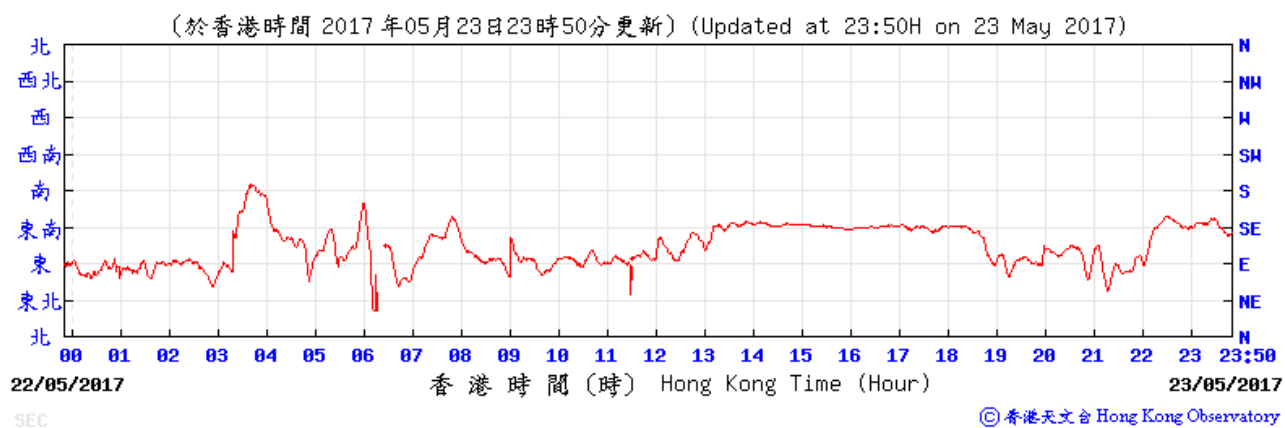
17-18 May 2017





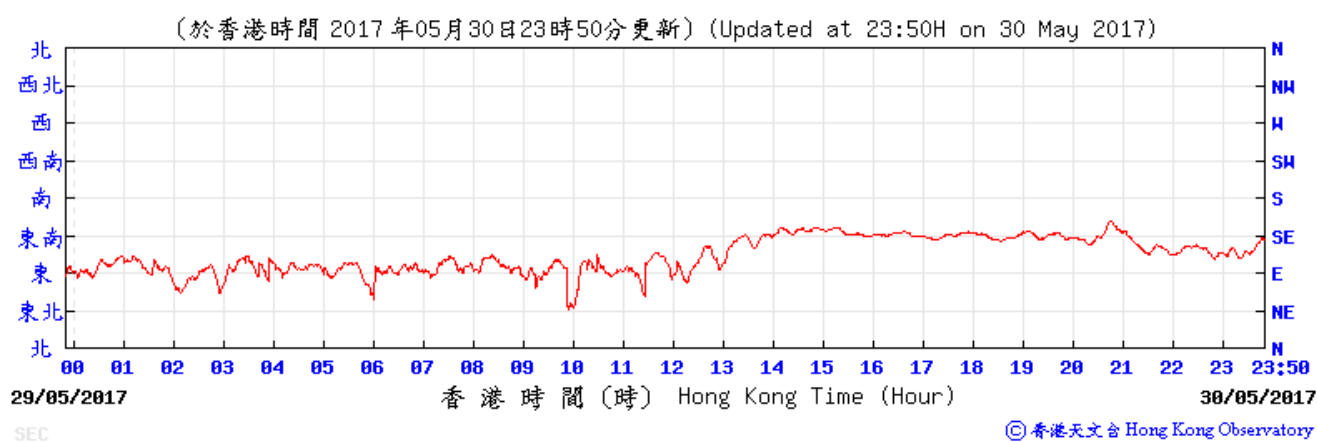
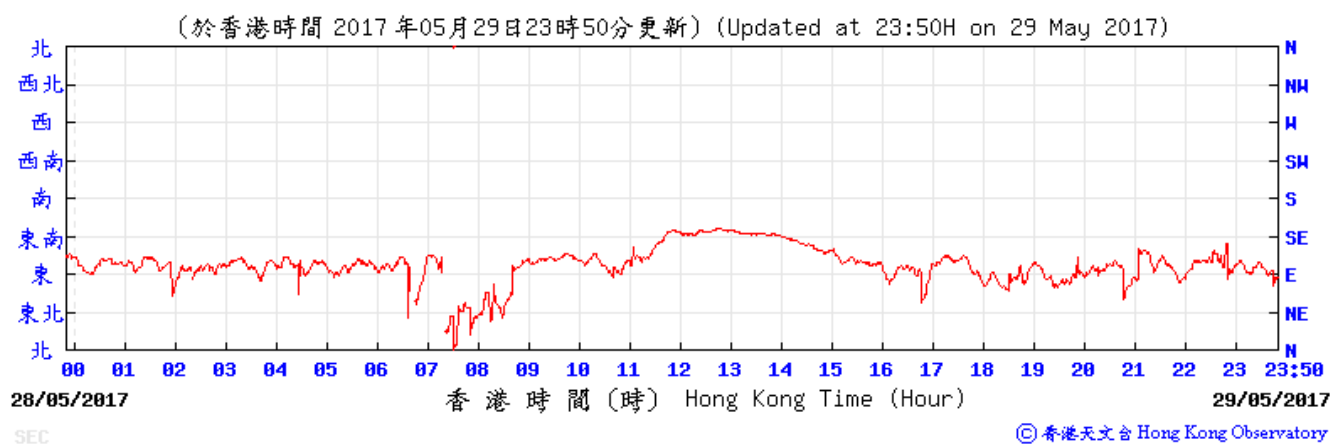
# Wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

23-24 May 2017



# Wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

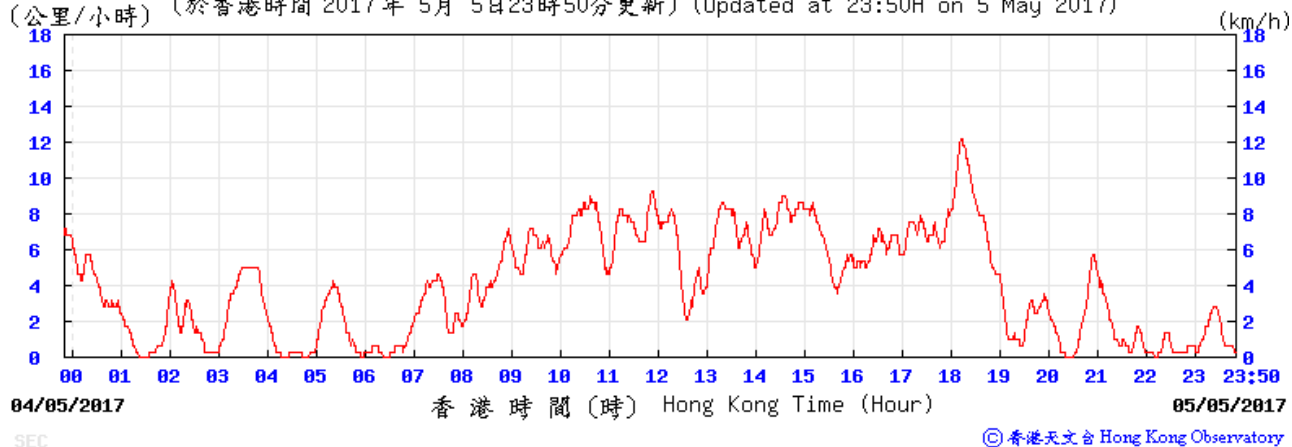
29-30 May 2017



# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

5-6 May 2017

(公里/小時) (於香港時間 2017 年 5 月 5 日 23 時 50 分更新) (Updated at 23:50H on 5 May 2017)



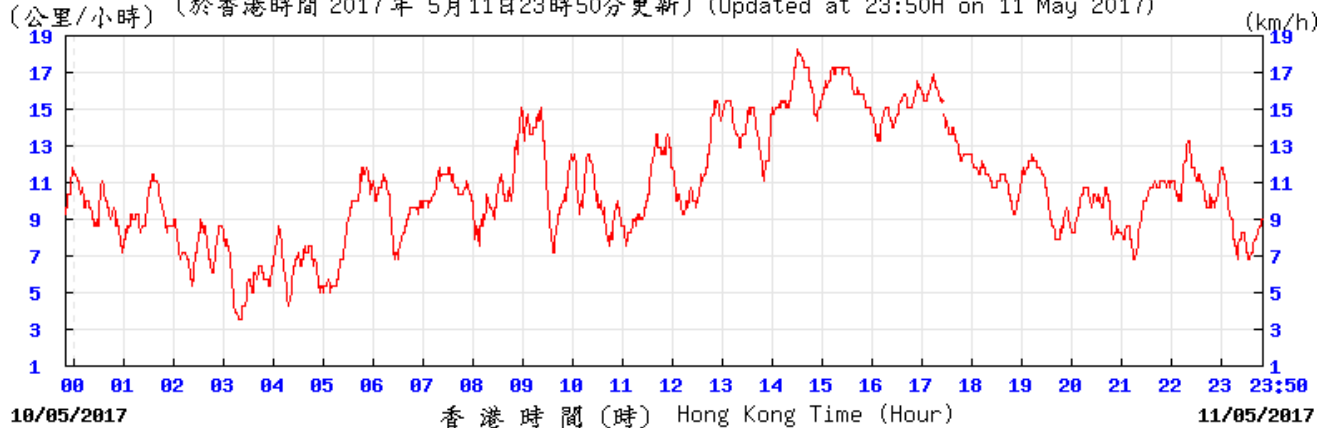
(公里/小時) (於香港時間 2017 年 5 月 6 日 23 時 50 分更新) (Updated at 23:50H on 6 May 2017)



# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

11-12 May 2017

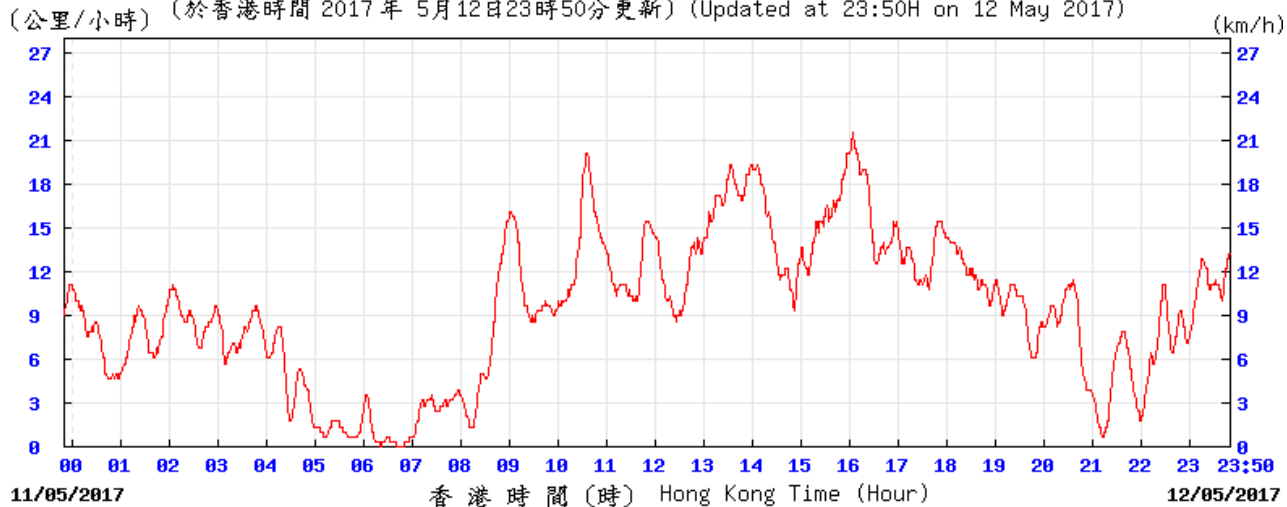
(公里/小時) (於香港時間 2017 年 5 月 11 日 23 時 50 分更新) (Updated at 23:50H on 11 May 2017)



SEC

© 香港天文台 Hong Kong Observatory

(公里/小時) (於香港時間 2017 年 5 月 12 日 23 時 50 分更新) (Updated at 23:50H on 12 May 2017)



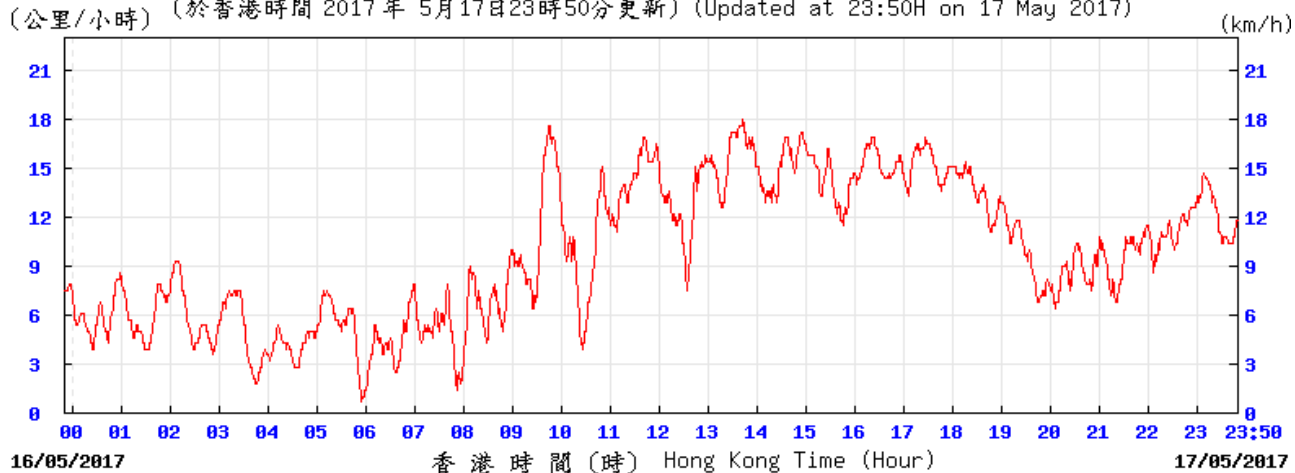
SEC

© 香港天文台 Hong Kong Observatory

# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

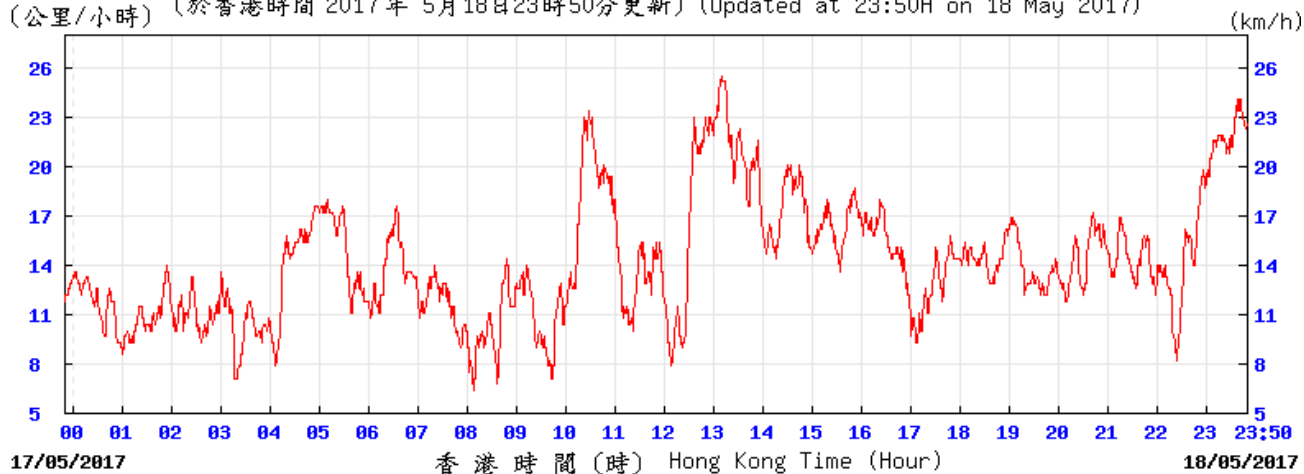
17-18 May 2017

(公里/小時) (於香港時間 2017 年 5 月 17 日 23 時 50 分更新) (Updated at 23:50H on 17 May 2017)



SEC © 香港天文台 Hong Kong Observatory

(公里/小時) (於香港時間 2017 年 5 月 18 日 23 時 50 分更新) (Updated at 23:50H on 18 May 2017)

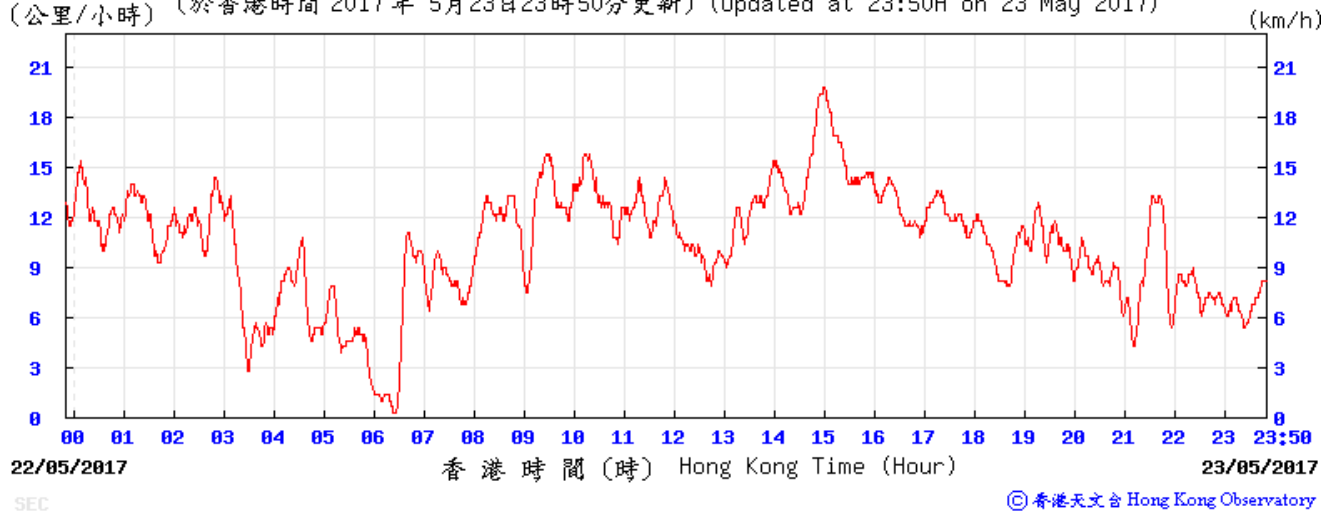


SEC © 香港天文台 Hong Kong Observatory

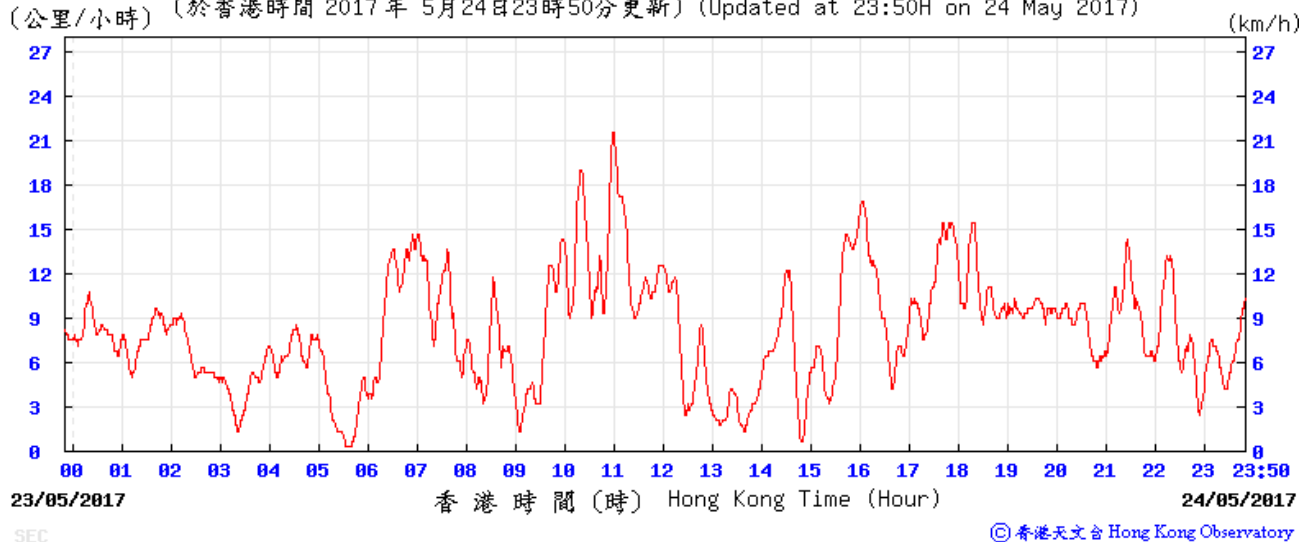
# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

23-24 May 2017

(公里/小時) (於香港時間 2017 年 5月23日23時50分更新) (Updated at 23:50H on 23 May 2017)



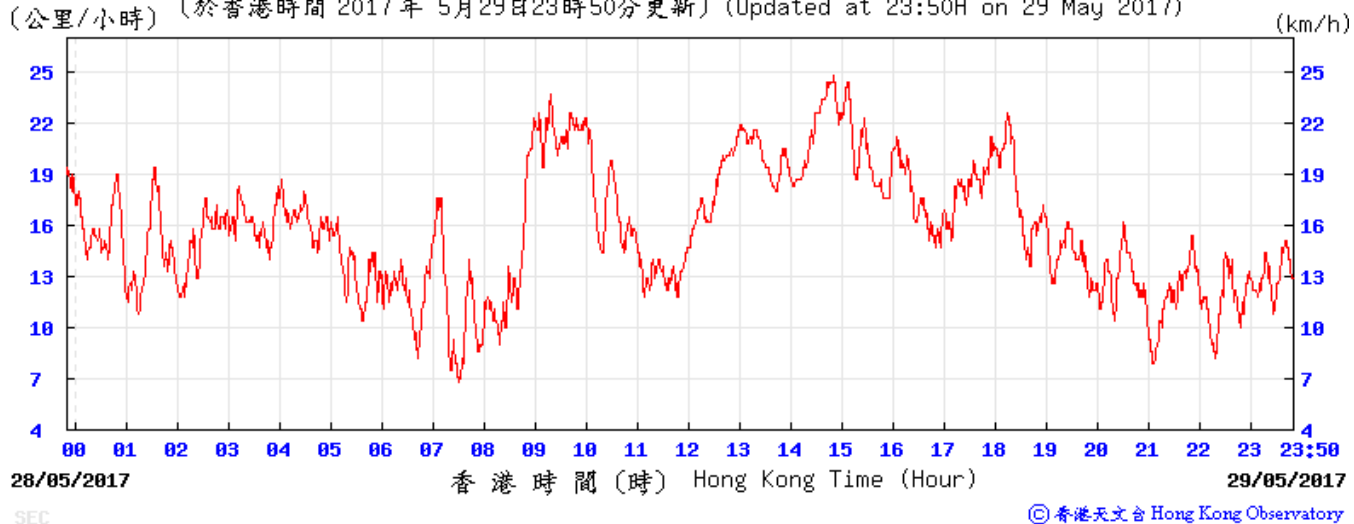
(公里/小時) (於香港時間 2017 年 5月24日23時50分更新) (Updated at 23:50H on 24 May 2017)



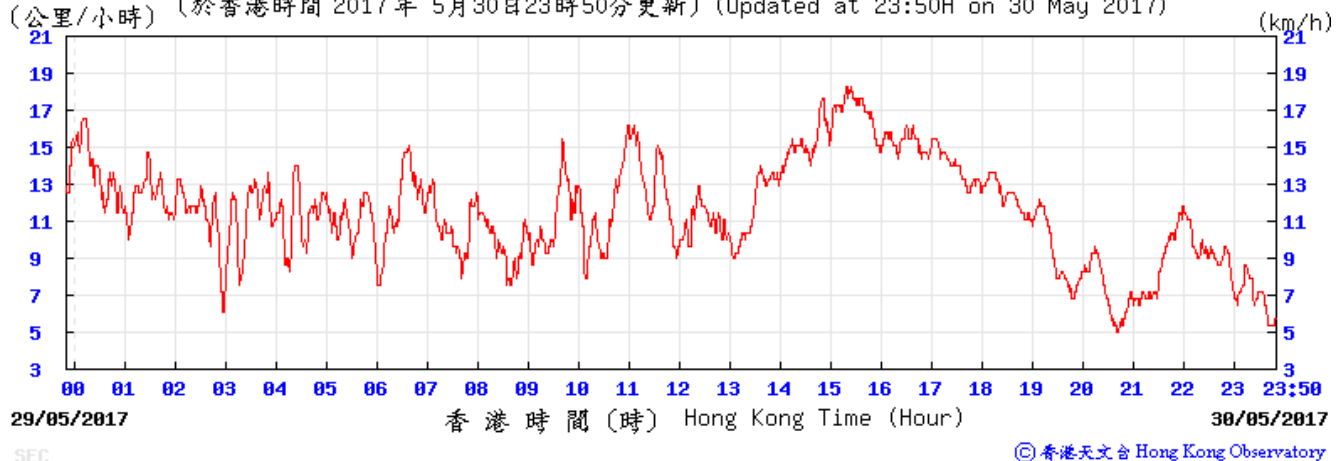
# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

29-30 May 2017

(公里/小時) (於香港時間 2017 年 5月29日23時50分更新) (Updated at 23:50H on 29 May 2017)



(公里/小時) (於香港時間 2017 年 5月30日23時50分更新) (Updated at 23:50H on 30 May 2017)



---

---

**APPENDIX F  
NOISE MONITORING RESULTS AND  
GRAPHICAL PRESENTATIONS**

---

---



## Appendix F - Noise Monitoring Results

| Location NMS-CA-3 / MNS-CA-4 - Hong Kong S.K.H Nursing Home |         |       |                      |                 |                 |                 |                 |                                |
|---|---------|-------|----------------------|-----------------|-----------------|-----------------|-----------------|--------------------------------|
| Date  | Weather | Time  | Unit: dB (A) (5-min) |                 |                 | Average         | Baseline Level  | Construction Noise Level       |
|   |         |       | L <sub>eq</sub>      | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>eq</sub> | L <sub>eq</sub>                |
| 2-May-17  | Cloudy  | 9:30  | 72.9                 | 74.3            | 69.4            | 71.9            | 73              | 71.9 Measured ≤ Baseline Level |
|   |         | 9:35  | 71.9                 | 73.5            | 69.2            |                 |                 |                                |
|   |         | 9:40  | 71.4                 | 73.6            | 69.4            |                 |                 |                                |
|   |         | 9:45  | 71.2                 | 73.0            | 69.0            |                 |                 |                                |
|   |         | 9:50  | 72.0                 | 73.0            | 69.9            |                 |                 |                                |
|   |         | 9:55  | 71.5                 | 73.1            | 69.1            |                 |                 |                                |
| 8-May-17  | Cloudy  | 10:00 | 72.9                 | 74.1            | 70.7            | 72.2            | 73              | 72.2 Measured ≤ Baseline Level |
|   |         | 10:05 | 71.6                 | 74.3            | 67.7            |                 |                 |                                |
|   |         | 10:10 | 71.8                 | 73.2            | 69.4            |                 |                 |                                |
|   |         | 10:15 | 72.6                 | 74.0            | 69.3            |                 |                 |                                |
|   |         | 10:20 | 71.3                 | 74.3            | 69.5            |                 |                 |                                |
|   |         | 10:25 | 72.8                 | 74.4            | 70.5            |                 |                 |                                |
| 18-May-17   | Cloudy  | 9:15  | 71.8                 | 73.9            | 69.7            | 71.8            | 73              | 71.8 Measured ≤ Baseline Level |
|   |         | 9:20  | 71.8                 | 74.0            | 67.8            |                 |                 |                                |
|   |         | 9:25  | 71.6                 | 73.3            | 61.2            |                 |                 |                                |
|   |         | 9:30  | 72.6                 | 74.3            | 69.3            |                 |                 |                                |
|   |         | 9:35  | 71.5                 | 74.6            | 67.4            |                 |                 |                                |
|   |         | 9:40  | 71.4                 | 74.0            | 69.5            |                 |                 |                                |
| 24-May-17   | Cloudy  | 14:00 | 72.3                 | 75.4            | 68.0            | 72.1            | 73              | 72.1 Measured ≤ Baseline Level |
|   |         | 14:05 | 72.2                 | 75.4            | 67.9            |                 |                 |                                |
|   |         | 14:10 | 72.2                 | 74.8            | 68.0            |                 |                 |                                |
|   |         | 14:15 | 71.1                 | 73.2            | 67.9            |                 |                 |                                |
|   |         | 14:20 | 72.4                 | 74.6            | 67.6            |                 |                 |                                |
|   |         | 14:25 | 72.3                 | 74.3            | 71.1            |                 |                 |                                |
| 31-May-17   | Sunny   | 9:30  | 72.3                 | 73.0            | 69.8            | 72.6            | 73              | 72.6 Measured ≤ Baseline Level |
|   |         | 9:35  | 72.4                 | 73.8            | 69.1            |                 |                 |                                |
|   |         | 9:40  | 72.1                 | 73.0            | 69.1            |                 |                 |                                |
|   |         | 9:45  | 73.0                 | 74.0            | 70.1            |                 |                 |                                |
|   |         | 9:50  | 72.2                 | 73.9            | 71.4            |                 |                 |                                |
|   |         | 9:55  | 73.6                 | 74.5            | 70.9            |                 |                 |                                |

Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

## Appendix F - Noise Monitoring Results

| Location NMS-CA-4(1)/NMS-CA-3(2) - Block 1, Rhythm Garden (north-eastern façade) |         |       |                      |                 |                 |                 |                 |                          |
|--|---------|-------|----------------------|-----------------|-----------------|-----------------|-----------------|--------------------------|
| Date   | Weather | Time  | Unit: dB (A) (5-min) |                 |                 | Average         | Baseline Level  | Construction Noise Level |
|  |         |       | L <sub>eq</sub>      | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>eq</sub> | L <sub>eq</sub>          |
| 2-May-17   | Sunny   | 11:20 | 71.4                 | 73.1            | 69.6            | 71.2            | 71              | 57.7                     |
|  |         | 11:25 | 71.6                 | 73.1            | 70.0            |                 |                 |                          |
|  |         | 11:30 | 71.1                 | 73.3            | 69.7            |                 |                 |                          |
|  |         | 11:35 | 71.2                 | 72.4            | 70.0            |                 |                 |                          |
|  |         | 11:40 | 71.2                 | 72.0            | 70.1            |                 |                 |                          |
|  |         | 11:45 | 70.4                 | 71.4            | 69.1            |                 |                 |                          |
| 8-May-17   | Cloudy  | 11:30 | 71.9                 | 73.5            | 70.0            | 71.9            | 71              | 64.6                     |
|  |         | 11:35 | 71.7                 | 72.7            | 70.4            |                 |                 |                          |
|  |         | 11:40 | 71.1                 | 71.9            | 70.1            |                 |                 |                          |
|  |         | 11:45 | 72.7                 | 74.3            | 70.7            |                 |                 |                          |
|  |         | 11:50 | 72.1                 | 73.2            | 71.0            |                 |                 |                          |
|  |         | 11:55 | 71.5                 | 72.7            | 70.2            |                 |                 |                          |
| 18-May-17  | Cloudy  | 10:35 | 71.5                 | 73.2            | 69.4            | 71.3            | 71              | 59.5                     |
|  |         | 10:40 | 71.4                 | 73.3            | 70.4            |                 |                 |                          |
|  |         | 10:45 | 71.6                 | 72.9            | 69.7            |                 |                 |                          |
|  |         | 10:50 | 71.2                 | 72.5            | 69.5            |                 |                 |                          |
|  |         | 10:55 | 71.3                 | 72.0            | 70.1            |                 |                 |                          |
|  |         | 11:00 | 70.4                 | 71.4            | 69.2            |                 |                 |                          |
| 24-May-17  | Cloudy  | 15:05 | 72.6                 | 74.1            | 71.2            | 71.8            | 71              | 64.1                     |
|  |         | 15:10 | 72.0                 | 73.1            | 70.9            |                 |                 |                          |
|  |         | 15:15 | 71.2                 | 72.6            | 69.7            |                 |                 |                          |
|  |         | 15:20 | 71.3                 | 72.8            | 71.0            |                 |                 |                          |
|  |         | 15:25 | 72.0                 | 74.3            | 71.8            |                 |                 |                          |
|  |         | 15:30 | 71.4                 | 72.6            | 69.2            |                 |                 |                          |
| 31-May-17  | Cloudy  | 10:35 | 72.3                 | 73.4            | 70.9            | 72.4            | 71              | 66.8                     |
|  |         | 10:40 | 72.4                 | 73.6            | 70.1            |                 |                 |                          |
|  |         | 10:45 | 72.5                 | 74.0            | 71.2            |                 |                 |                          |
|  |         | 10:50 | 72.3                 | 73.6            | 71.0            |                 |                 |                          |
|  |         | 10:55 | 72.9                 | 73.8            | 71.1            |                 |                 |                          |
|  |         | 11:00 | 72.0                 | 73.1            | 70.0            |                 |                 |                          |

Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

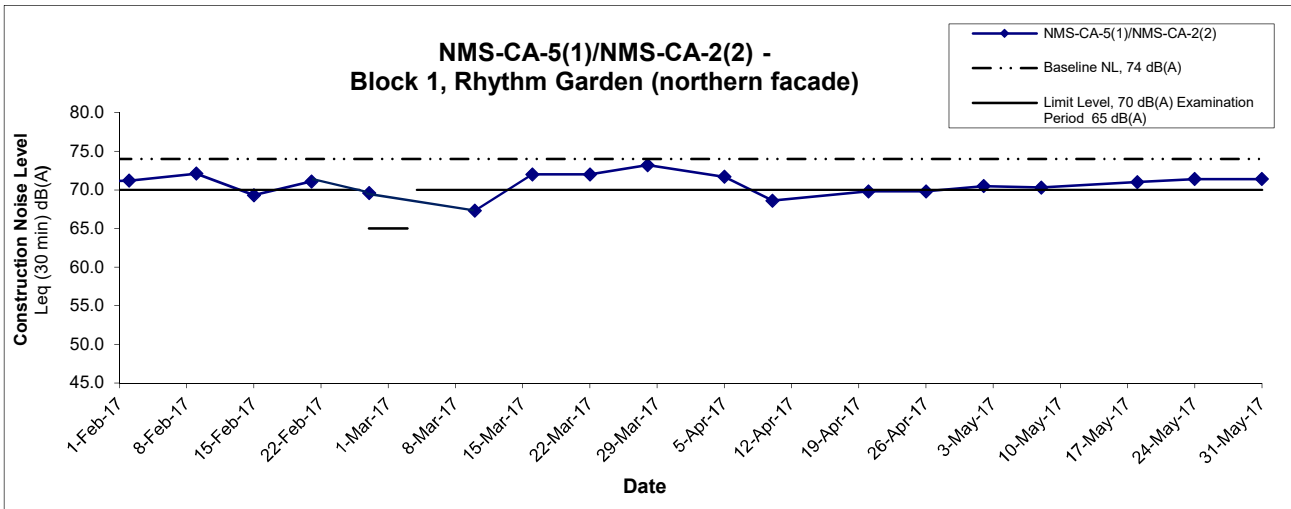
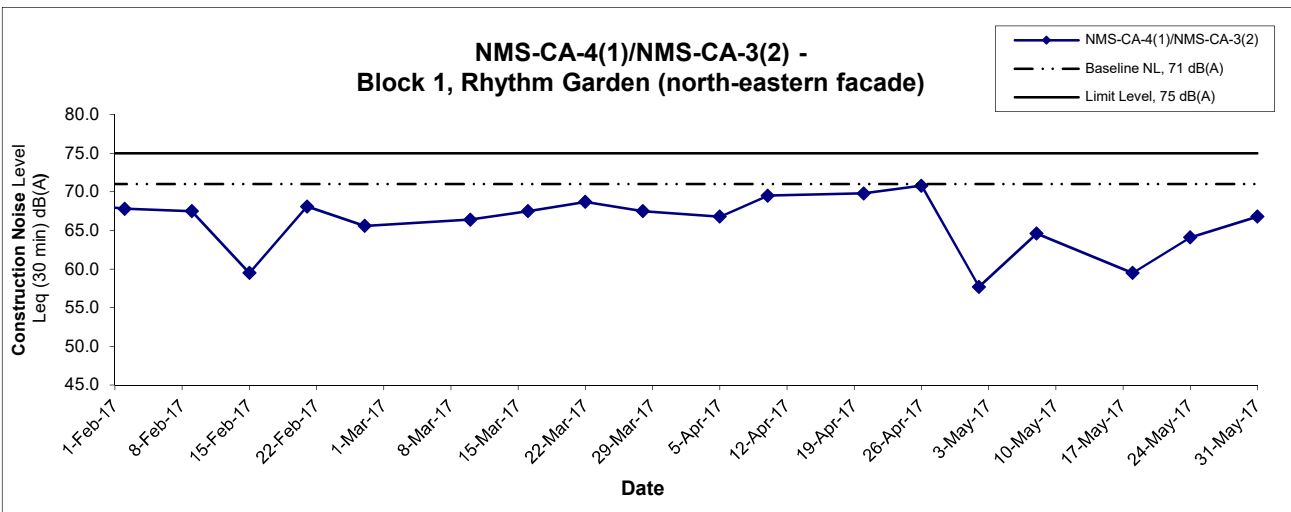
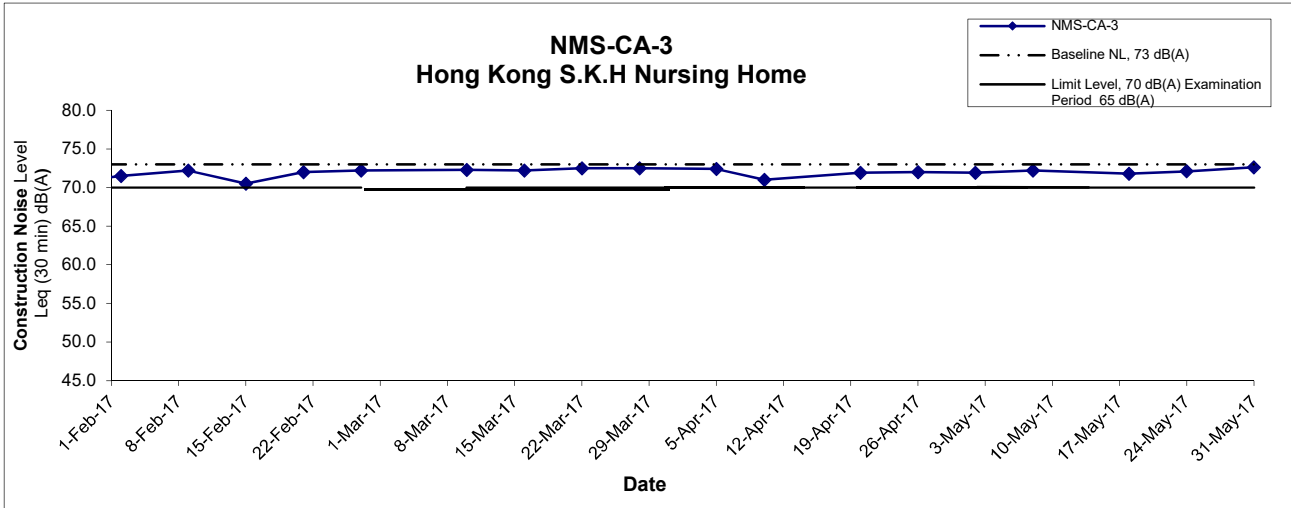
## Appendix F - Noise Monitoring Results

| Location NMS-CA-5(1)/NMS-CA-2(2) - Block 1, Rhythm Garden (northern façade) |         |       |                      |                 |                 |                 |                 |                                |
|---|---------|-------|----------------------|-----------------|-----------------|-----------------|-----------------|--------------------------------|
| Date  | Weather | Time  | Unit: dB (A) (5-min) |                 |                 | Average         | Baseline Level  | Construction Noise Level       |
|   |         |       | L <sub>eq</sub>      | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>eq</sub> | L <sub>eq</sub>                |
| 2-May-17  | Sunny   | 10:45 | 70.2                 | 71.6            | 68.5            | 70.5            | 74              | 70.5 Measured ≤ Baseline Level |
|   |         | 10:50 | 70.9                 | 72.3            | 69.1            |                 |                 |                                |
|   |         | 10:55 | 69.0                 | 70.1            | 67.8            |                 |                 |                                |
|   |         | 11:00 | 70.5                 | 72.0            | 68.8            |                 |                 |                                |
|   |         | 11:05 | 71.3                 | 72.8            | 69.5            |                 |                 |                                |
|   |         | 11:10 | 70.8                 | 73.0            | 69.1            |                 |                 |                                |
| 8-May-17  | Cloudy  | 10:45 | 70.7                 | 72.0            | 68.6            | 70.3            | 74              | 70.3 Measured ≤ Baseline Level |
|   |         | 10:50 | 69.7                 | 70.8            | 68.3            |                 |                 |                                |
|   |         | 10:55 | 71.2                 | 72.7            | 69.5            |                 |                 |                                |
|   |         | 11:00 | 70.1                 | 71.3            | 68.5            |                 |                 |                                |
|   |         | 11:05 | 69.9                 | 70.9            | 68.8            |                 |                 |                                |
|   |         | 11:10 | 69.7                 | 70.8            | 68.3            |                 |                 |                                |
| 18-May-17   | Cloudy  | 10:00 | 70.3                 | 71.7            | 69.0            | 71.0            | 74              | 71.0 Measured ≤ Baseline Level |
|   |         | 10:05 | 70.8                 | 72.0            | 69.1            |                 |                 |                                |
|   |         | 10:10 | 70.3                 | 71.7            | 69.4            |                 |                 |                                |
|   |         | 10:15 | 71.2                 | 72.3            | 69.5            |                 |                 |                                |
|   |         | 10:20 | 72.0                 | 73.1            | 70.4            |                 |                 |                                |
|   |         | 10:25 | 71.3                 | 72.8            | 69.3            |                 |                 |                                |
| 24-May-17   | Cloudy  | 14:30 | 71.2                 | 72.6            | 69.3            | 71.4            | 74              | 71.4 Measured ≤ Baseline Level |
|   |         | 14:35 | 70.9                 | 72.3            | 69.2            |                 |                 |                                |
|   |         | 14:40 | 71.0                 | 72.1            | 69.8            |                 |                 |                                |
|   |         | 14:45 | 71.5                 | 72.0            | 69.1            |                 |                 |                                |
|   |         | 14:50 | 72.3                 | 73.0            | 70.1            |                 |                 |                                |
|   |         | 14:55 | 71.3                 | 72.9            | 69.5            |                 |                 |                                |
| 31-May-17   | Sunny   | 11:30 | 71.0                 | 72.0            | 69.8            | 71.4            | 74              | 71.4 Measured ≤ Baseline Level |
|   |         | 11:35 | 71.1                 | 72.7            | 68.9            |                 |                 |                                |
|   |         | 11:40 | 71.3                 | 72.5            | 69.1            |                 |                 |                                |
|   |         | 11:45 | 72.0                 | 73.1            | 70.2            |                 |                 |                                |
|   |         | 11:50 | 71.1                 | 72.8            | 69.0            |                 |                 |                                |
|   |         | 11:55 | 71.8                 | 72.4            | 70.1            |                 |                 |                                |

Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

## Noise Levels



**Remarks:**

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) In case of Measured Level  $\leq$  Baseline Level, only Measured Level is presented on the graphical presentation.
- (4) Location NMS-CA-3

|   |                |                        |          |
|---|----------------|------------------------|----------|
| Title<br>Shatin to Central Link - Contract 1106 - Diamond Hill Station<br><br>Graphical Presentation of Construction Noise Monitoring Results | Scale<br>N.T.S | Project No.<br>MA12051 | CINOTECH |
|   | Date<br>May 17 | Appendix<br>F          |          |

---

---

**APPENDIX G**  
**SUMMARY OF EXCEEDANCE**

---

---

## **APPENDIX G – SUMMARY OF EXCEEDANCE**

**Reporting Month:** May 2017

**a) Exceedance Report for Dust Monitoring (NIL)**

**b) Exceedance Report for Noise Monitoring (NIL)**

---

---

**APPENDIX H**  
**SITE AUDIT SUMMARY**

---

---

*Shatin to Central Link -  
Contract 1106 Diamond Hill Station*


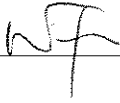
**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |                        |
|----------------------------|------------------------|
| Checklist Reference Number | 170504                 |
| Date                       | 04 May 2017 (Thursday) |
| Time                       | 13:30-15:30            |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations   | Related Item No. |
|------------|--|------------------|
| 170504-R01 | <p><b>Part B – Water Quality</b></p> <ul style="list-style-type: none"> <li>The pH of the incoming water was found to be above 9. The contractor was reminded to adjust the dosage of acid.</li> </ul> <p><b>Part C – Ecology</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D – Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E – Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F – Cultural Heritage</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part G – Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part H – Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part I – Permits/Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part J – Others</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit section (Ref. No.: 170427), all the environmental deficiency was rectified/ improved by the Contractor.</li> </ul> | B 1              |

|             | Name               | Signature  | Date        |
|-------------|--------------------|--|-------------|
| Recorded by | Andy Chan          |   | 04 May 2017 |
| Checked by  | Dr. Priscilla Choy |  | 04 May 2017 |



*Shatin to Central Link -  
Contract 1106 Diamond Hill Station*

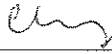

**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |                        |
|----------------------------|------------------------|
| Checklist Reference Number | 170511                 |
| Date                       | 11 May 2017 (Thursday) |
| Time                       | 13:30-15:30            |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations  | Related Item No. |
|------------|---|------------------|
| 170511-R02 | <p><b>Part B – Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C – Ecology</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D – Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E – Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F – Cultural Heritage</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part G – Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>Noise emission label should be provided for the air compressor.</li> </ul> | G 8              |
| 170511-O01 | <p><b>Part H – Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>Drip tray should be provided to the chemical containers placed near AquaSed.</li> </ul> <p><b>Part I – Permits/Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part J – Others</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit section (Ref. No.: 170504), all the environmental deficiency was rectified/ improved by the Contractor.</li> </ul>  | H 10             |

|             | Name               | Signature  | Date        |
|-------------|--------------------|--|-------------|
| Recorded by | KC Chung           |  | 11 May 2017 |
| Checked by  | Dr. Priscilla Choy |  | 11 May 2017 |

*Shatin to Central Link -*

*Contract 1106 Diamond Hill Station*

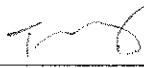
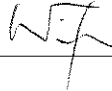
**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |                        |
|----------------------------|------------------------|
| Checklist Reference Number | 170518                 |
| Date                       | 18 May 2017 (Thursday) |
| Time                       | 13:30-15:30            |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations   | Related Item No. |
|------------|--|------------------|
| 170518-R01 | <p><b>Part B – Water Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C – Ecology</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part D – Landscape &amp; Visual</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part E – Air Quality</b></p> <ul style="list-style-type: none"><li>The frequent water spray should be provided within the haul road to prevent dust generation.</li></ul> <p><b>Part F – Cultural Heritage</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part G – Construction Noise Impact</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part H – Waste/Chemical Management</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection..</li></ul> <p><b>Part I – Permits/Licenses</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part J – Others</b></p> <ul style="list-style-type: none"><li>Follow-up on previous audit section (Ref. No.: 170511), all the environmental deficiency was rectified/ improved by the Contractor.</li></ul> | E 5              |

|             | Name               | Signature  | Date        |
|-------------|--------------------|--|-------------|
| Recorded by | Tommy Cheng        |  | 18 May 2017 |
| Checked by  | Dr. Priscilla Choy |  | 18 May 2017 |

**Shatin to Central Link -  
Contract 1106 Diamond Hill Station**

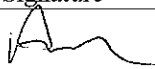
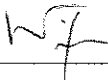
**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |                        |
|----------------------------|------------------------|
| Checklist Reference Number | 170525                 |
| Date                       | 25 May 2017 (Thursday) |
| Time                       | 13:30-16:00            |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.                               | Remarks/Observations   | Related Item No.  |
|--|--|-------------------|
| 170522-R01<br>170522-R02<br>170522-R03 | <p><b>Part B – Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C – Ecology</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D – Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E – Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F – Cultural Heritage</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part G – Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part H – Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>Accumulated waste should be cleared more frequently.</li> <li>Drip tray should be provided to the chemical container to avoid leakage of chemical.</li> <li>Drip tray should be maintained more frequently to avoid any chemical leakage.</li> </ul> <p><b>Part I – Permits/Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part J – Others</b></p> <ul style="list-style-type: none"> <li>Follow-up on previous audit section (Ref. No.: 170518), all the environmental deficiency was rectified/ improved by the Contractor.</li> </ul> | H 1i<br>H9<br>H10 |

|             | Name               | Signature  | Date        |
|-------------|--------------------|--|-------------|
| Recorded by | Andy Chan          |  | 25 May 2017 |
| Checked by  | Dr. Priscilla Choy |   | 25 May 2017 |

---

---

**APPENDIX I  
EVENT AND ACTION PLANS**

---

---

**Event and Action Plan for Air Quality Monitoring during Construction Phase**

| EVENT   | ACTION   |  |  |   |
|---|--|--|--|---|
|   | Works Contract 1106 ET   | IEC  | ER   | CONTRACTOR  |
| <b>ACTION LEVEL</b>                               |  |  |  |   |
| 1. Exceedance for one sample                      | <ol style="list-style-type: none"> <li>1. Inform the IEC, Contractor and ER;</li> <li>2. Discuss with the Contractor, IEC and ER on the remedial measures required;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency</li> </ol>   | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> </ol>   | <ol style="list-style-type: none"> <li>1. Identify source(s), investigate the causes of exceedance and propose remedial measures;</li> <li>2. Implement remedial measures;</li> <li>3. Amend working methods agreed with the ER as appropriate.</li> </ol>  |
| 2. Exceedance for two or more consecutive samples | <ol style="list-style-type: none"> <li>1. Inform the IEC, Contractor and ER;</li> <li>2. Discuss with the ER, IEC and Contractor on the remedial measures required;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. If exceedance continues, arrange meeting with the IEC, ER and Contractor;</li> <li>6. If exceedance stops, cease additional monitoring</li> </ol> | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify the Contractor, IEC and ET;</li> <li>3. Review and agree on the remedial measures proposed by the Contractor;</li> <li>4. Supervise Implementation of remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance;</li> <li>2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend proposal as appropriate.</li> </ol> |

**LIMIT LEVEL**

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

### Event and Action Plan for Noise Monitoring during Construction Phase

| EVENT        | ACTION  |  |   |   |
|--------------|---|--|---|---|
|              | Works Contract 1106 ET  | IEC  | ER  | CONTRACTOR  |
| Action Level | <ol style="list-style-type: none"> <li>1. Notify the IEC, Contractor and ER</li> <li>2. Discuss with the ER, IEC and Contractor on the remedial measures required</li> <li>3. Increase monitoring frequency to check mitigation effectiveness</li> </ol>  | <ol style="list-style-type: none"> <li>1. Review the investigation results submitted by the contractor;</li> <li>2. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of complaint in writing</li> <li>2. Notify the Contractor, IEC and ET</li> <li>3. Review and agree on the remedial measures proposed by the Contractor;</li> <li>4. Supervise implementation of remedial measures</li> </ol>  | <ol style="list-style-type: none"> <li>1. Investigate the complaint and propose remedial measures</li> <li>2. Report the results of investigation to the IEC, ET and ER</li> <li>3. Submit noise mitigation proposals to the ER with copy to the IEC and ET within 3 working days of notification.</li> <li>4. Implement noise mitigation proposals</li> </ol>  |
| Limit Level  | <ol style="list-style-type: none"> <li>1. Notify the IEC, Contractor and EPD</li> <li>2. Repeat measurement to confirm findings</li> <li>3. Increase monitoring frequency</li> <li>4. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</li> <li>5. Arrange meeting with the IEC, Contractor and ER to discuss the remedial measures to be taken;</li> <li>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances</li> <li>7. Assess effectiveness of the Contractor's remedial measures and keep IEC, ER and EPD informed of the results</li> </ol> | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET;</li> <li>2. Check the Contractor's working method;</li> <li>3. Discuss with the ER, ET and Contractor on the potential remedial measures</li> <li>4. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing</li> <li>2. Notify the Contractor, IEC and ET</li> <li>3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>4. Supervise the implementation of remedial measures</li> <li>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</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance</li> <li>2. Take immediate action to avoid further exceedance</li> <li>3. Submit proposals for remedial measures to the ER with copy to the IEC and ET within 3 working days of notification.</li> <li>4. Implement the agreed proposals</li> <li>5. Revise and resubmit proposals if problem still not under control</li> <li>6. Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol> |

**Event and Action Plan for Landscape and Visual during Construction Phase**

| <b>Action Level</b>            | <b>Works Contract 1106 ET</b>  | <b>IEC</b>  | <b>ER</b>  | <b>Contractor</b>  |
|--------------------------------|--|---|--|--|
| Non-conformity on one occasion | <ol style="list-style-type: none"> <li>1. Inform the Contractor, the IEC and the ER</li> <li>2. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>3. Monitor remedial actions until rectification has been completed</li> </ol>  | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET, ER and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of non-conformity in writing</li> <li>2. Review and agree on the remedial measures proposed by the Contractor</li> <li>3. Supervise implementation of remedial measures</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify Source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement</li> </ol>   |
| Repeated Non-conformity        | <ol style="list-style-type: none"> <li>1. Identify Source</li> <li>2. Inform the Contractor, the IEC and the ER</li> <li>3. Increase inspection frequency</li> <li>4. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>5. Monitor remedial actions until rectification has been completed</li> <li>6. If non-conformity stops, cease additional monitoring</li> </ol> | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> </ol>      | <ol style="list-style-type: none"> <li>1. Notify the Contractor</li> <li>2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>3. Supervise implementation of remedial measures.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Identify Source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by the ER until the non-conformity is abated.</li> </ol> |



---

---

**APPENDIX J  
UPDATED ENVIRONMENTAL  
MITIGATION IMPLEMENTATION  
SCHEDULE**

---

---

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref.  | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures    | When to Implement the measures?             | What requirements or standards for the measures to achieve?   | Status |
|---|--------------|--|---|--------------------------------|-----------------------------|---|---|--------|
| <b><i>Cultural Heritage Impact (Construction Phase)</i></b> |              |  |   |                                |                             |   |   |        |
| S4.8.1  | CH1          | Submit an Archaeological Action Plan.<br>Survey-cum-excavation shall be conducted prior to the construction works at the former Tai Hom Village site.  | Salvage cultural remains at the Former Tai Hom Village Site       | Contractor                     | Former Tai Hom Village Site | Prior to the Construction Phase of DIH site | <ul style="list-style-type: none"> <li>• AMO's requirements</li> </ul>  | ^<br>^ |
| S4.8.2  | CH2          | Submit a Conservation Plan for the Former Royal Air Force Hangar and the Old Pillbox to AMO for agreement.   | Proposal for conservation of 2 historical buildings               | Contractor                     | Former Tai Hom Village Site | Prior to the Construction Phase of DIH site | <ul style="list-style-type: none"> <li>• AMO's requirements</li> <li>• Principles for the Conservation of Heritage Sites in China</li> <li>• Burra Charter, the Australia's ICOMOS Charter for Places of Cultural Significance</li> </ul> | ^      |
| <b><i>Ecology (Construction Phase)</i></b>                  |              |  |   |                                |                             |   |   |        |
| S5.7  | E1           | <u>Good Site Practices</u><br>Impact to any habitats or local fauna should be avoided by implementing good site practices, including the containment of silt runoff within the site boundary, appropriate storage of chemicals and chemical waste away from sites of ecological value and the provision of sanitary facilities for | Minimise ecological impacts                                       | Contractor                     | All construction sites      | During Construction                         | <ul style="list-style-type: none"> <li>• ProPECC PN 1/94</li> </ul>   | *      |

**SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule**

| <b>EIA Ref.</b>   | <b>EM&amp;A Log Ref</b> | <b>Recommended Mitigation Measures</b>   | <b>Objectives of the recommended Measures &amp; Main Concerns to address</b> | <b>Who to implement the measures?</b> | <b>Location of the measures</b> | <b>When to Implement the measures?</b> | <b>What requirements or standards for the measures to achieve?</b> | <b>Status</b> |
|---|-------------------------|--|--|---------------------------------------|---------------------------------|--|--|---------------|
|   |                         | <p>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:</p> <ul style="list-style-type: none"> <li>• No on-site burning of waste;</li> <li>• Waste and refuse in appropriate receptacles.</li> </ul>   |  |                                       |                                 |  |  | ^<br>^        |
| <b><i>Landscape &amp; Visual (Construction Phase)</i></b> |                         |  |  |                                       |                                 |  |  |               |
| S6.12   | LV1                     | <p>The following good site practices and measures for minimisation and avoidance of potential impacts are recommended:</p> <p><u>Re-use of Existing Soil</u></p> <ul style="list-style-type: none"> <li>• For soil conservation, existing topsoil shall be re-used where possible for new planting areas within the project. The construction program shall consider using the soil removed from one phase for backfilling another. Suitable storage ground, gathering ground and mixing ground may be set up on-site as necessary.</li> </ul> <p><u>No-intrusion Zone</u></p> <ul style="list-style-type: none"> <li>• To maximize protection to existing trees, ground vegetation and the associated under storey habitats, construction contracts may designate "No-intrusion Zone" to various areas within the site boundary with rigid and durable fencing for each individual</li> </ul> | Minimize visual & landscape impact   | Contractor                            | Within Project Site             | Construction stage                     | •TM-EIAO   | ^<br><br>^    |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref.  | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address                 | Who to implement the measures? | Location of the measures | When to Implement the measures?        | What requirements or standards for the measures to achieve?   | Status  |
|-----------|--------------|--|---|--------------------------------|--------------------------|--|---|---|
|           |              | <p>no-intrusion zone. The contractor should closely monitor and restrict the site working staff from entering the “no-intrusion zone”, even for indirect construction activities and storage of equipment.</p> <p><u>Protection of Retained Trees</u></p> <ul style="list-style-type: none"> <li>• All retained trees should be recorded photographically at the commencement of the Contract, and carefully protected during the construction period. Detailed tree protection specification shall be allowed and included in the Contract Specification, which specifying the tree protection requirement, submission and approval system, and the tree monitoring system.</li> <li>• The Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor’s works sites.</li> </ul> |   |                                |                          |  |   | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |
| Table 6.9 | LV2          | <p><u>Decorative Hoarding</u></p> <ul style="list-style-type: none"> <li>• Erection of decorative screen during construction stage to screen off undesirable views of the construction site for visual and landscape sensitive areas. Hoarding should be designed to be compatible with the existing urban context.</li> </ul> <p><u>Management of facilities on work sites</u></p> <ul style="list-style-type: none"> <li>• To provide proper management of the facilities on the sites, give</li> </ul>  | Minimize the visual and landscape impact of the Project during construction phase | Contractor                     | Within Project Site      | Detailed design and construction stage | <ul style="list-style-type: none"> <li>• EIAO – TM</li> <li>• ETWB TCW 2/2004</li> <li>• ETWB TCW 3/2006</li> </ul> | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref.                                       | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address         | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?                    | Status      |
|--|--------------------|---|--|---|-----------------------------|---------------------------------------|---|-------------|
|  |                    | <p>control on the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs.</p> <p><u>Tree Transplanting</u></p> <ul style="list-style-type: none"> <li>Trees of medium to high survival rate that would be affected by the works shall be transplanted where possible and practicable.</li> </ul> <p>Tree transplanting proposal including final location for transplanted trees shall be submitted separately to seek relevant government department's approval, in accordance with ETWB TCW No 3/2006.</p> |  |   |                             |                                       |   | ^           |
| <b><i>Air Quality (Construction Phase)</i></b> |                    |   |  |   |                             |                                       |   |             |
| /  | A1                 | <p>Emission from Vehicles and Plants</p> <ul style="list-style-type: none"> <li>All vehicles shall be shut down in intermittent use.</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.</li> <li>All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD)</li> </ul>  | <p>Reduce air pollution<br/>emission from construction<br/>vehicles and plants</p> | Contractor                              | All construction sites      | Construction stage                    | • APCO  | ^<br>^<br>^ |
| /  | A2                 | Open burning shall be prohibited  | <p>Reduce air pollution<br/>emission from work site</p>                            | Contractor                              | All construction sites      | Construction stage                    | APCO  | ^           |
| <b><i>Construction Dust Impact</i></b>         |                    |   |  |   |                             |                                       |   |             |
| S7.6.6   | D1                 | The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation   | <p>Minimize dust impact at the<br/>nearby sensitive receivers</p>                  | Contractor                              | All Construction Sites      | Construction stage                    | <ul style="list-style-type: none"> <li>• APCO</li> <li>• To control the dust</li> </ul> | *           |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to Implement the measures? | What requirements or standards for the measures to achieve?  | Status                                       |
|----------|--------------|--|---|--------------------------------|--------------------------|---------------------------------|--|--|
|          |              |  |   |                                |                          |                                 | impact to meet HKAQO and TM-EIA criteria   |  |
| S7.6.6   | 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 road 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 <sup>2</sup> to achieve the dust removal efficiency   | Minimize dust impact at the nearby sensitive receivers            | Contractor                     | All Construction Sites   | Construction stage              | <ul style="list-style-type: none"> <li>• APCO</li> <li>• To control the dust impact to meet HKAQO and TM-EIA criteria</li> </ul> | *  |
| S7.6.6   | D3           | <ul style="list-style-type: none"> <li>• Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</li> <li>• Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>• A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones.</li> <li>• The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that</li> </ul> | Minimize dust impact at the nearby sensitive receivers            | Contractor                     | All Construction Sites   | Construction stage              | <ul style="list-style-type: none"> <li>• APCO</li> <li>• To control the dust impact to meet HKAQO and TM-EIA criteria</li> </ul> | ^<br><br><br><br>^<br><br><br>^<br><br><br>^ |

### SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to Implement the measures? | What requirements or standards for the measures to achieve? | Status  |
|----------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|---|---|
|          |              | <p>the dusty materials do not leak from the vehicle;</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• 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;</li> <li>• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;</li> <li>• Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously;</li> </ul> |   |                                |                          |                                 |   | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

### SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to Implement the measures? | What requirements or standards for the measures to achieve? | Status  |
|----------|--------------|--|---|--------------------------------|--------------------------|---------------------------------|---|---|
|          |              | <ul style="list-style-type: none"> <li>• Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;</li> <li>• Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;</li> <li>• Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>• Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;</li> <li>• 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;</li> <li>• 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</li> </ul> |   |                                |                          |                                 |   | <p style="text-align: center;">^</p> <p style="text-align: center;">N/A</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |



## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref.                           | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures                        | When to Implement the measures? | What requirements or standards for the measures to achieve? | Status                |
|------------------------------------|--------------|--|---|--------------------------------|---|---------------------------------|---|-----------------------|
|                                    |              | <ul style="list-style-type: none"> <li>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.</li> </ul>  |   |                                |   |                                 |   | N/A                   |
| S7.6.6                             | D4           | Implement regular dust monitoring under EM&A programme during the construction stage.  | Monitoring of dust impact   | Contractor                     | Selected representative dust monitoring station | Construction stage              | • TM-EIA  | ^                     |
| <b>Construction Airborne Noise</b> |              |  |   |                                |   |                                 |   |                       |
| S8.5.6                             | AN1          | Implement the following good site practices: <ul style="list-style-type: none"> <li>only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>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;</li> <li>plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;</li> <li>silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> <li>mobile plant should be sited as far away from NSRs as possible</li> </ul> | Control construction airborne noise                               | Contractor                     | All Construction Sites where practicable        | Construction stage              | • Annex 5, TM-EIA   | *<br>^<br>^<br>^<br>^ |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address                         | Who to implement the measures? | Location of the measures                 | When to Implement the measures? | What requirements or standards for the measures to achieve? | Status |
|----------|--------------|--|---|--------------------------------|--|---------------------------------|---|--------|
|          |              | <p>and practicable;</p> <ul style="list-style-type: none"> <li>material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>                    |   |                                |  |                                 |   | ^      |
| S8.5.6   | AN2          | 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 construction period.   | Reduce the construction noise levels at low-level zone of NSRs through partial screening. | Contractor                     | All Construction Sites                   | Construction stage              | • Annex 5, TM-EIA   | ^      |
| S8.5.6   | AN3          | 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                   | Construction stage              | • Annex 5, TM-EIA   | ^      |
| S8.5.6   | AN4          | Use "Quiet" plant  | Reduce the noise levels of plant items  | Contractor                     | All Construction Sites where practicable | Construction stage              | • Annex 5, TM-EIA   | ^      |
| S8.5.6   | AN5          | Sequencing operation of construction plants where practicable.   | Operate sequentially within the same work site to reduce the construction airborne        | Contractor                     | All Construction Sites where practicable | Construction stage              | • Annex 5, TM-EIA   | ^      |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref.                                  | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the recommended Measures & Main Concerns to address                                  | Who to implement the measures? | Location of the measures                         | When to Implement the measures? | What requirements or standards for the measures to achieve?  | Status |
|---|--------------|---|--|--------------------------------|--|---------------------------------|--|--------|
|   |              |   | noise  |                                |  |                                 |  |        |
| S8.5.6                                    | AN6          | Implement a noise monitoring under EM&A programme.  | Monitor the construction noise levels at the selected representative locations                     | Contractor                     | Selected representative noise monitoring station | Construction stage              | •TM-EIA  | ^      |
| <b>Water Quality (Construction Phase)</b> |              |   |  |                                |  |                                 |  |        |
| S10.7.1                                   | W1           | <p>In accordance with the Practice Noise for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following:</p> <p><u>Construction Runoff and Site Drainage</u></p> <ul style="list-style-type: none"> <li>• At the start of site establishment (including the barging facilities), 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 site runoff and stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction.</li> <li>• The dikes or embankments for flood protection should be</li> </ul> | To minimize water quality impact from construction site runoff and general construction activities | Contractor                     | All construction sites where practicable         | Construction stage              | <ul style="list-style-type: none"> <li>• Water Pollution Control Ordinance</li> <li>• ProPECC PN1/94</li> <li>• TM-EIAO</li> <li>• TM-Water</li> </ul> | ^      |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status  |
|----------|--------------------|--|--|---|-----------------------------|---------------------------------------|--|---|
|          |                    | <p>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.</p> <p>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<sup>3</sup>/s a ph basin of 30m<sup>3</sup> would be required and for a flow rate of 0.5 m<sup>3</sup>/s the basin would be 150 m<sup>3</sup>.</p> <p>The detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction.</p> <ul style="list-style-type: none"> <li>• All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means.</li> <li>• 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</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status  |
|----------|--------------------|--|--|---|-----------------------------|---------------------------------------|--|---|
|          |                    | <p>advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows.</p> <ul style="list-style-type: none"> <li>• All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.</li> <li>• Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.</li> <li>• Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m<sup>3</sup> should be covered with tarpaulin or similar fabric during rainstorms.</li> <li>• 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,</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

### SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to Implement the measures? | What requirements or standards for the measures to achieve? | Status   |
|----------|--------------|--|---|--------------------------------|--------------------------|---------------------------------|---|--|
|          |              | <p>construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers</p> <ul style="list-style-type: none"> <li>• Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes</li> <li>• All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing 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.</li> <li>• Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors</li> </ul> |   |                                |                          |                                 |   | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">N/A</p> |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures                 | When to Implement the measures? | What requirements or standards for the measures to achieve?   | Status  |
|----------|--------------|--|---|--------------------------------|--|---------------------------------|---|---|
|          |              | <p>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.</p> <ul style="list-style-type: none"> <li>• Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.</li> <li>• All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby</li> <li>• All the earth works involving should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.</li> <li>• Adopt best management practices.</li> </ul> |   |                                |  |                                 |   | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |
| S10.7.1  | W3           | <p><u>Sewage Effluent</u></p> <ul style="list-style-type: none"> <li>• 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</li> </ul>   | To minimize water quality from sewage effluent                    | Contractor                     | All construction sites where practicable | Construction stage              | <ul style="list-style-type: none"> <li>• Water Pollution Control Ordinance</li> <li>• TM-water</li> </ul> | ^   |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref.  | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address   | Who to implement the measures? | Location of the measures                 | When to Implement the measures? | What requirements or standards for the measures to achieve?  | Status                   |
|---|--------------|--|---|--------------------------------|--|---------------------------------|--|--------------------------|
|   |              | appropriate disposal and maintenance.  |   |                                |  |                                 |  |                          |
| S10.7.1   | W5           | <p><u>Accidental Spillage</u></p> <p>In order to prevent accidental spillage of chemicals, the following is recommended:</p> <ul style="list-style-type: none"> <li>• Proper storage and handling facilities should be provided;</li> <li>• 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;</li> <li>• 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; and</li> <li>• Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation.</li> </ul> | To minimize water quality impact from accidental spillage   | Contractor                     | All construction sites where practicable | Construction stage              | <ul style="list-style-type: none"> <li>• Water Pollution Control Ordinance</li> <li>• ProPECC PN1/94</li> <li>• TM-EIAO</li> <li>• TM-Water</li> </ul> | ^<br>*<br><br>^<br><br>* |
| <b><i>Waste Management (Construction Waste)</i></b> |              |  |   |                                |  |                                 |  |                          |
| S11.4.1.1   | WM1          | <p><u>On-site sorting of C&amp;D material</u></p> <ul style="list-style-type: none"> <li>• 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</li> </ul>  | 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              | <ul style="list-style-type: none"> <li>• DEVB TC(W) No. 6/2010</li> </ul>  | N/A                      |



## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address  | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?  | Status                     |
|----------|--------------------|--|---|---|-----------------------------|---------------------------------------|---|----------------------------|
|          |                    | <p>should be separated at the source sites as far as practicable and stored at designated stockpile areas preventing them from delivering to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from ended up at concrete batching plants and be turned into concrete for structural use. Details regarding control measures at source site 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 and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced 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.</p> |   |   |                             |                                       |   |                            |
| S11.5.1  | WM2                | <p><u>Construction and Demolition Material</u></p> <ul style="list-style-type: none"> <li>• Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>• Carry out on-site sorting;</li> <li>• Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> </ul>  | <p>Good site practice to minimize the waste generation and recycle the C&amp;D materials as far as practicable so as to reduce the amount for final</p> | Contractor                              | All construction sites      | Construction stage                    | <ul style="list-style-type: none"> <li>• Land (Miscellaneous Provisions)</li> <li>• Waste Disposal Ordinance</li> </ul> | <p>^</p> <p>^</p> <p>^</p> |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address   | Who to implement the measures? | Location of the measures | When to Implement the measures? | What requirements or standards for the measures to achieve?   | Status                         |
|----------|--------------|--|---|--------------------------------|--------------------------|---------------------------------|---|--------------------------------|
|          |              | <ul style="list-style-type: none"> <li>• Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;</li> <li>• Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified; and</li> <li>• 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&amp;D materials and to minimize their generation during the course of construction.</li> <li>• In addition, disposal of the C&amp;D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and EPD and get their approval before implementation</li> </ul> | disposal  |                                |                          |                                 | <ul style="list-style-type: none"> <li>• ETWB TCW No. 19/2005</li> </ul>  | N/A<br><br>^<br><br>^<br><br>^ |
| S11.5.1  | WM3          | <p><u>C&amp;D Waste</u></p> <ul style="list-style-type: none"> <li>• Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&amp;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, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction</li> </ul>   | Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal | Contractor                     | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>• Land (Miscellaneous Provisions) Ordinance</li> <li>• Waste Disposal Ordinance</li> <li>• ETWB TCW</li> </ul> | ^                              |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address         | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status              |
|----------|--------------------|---|--|---|-----------------------------|---------------------------------------|--|---------------------|
|          |                    | <p>materials will be carefully planned in order to avoid over ordering and wastage.</p> <ul style="list-style-type: none"> <li>The Contractor should recycle as much of the C&amp;D materials as possible on-site. Public fill and C&amp;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.</li> </ul>   |  |   |                             |                                       | No.19/2005   | ^                   |
| S11.5.1  | WM4                | <p><u>General Refuse</u></p> <ul style="list-style-type: none"> <li>General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>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.</li> <li>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</li> </ul> | Minimize production of the general refuse and avoid odour, pest and litter impacts | Contractor                              | All construction sites      | Construction stage                    | • Waste Disposal Ordinance   | ^<br><br>*<br><br>^ |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address   | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?   | Status |
|----------|--------------------|---|--|---|-----------------------------|---------------------------------------|--|--------|
|          |                    | <p>provided if feasible.</p> <ul style="list-style-type: none"> <li>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.</li> </ul>  |  |   |                             |                                       |  | ^      |
| S11.5.1  | WM6                | <p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> <li>Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</li> <li>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; have a capacity of less than 450L unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation.</li> <li>The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; be enclosed on at least 3 sides; 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; have adequate ventilation; be covered to</li> </ul> | Control the chemical waste and ensure proper storage, handling and disposal. | Contractor                              | All Construction Sites      | Construction Stage                    | <ul style="list-style-type: none"> <li>Waste Disposal (Chemical Waste) (General) Regulation</li> <li>Code of Practice on the Packaging, Labelling and Storage of Chemical Waste</li> </ul> | ^      |

## SCL Works Contract 1106 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status |
|----------|--------------------|--|--|---|-----------------------------|---------------------------------------|--|--------|
|          |                    | <p>prevent rainfall entering; and be arranged so that incompatible materials are adequately separated.</p> <ul style="list-style-type: none"> <li>Disposal of chemical waste should be via a licensed waste collector; and be 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 be to a reuser of the waste, under approval from the EPD.</li> </ul> |  |   |                             |                                       |  | ^      |

Remarks:    ^    Compliance of mitigation measure                    X    Non-compliance of mitigation measure

•    Non-compliance but rectified by the contractor

\*    Recommendation was made during site audit but improved/rectified by the contractor.

N/A    Not Applicable

---

---

**APPENDIX K  
WASTE GENERATION IN THE  
REPORTING MONTH**

---

---

**Contract No: MTR SCL 1106 - Diamond Hill Station****Date of Report: May, 2017****Monthly Summary Waste Flow Table for 2017**

| Monthly   | Actual Quantities of C&D Materials Generated Monthly |                                      |                          |                                       |                          |                          | Actual Quantities of Non-inert C&D Wastes Generated Monthly |                            |             |                             |                             | Remarks |
|-----------|--|--------------------------------------|--------------------------|---------------------------------------|--------------------------|--------------------------|---|----------------------------|-------------|-----------------------------|-----------------------------|---------|
|           | Total Quantity Generated                             | Hard Rocks and Large Broken Concrete | Reused in the Contract   | Reused in other Projects (See Note 2) | Disposed as Public Fill  | Imported Fill            | Metals  | Paper/ cardboard packaging | Plastics    | Chemical Waste (See Note 3) | Others, e.g. general refuse |         |
|           | (in '000m <sup>3</sup> )                             | (in '000m <sup>3</sup> )             | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> )              | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000kg)   | (in '000kg)                | (in '000kg) | (in '000kg)                 | (in '000m <sup>3</sup> )    |         |
| Jan       | 0.081  | 0.000                                | 0.045                    | 0.000                                 | 0.036                    | 0.000                    | 0.000   | 0.266                      | 0.000       | 0.000                       | 0.116                       |         |
| Feb       | 0.017  | 0.000                                | 0.000                    | 0.000                                 | 0.017                    | 0.000                    | 0.000   | 0.280                      | 0.000       | 0.000                       | 0.116                       |         |
| Mar       | 0.912  | 0.000                                | 0.000                    | 0.000                                 | 0.912                    | 0.000                    | 0.000   | 0.210                      | 0.000       | 0.000                       | 0.163                       |         |
| Apr       | 1.042  | 0.000                                | 0.000                    | 0.000                                 | 1.042                    | 0.000                    | 0.000   | 0.171 <sup>*(6)</sup>      | 0.000       | 0.000                       | 0.107                       |         |
| May       | 0.032  | 0.000                                | 0.000                    | 0.000                                 | 0.032                    | 0.000                    | 0.000   | 0.000 <sup>*(5)</sup>      | 0.000       | 0.000                       | 0.105                       |         |
| Jun       |  |                                      |                          |                                       |                          |                          |   |                            |             |                             |                             |         |
| Sub-total | 2.084  | 0.000                                | 0.045                    | 0.000                                 | 2.039                    | 0.000                    | 0.000   | 0.927                      | 0.000       | 0.000                       | 0.607                       |         |
| Jul       |  |                                      |                          |                                       |                          |                          |   |                            |             |                             |                             |         |
| Aug       |  |                                      |                          |                                       |                          |                          |   |                            |             |                             |                             |         |
| Sept      |  |                                      |                          |                                       |                          |                          |   |                            |             |                             |                             |         |
| Oct       |  |                                      |                          |                                       |                          |                          |   |                            |             |                             |                             |         |
| Nov       |  |                                      |                          |                                       |                          |                          |   |                            |             |                             |                             |         |
| Dec       |  |                                      |                          |                                       |                          |                          |   |                            |             |                             |                             |         |
| Total     | 2.084  | 0.000                                | 0.045                    | 0.000                                 | 2.039                    | 0.000                    | 0.000   | 0.927                      | 0.000       | 0.000                       | 0.607                       |         |

Notes:

- 1) Assume the densities of Rock, Soil, Mix Rock and Soil, are Regular Spoil to be 2.0 tonnes/m<sup>3</sup>. Assumption the densities of general refuse is 1.0 tonnes/m<sup>3</sup>
- 2) Inert C&D material was delivered to Contract 1108.
- 3) Chemical waste includes waste diesel oil. It is assumed density of diesel oil to be 0.8kg/L.
- 4) Figures are rounded up to 3 decimal places
- 5) Data will be updated in the next report.
- 6) Data was updated.

---

---

**APPENDIX L  
CUMULATIVE LOG FOR COMPLAINT  
LOGS, NOTIFICATION OF SUMMONS  
AND SUCCESSFUL PROSECUTIONS**

---

---



**Appendix L - Cumulative Log for Complaints, Notifications of Summons and Successful Prosecution**

| <b>Reporting Month</b> | <b>Number of Complaints in Reporting Month</b> | <b>Number of Summons in Reporting Month</b> | <b>Number of Prosecutions in Reporting Month</b> |
|------------------------|--|---|--|
| March 2013             | 0  | 0   | 0  |
| April 2013             | 0  | 0   | 0  |
| May 2013               | 0  | 0   | 0  |
| June 2013              | 0  | 0   | 0  |
| July 2013              | 0  | 0   | 0  |
| August 2013            | 0  | 0   | 0  |
| September 2013         | 0  | 0   | 0  |
| October 2013           | 0  | 0   | 0  |
| November 2013          | 0  | 0   | 0  |
| December 2013          | 0  | 0   | 0  |
| January 2014           | 0  | 0   | 0  |
| February 2014          | 0  | 0   | 0  |
| March 2014             | 0  | 0   | 0  |
| April 2014             | 0  | 0   | 0  |
| May 2014               | 0  | 0   | 0  |
| June 2014              | 0  | 0   | 0  |
| July 2014              | 0  | 0   | 0  |
| August 2014            | 0  | 0   | 0  |
| September 2014         | 0  | 0   | 0  |
| October 2014           | 0  | 0   | 0  |
| November 2014          | 0  | 0   | 0  |
| December 2014          | 0  | 0   | 0  |
| January 2015           | 0  | 0   | 0  |
| February 2015          | 3  | 0   | 0  |
| March 2015             | 0  | 0   | 0  |
| April 2015             | 0  | 0   | 0  |
| May 2015               | 0  | 0   | 0  |
| June 2015              | 0  | 0   | 0  |
| July 2015              | 1  | 0   | 0  |
| August 2015            | 0  | 0   | 0  |
| September 2015         | 0  | 0   | 0  |
| October 2015           | 0  | 0   | 0  |
| November 2015          | 0  | 0   | 0  |
| December 2015          | 0  | 0   | 0  |
| January 2016           | 0  | 0   | 0  |
| February 2016          | 0  | 0   | 0  |
| March 2016             | 1  | 0   | 0  |
| April 2016             | 1  | 0   | 0  |

|                |           |          |          |
|----------------|-----------|----------|----------|
| May 2016       | 0         | 0        | 0        |
| June 2016      | 1         | 0        | 0        |
| July 2016      | 0         | 0        | 0        |
| August 2016    | 3         | 0        | 0        |
| September 2016 | 0         | 0        | 0        |
| October 2016   | 0         | 0        | 0        |
| November 2016  | 0         | 0        | 0        |
| December 2016  | 1         | 0        | 0        |
| January 2017   | 0         | 0        | 0        |
| February 2017  | 0         | 0        | 0        |
| March 2017     | 0         | 0        | 0        |
| April 2017     | 0         | 0        | 0        |
| May 2017       | 0         | 0        | 0        |
| <b>Total</b>   | <b>11</b> | <b>0</b> | <b>0</b> |

**Environmental Complaint Log (May 2017)**

| Contractor Log Ref. | Complaint Location/ Nature | Incoming Complaint Reference no. | Complainant/ Date or Period of Complaint Received | Date of Complaint received from EPD | Details of Complaint | Investigation/ Mitigation Action | Status |
|---------------------|----------------------------|----------------------------------|---|-------------------------------------|----------------------|----------------------------------|--------|
| --                  | --                         | --                               | --  | --                                  | --                   | --                               | --     |

**Log for Notifications of Summons (May 2017)**

| Log Ref. | Location/Nature | Subject | Status | Total no. Received in this reporting month | Total no. Received since project commencement |
|----------|-----------------|---------|--------|--|---|
| --       | --              | --      | --     | --   | --  |

**Log for Successful Prosecutions (May 2017)**

| Log Ref. | Location/Nature | Subject | Status | Total no. Received in this reporting month | Total no. Received since the commencement of the project |
|----------|-----------------|---------|--------|--|--|
| --       | --              | --      | --     | --   | --   |

---

**Appendix E**

**49<sup>th</sup> EM&A Report for Works Contract 1107 –  
Diamond Hill to Kai Tak Tunnels**

---

MTR Corporation Limited

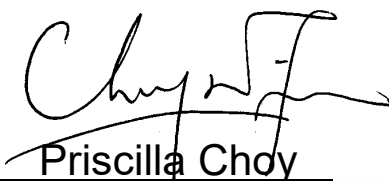
**Shatin to Central Link –  
Tai Wai to Hung Hom Section**

Monthly EM&A Report No. 49

[Period from 1 to 31 May 2017]

Works Contract 1107 – Diamond Hill to Kai Tak Tunnels

(June 2017)

Certified by:   
Priscilla Choy

Position: Environmental Team Leader

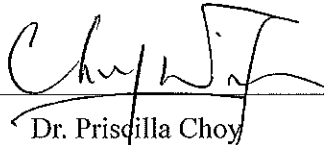
Date: 9<sup>th</sup> June 2017

**Chun Wo – SELI Joint Venture**

**Shatin to Central Link –  
Contract 1107  
Diamond Hill to Kai Tak Tunnels**

**Monthly Environmental  
Monitoring and Audit Report  
For May 2017**

(Version 1.0)

Certified By   
Dr. Priscilla Choy  
(Environmental Team Leader)

REMARKS:

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

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

**CINOTECH CONSULTANTS LTD**

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

## TABLE OF CONTENTS

|  | Page      |
|--|-----------|
| <b>EXECUTIVE SUMMARY .....</b>   | <b>1</b>  |
| Introduction .....   | 1         |
| Summary of Construction Works undertaken during Reporting Month .....                          | 1         |
| Variation in Construction Method.....  | 1         |
| Environmental Monitoring and Audit Progress: .....   | 1         |
| Regular Construction Noise and Construction Dust Monitoring .....                              | 1         |
| Waste Management .....   | 2         |
| Landscape and Visual.....  | 2         |
| Environmental Site Inspection .....  | 2         |
| Environmental Exceedance/Non-conformance/Complaint/Summons and Successful<br>Prosecution ..... | 2         |
| Future Key Issues .....  | 2         |
| <b>1 INTRODUCTION .....</b>  | <b>3</b>  |
| Purpose of the Report .....  | 3         |
| Structure of the Report .....  | 3         |
| <b>2 PROJECT INFORMATION.....</b>  | <b>4</b>  |
| Background .....   | 4         |
| General Site Description .....   | 4         |
| Construction Programme and Activities .....  | 4         |
| Project Organisation .....   | 4         |
| Status of Environmental Licences, Notification and Permits.....                                | 4         |
| Summary of EM&A Requirements .....   | 5         |
| <b>3 ENVIRONMENTAL MONITORING REQUIREMENTS.....</b>  | <b>6</b>  |
| <i>Regular Construction Noise Monitoring</i> .....   | 6         |
| Monitoring Parameter and Frequency .....   | 6         |
| Monitoring Equipment and Methodology .....   | 7         |
| Field Monitoring.....  | 7         |
| Monitoring Equipment .....   | 7         |
| Maintenance and Calibration.....   | 8         |
| Action & Limit Level for Construction Noise Monitoring .....                                   | 8         |
| <i>Continuous Noise Monitoring</i> .....   | 8         |
| <i>Regular Construction Dust Monitoring</i> .....  | 8         |
| Monitoring Parameter and Frequency .....   | 8         |
| Monitoring Equipment .....   | 9         |
| Instrumentation.....   | 9         |
| HVS Installation .....   | 9         |
| Filters Preparation .....  | 9         |
| Operating/Analytical Procedures .....  | 10        |
| Maintenance/Calibration .....  | 11        |
| Action and Limit Levels for Dust Monitoring .....  | 11        |
| <i>Landscape and Visual</i> .....  | 11        |
| <b>4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION<br/>REQUIREMENTS .....</b>              | <b>12</b> |
| <b>5 MONITORING RESULTS .....</b>  | <b>13</b> |
| Regular Construction Noise Monitoring .....  | 13        |

|  |           |
|--|-----------|
| Regular Dust Monitoring.....                                     | 13        |
| Waste Management .....   | 14        |
| Landscape and Visual.....  | 14        |
| <b>6 ENVIRONMENTAL SITE INSPECTION.....</b>                      | <b>15</b> |
| Site Audit.....  | 15        |
| Implementation Status of Environmental Mitigation Measures.....  | 15        |
| <b>7 ENVIRONMENTAL NON-CONFORMANCE .....</b>                     | <b>17</b> |
| Summary of Exceedances .....                                     | 17        |
| Summary of Environmental Non-Compliance.....                     | 17        |
| Summary of Environmental Complaint .....                         | 17        |
| Summary of Environmental Summon and Successful Prosecution ..... | 17        |
| <b>8 FUTURE KEY ISSUES .....</b>                                 | <b>18</b> |
| Construction Programme for the Next Month.....                   | 18        |
| Key Issues in the Next Month .....                               | 18        |
| Monitoring Schedule in the Next Month.....                       | 18        |
| <b>9 CONCLUSIONS AND RECOMMENDATIONS .....</b>                   | <b>19</b> |
| Conclusions .....  | 19        |
| Recommendations .....  | 19        |

## LIST OF TABLES

|           |   |
|-----------|---|
| Table 2.1 | Status of Environmental Licences, Notification and Permits          |
| Table 3.1 | Regular Construction Noise Monitoring Location                      |
| Table 3.2 | Noise Monitoring Equipment  |
| Table 3.3 | Dust Monitoring Location  |
| Table 3.4 | Dust Monitoring Parameters and Frequency                            |
| Table 3.5 | Dust Monitoring Equipment   |
| Table 4.1 | Status of Required Submissions under EP                             |
| Table 5.1 | Summary Table of Dust Monitoring Results during the reporting month |
| Table 5.2 | Quantities of Waste Generated from the Project                      |
| Table 6.1 | Observations and Recommendations of Site Audit                      |

## LIST OF FIGURES

|          |  |
|----------|--|
| Figure 1 | The Alignment and Works Area for Works Contract 1107 |
| Figure 2 | Locations of Construction Noise Monitoring           |
| Figure 3 | Location of Dust Monitoring                          |
| Figure 4 | Organisation Chart and Key Contact of the Project    |



## **LIST OF APPENDICES**

|            |   |
|------------|---|
| Appendix A | Tentative Construction Programme  |
| Appendix B | Action and Limit Levels   |
| Appendix C | Calibration Certificates for Monitoring Equipment                                   |
| Appendix D | Impact Monitoring Schedule  |
| Appendix E | 24-hour TSP Monitoring Results and Graphical Presentations                          |
| Appendix F | Noise Monitoring Results and Graphical Presentations                                |
| Appendix G | Summary of Exceedance   |
| Appendix H | Site Audit Summary  |
| Appendix I | Event and Action Plans  |
| Appendix J | Updated Environmental Mitigation Implementation Schedule                            |
| Appendix K | Waste Generation in the Reporting Month   |
| Appendix L | Cumulative Log for Complaints, Notifications of Summons and Successful Prosecutions |

## EXECUTIVE SUMMARY

### Introduction

1. This is the 49<sup>th</sup> monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for **MTR Shatin to Central Link (SCL) Works Contract 1107 – Diamond Hill to Kai Tak Tunnels**. This report documents the findings of EM&A Works conducted from 1<sup>st</sup> to 31<sup>st</sup> May 2017.

### Summary of Construction Works undertaken during Reporting Month

2. The major site activities undertaken in the reporting month include:
  - Reinstatement and Backfilling works of Drainage.

### Variation in Construction Method

3. Environmental Monitoring and Audit Progress:

As of the reporting month, an alignment section of approximately 90m long between DIH and KAT under this Works Contract 1107 will be constructed by the cut-and-cover method, instead of bored tunnelling method as assessed in the approved Environmental Impact Assessment (EIA) Report of Shatin to Central Link - Stabling Sidings at Hung Hom Freight Yard (hereafter referred to as SCL (HHS)) [Register No.: AEIAR-164/2012] due to increased construction risk caused by potential left-in piles. Also, pile removal works would be conducted if reinforced bored piles are identified along the bored tunnelling section. Application for variation of Environmental Permit (VEP) was approved by the EPD for the varied construction method. The updated EP (EP No.: EP-438/2012/F) was issued by EPD on 15 July 2014. Application for variation of Environmental Permit (VEP) was approved by the EPD for including the installation and operation of a Mobile Batching Machinery Equipment at Diamond Hill during the construction of SCL (TAW-HUH). The updated EP (EP No.: EP-438/2012/G) was issued by EPD on 14 August 2014. Application for variation of Environmental Permit (VEP) was approved by the EPD for varying Figure 11 of the previous Environment Permit. The variation of EP (EP No.: EP-438/2012/H) was issued by EPD on 10 September 2014, and superseded by an updated EP (EP No.: EP-438/2012/I) issued by EPD on 14 October 2015. The variation of EP (EP No.: EP-438/2012/J) was issued by EPD on 29 February 2016 for including the decommissioning of temporary magazine site at Tseung Kwun O Area 137. The latest variation of EP (EP No.:EP-438/2012/K) was issued by EPD on 4 October 2016.

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

#### Regular Construction Noise and Construction Dust Monitoring

- Regular construction noise monitoring during normal working hours  
*Noise Monitoring Station ID*
- NMS-CA-4<sup>(1)(3)</sup>/NMS-CA-3<sup>(2)(3)</sup> (Block 1, Rhythm Garden (north-eastern façade)) 5 times
- NMS-CA-5<sup>(1)(4)</sup>/NMS-CA-2<sup>(2)(4)</sup> (Block 1, Rhythm Garden (northern façade)) 5 times
- Construction Dust (24-hour TSP) Monitoring  
*Dust Monitoring Station ID*
- DMS-4<sup>(1)(5)</sup>/ DMS-3<sup>(2)(5)</sup> (Block 1, Rhythm Garden) 5 times

## Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Noise monitoring on NMS-CA-4<sup>(1)</sup>/ NMS-CA-3<sup>(2)</sup> (Block 1, Rhythm Garden (north-eastern façade) is carried out by Environmental Team of SCL Works Contract 1106.
- (4) Noise monitoring on NMS-CA-5<sup>(1)</sup>/ NMS-CA-2<sup>(2)</sup> (Block 1, Rhythm Garden (northern façade) is carried out by Environmental Team of SCL Works Contract 1106.
- (5) Dust monitoring on DMS-4<sup>(1)</sup>/ DMS-3<sup>(2)</sup> (Block 1, Rhythm Garden) is carried out by Environmental Team of SCL Works Contract 1106.

Waste Management

5. Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. Details of waste management data is presented in Section 5 and **Appendix K**.

Landscape and Visual

6. Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 11<sup>th</sup> & 25<sup>th</sup> May 2017. Most of the necessary mitigation measures have been implemented and recommended follow-up actions have been discharged by the Contractor. Details of the audit findings and implementation status are presented in Section 6.

Environmental Site Inspection

7. Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 4<sup>th</sup>, 11<sup>th</sup>, 18<sup>th</sup> & 25<sup>th</sup> May 2017. The representative of the IEC joined the site inspection on 11<sup>th</sup> May 2017. Details of the audit findings and implementation status are presented in Section 6.

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

8. No exceedance of the Action and Limit Levels of regular construction noise monitoring and 24-hour TSP monitoring was recorded during the reporting period.
9. No non-compliance event was recorded during the reporting period.
10. No Project related environmental complaint and notification of summons/successful prosecution was received in this reporting period.

**Future Key Issues**

11. Major site activities for the coming reporting month will include:
  - Reinstatement and Backfilling works of drainage.

## 1 INTRODUCTION

- 1.1 Cinotech Consultants Limited (Cinotech) was appointed by Chun Wo – SELI Joint Venture (CSJV) as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the MTR Shatin to Central Link (SCL) Works Contract 1107 – Diamond Hill to Kai Tak Tunnels (hereafter referred to as the Project).

### **Purpose of the Report**

- 1.2 This is the 49<sup>th</sup> EM&A report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from 1<sup>st</sup> to 31<sup>st</sup> May 2017. The major construction works for Contract 1107 commenced on 27<sup>th</sup> May 2013.

### **Structure of the Report**

- 1.3 The structure of the report is as follows:

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

Section 2: **Project Information** - summarises background and scope of the project, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting period.

Section 3: **Environmental Monitoring Requirement** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, Event / Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

Section 4: **Implementation Status on Environmental Mitigation Measures** - summarises the implementation of environmental protection measures during the reporting period.

Section 5: **Monitoring Results** - summarises the monitoring results obtained in the reporting period.

Section 6: **Environmental Site Inspection** - summarises the audit findings of the weekly site inspections undertaken within the reporting period.

Section 7: **Environmental Non-conformance** - summarises any monitoring exceedance, environmental complaints and environmental summons within the reporting period.

Section 8: **Future Key Issues** - summarises the impact forecast and monitoring schedule for the next three months.

Section 9: **Conclusions and Recommendations**

## 2 PROJECT INFORMATION

### Background

- 2.1 The Shatin to Central Link – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH)) is an approximately 11 km long extension of the Ma On Shan Line and links 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).
- 2.2 The construction of the SCL (TAW-HUH) and SCL (HHS) have been divided into a series of civil construction works contracts. This Works Contract 1107 covers the construction of running tunnel from Kai Tak (KAT) North to SCL Diamond Hill (DIH) Station which is under the approved SCL (HHS) EIA Report. This construction contract was awarded to Chun Wo - SELI Joint Venture (CSJV) in March 2013.

### General Site Description

- 2.3 The construction of tunnel from KAT to DIH will employ either cut-and-cover method or bored tunneling. The alignment and works area for the Works Contract 1107 are shown in **Figure 1**.

### Construction Programme and Activities

- 2.4 A summary of the major construction activities undertaken in this reporting period is shown as follows. The tentative construction programme is presented in **Appendix A**.
  - Reinstatement and Backfilling works of Drainage.

### Project Organisation

- 2.5 The project organizational chart and contact details are shown in **Figure 4**.

### Status of Environmental Licences, Notification and Permits

- 2.6 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project is presented in **Table 2.1**. No Construction Noise Permit was granted under the Project in the reporting month.

**Table 2.1 Summary of the Status of Environmental Licences, Notification and Permits**

| Permit / License No.   | Valid Period |            | Status |
|--|--------------|------------|--------|
|  | From         | To         |        |
| <b>Environmental Permit (EP)</b>   |              |            |        |
| EP-438/2012/J  | 29/02/2016   | N/A        | Valid  |
| <b>Notification pursuant to Air Pollution Control (Construction Dust) Regulation</b> |              |            |        |
| Ref no.: 357051  | 18/03/2013   | N/A        | Valid  |
| <b>Billing Account for Construction Waste Disposal</b>                               |              |            |        |
| Account No. 7017163  | 26/03/2013   | N/A        | Valid  |
| <b>Registration of Chemical Waste Producer</b>                                       |              |            |        |
| 5213-286-C3798-01  | 29/04/2013   | N/A        | Valid  |
| <b>Effluent Discharge License under Water Pollution Control Ordinance</b>            |              |            |        |
| WT00015861-2013  | 13/05/2013   | 31/05/2018 | Valid  |
| WT00016009-2013  | 23/05/2013   | 31/05/2018 | Valid  |
| <b>Construction Noise Permit (CNP)</b>   |              |            |        |
| ---  | ---          | ---        | ---    |

### Summary of EM&A Requirements

- 2.7 The EM&A programme under Works Contract 1107 require regular dust and noise monitoring as well as environmental site audits. The EM&A requirements are described in the following sections, including:
- All monitoring parameters;
  - Action and Limit levels for all environmental parameters;
  - Event / Action Plans;
  - Environmental mitigation measures, as recommended in the Project EIA study final report; and
  - Environmental requirements in contract documents.
- 2.8 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 6 of this report.
- 2.9 This report presents the monitoring results, observations, locations, equipment, works period, methodology and QA/QC procedures of the required monitoring parameters, namely construction noise & dust monitoring as well as audit works for the Project in the reporting month.

### 3 ENVIRONMENTAL MONITORING REQUIREMENTS

#### ***Regular Construction Noise Monitoring***

- 3.1 In accordance with the EM&A Manual, monitoring of construction noise impact should be conducted at the designated monitoring stations. Since access to some of the proposed monitoring locations stated in the EM&A Manual was rejected; alternative locations were proposed and agreed by the ER (Engineer’s Representative), IEC (Independent Environmental Checker) and EPD (Environmental Protection Department). The construction noise monitoring locations are listed in **Table 3.1** and shown in **Figure 2**.

**Table 3.1 Regular Construction Noise Monitoring Location**

| <b>Regular Construction Noise Monitoring Location<sup>(4)(5)</sup></b> | <b>Description</b>                            | <b>Type of Measurement</b> |
|--|---|----------------------------|
| NMS-CA-4 <sup>(1)</sup> /<br>NMS-CA-3 <sup>(2)</sup>                   | Block 1, Rhythm Garden (north-eastern façade) | Façade                     |
| NMS-CA-5 <sup>(1)(3)</sup> /<br>NMS-CA-2 <sup>(2)(3)</sup>             | Block 1, Rhythm Garden (northern façade)      | Façade                     |

Note:

- (1) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Canossa Primary School (San Po Kong) (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Block 1, Rhythm Garden (northern façade)) was proposed and approved by the ER and agreed by the IEC and EPD.
- (4) Noise monitoring on NMS-CA-4<sup>(1)</sup>/ NMS-CA-3<sup>(2)</sup> (Block 1, Rhythm Garden (north-eastern façade) is carried out by Environmental Team of SCL Works Contract 1106.
- (5) Noise monitoring on NMS-CA-5<sup>(1)</sup>/ NMS-CA-2<sup>(2)</sup> (Block 1, Rhythm Garden (northern façade) is carried out by Environmental Team of SCL Works Contract 1106.

#### **Monitoring Parameter and Frequency**

- 3.2 Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the 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 of monitoring stations at Rhythm Garden is shown in **Appendix D**.
- 3.3 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) (as six consecutive  $L_{eq, 5-min}$  readings) was used as the monitoring metric for the time period between 0700 – 1900 hours on normal weekdays.

## Monitoring Equipment and Methodology

### Field Monitoring

3.4 The monitoring procedures are as follows:

- The microphone head of the sound level meter was positioned 1m exterior of the noise sensitive facade and lowered sufficiently so that the building's external wall acts as a reflecting surface.
- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - measurement time : 5 minutes (obtaining six consecutive  $L_{eq,5min}$  readings for a  $L_{eq,30 min}$  reading )
- Prior to and after noise measurement, the meter was calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement was considered invalid and repeat of noise measurement was required after re-calibration or repair of the equipment.
- The wind speed at the monitoring station was checked with the portable wind meter. Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.
- Noise measurement was paused during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- At the end of the monitoring period, the  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- A façade correction of +3dB(A) shall be made to the noise parameter obtained by free field measurement.

### Monitoring Equipment

3.5 The sound level meters 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 meters are included in **Appendix C**.

**Table 3.2 Noise Monitoring Equipment**

| Monitoring Equipment | Model (Serial no.)  |
|----------------------|---|
| Sound Level Meter    | SVAN955 (Serial no.: 12563 and 14303)<br>SVAN 957 (Serial no.: 21455 and 23853) |
| Calibrator           | SV30A (Serial no.: 24791)<br>B&K 4231 (Serial no.: 2326353)                     |



**Maintenance and Calibration**

3.6 Maintenance and Calibration procedures were as follows:

- The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator were checked and calibrated at yearly intervals. Copies of calibration certificates are attached in **Appendix C**.

**Action & Limit Level for Construction Noise Monitoring**

3.7 The Action and Limit Levels are presented in **Appendix B** and the Event / Action Plan (EAP) for noise monitoring is presented in **Appendix I**.

**Continuous Noise Monitoring**

3.8 With reference to the latest Continuous Noise Monitoring Plan (CNMP) and Construction Noise Mitigation Measures Plan (CNMMP) prepared submitted under EP Condition 2.9 and Condition 2.10 respectively, it is predicted that no residual air-borne construction noise impacts exceeding the relevant noise criteria will be anticipated. Therefore, no continuous noise monitoring is required during the construction of the SCL (TAW-HUH) under Works Contract 1107.

**Regular Construction Dust Monitoring**

3.9 The proposed dust monitoring stations for the construction phase of the Project, as recommended in the approved EM&A Manual, are listed in **Table 3.3** and shown in **Figure 3**. The proposed locations have been agreed with the ER, EPD and IEC.

**Table 3.3 Dust Monitoring Location**

| <b>Regular Dust Monitoring Location</b>              | <b>Description</b>     |
|--|------------------------|
| DMS-4 <sup>(1)(3)</sup> /<br>DMS-3 <sup>(2)(3)</sup> | Block 1, Rhythm Garden |

Note:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Dust monitoring on DMS-4<sup>(1)</sup>/DMS-3<sup>(2)</sup> (Block 1, Rhythm Garden) is carried out by Environmental Team of SCL Works Contract 1106.

**Monitoring Parameter and Frequency**

3.10 The dust monitoring (in terms of Total Suspended Particulates (TSP)) was conducted at the designated monitoring stations in accordance with the requirements stipulated in the EM&A Manual. The 24-hour TSP levels were monitored at the frequency and duration stated in **Table 3.4**. The TSP monitoring at Rhythm Garden was conducted as per the schedule presented in **Appendix D**.

**Table 3.4 Dust Monitoring Parameters and Frequency**

| Monitoring Period                | Duration                           | Parameter   | Frequency       |
|----------------------------------|------------------------------------|-------------|-----------------|
| Impact Monitoring <sup>(1)</sup> | Throughout the construction period | 24-hour TSP | Once per 6 days |

Note:

(1) 1- hour TSP shall be conducted when one documented valid complaint is received.

### Monitoring Equipment

3.11 **Table 3.5** summarizes the equipment used for the dust monitoring.

**Table 3.5 Dust Monitoring Equipment**

| Equipment           | Model and Make  | Qty. |
|---------------------|---|------|
| HVS                 | Tisch Environmental, Inc.; Model no. TE-5170,<br>Serial no.: 2352   | 1    |
| Calibration Orifice | Tisch Environmental, Inc.; Model no. TE – 5025A<br>Orifice ID: 0993 | 1    |

### Instrumentation

3.12 High Volume Samplers (HVS) connected with appropriate sampling inlets were employed for air quality monitoring. Each sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 Appendix B (Part 50).

### HVS Installation

3.13 The following guidelines were adopted during the installation of HVS:

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

### Filters Preparation

3.14 Fiberglass filters were used which have a collection efficiency of larger than 99% for particles of 0.3 µm diameter. A HOKLAS accredited laboratory, Wellab Ltd. (HOKLAS Registration No. 083), was responsible for the preparation of pre-weighed filter papers for Cinotech's monitoring team.

- 3.15 All filters, which were prepared by Wellab Ltd., were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than  $\pm 3$  °C; the relative humidity (RH) was < 50% and not variable by more than  $\pm 5\%$ . A convenient working RH was 40%.
- 3.16 Wellab Ltd. has a comprehensive quality assurance and quality control programmes.

### **Operating/Analytical Procedures**

- 3.17 Operating/analytical procedures for the TSP monitoring were highlighted as follows:
- Prior to the commencement of the dust sampling, the flow rate of the HVS was properly set (between 1.1 and 1.4 m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard.
  - The power supply was checked to ensure the sampler worked properly.
  - The filter holding frame and the area surrounding the filter were cleaned.
  - On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the air quality monitoring station.
  - The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
  - The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts to avoid air leakage at the edges.
  - The shelter lid was closed and secured with the aluminum strip.
  - A new flow rate record chart was set into the flow recorder.
  - The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
  - The flow rate of the HVS sampler would be verified to be constant and recorded on the data sheet before and after sampling.
  - The elapsed time and other relevant information was recorded. After sampling, the sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
  - It was then placed in a clean plastic envelope and sealed and sent to the Wellab Ltd. for weighing.
  - Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment should be between 25°C and 30°C and not vary by more than  $\pm 3$ °C; the relative humidity (RH) should be < 50% and not vary by more than  $\pm 5\%$ . A convenient working RH is 40%. Weighing results were returned to Cinotech for further analysis of TSP concentrations collected by each filter.

**Maintenance/Calibration**

- 3.18 The following maintenance/calibration was required for the HVS:
- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
  - Calibration of the HVS (five point calibration) using Calibration Kit was carried out every two months. Copies of calibration certificates are attached in **Appendix C**.
  - The HVS calibration orifice will be calibrated annually.

**Action and Limit Levels for Dust Monitoring**

- 3.19 The Action and Limit levels have been established and are presented in **Appendix B** and the Event / Action Plan (EAP) for dust monitoring is presented in **Appendix I**.

**Landscape and Visual**

- 3.20 In accordance with the EM&A Manual, the landscape and visual mitigation measures shall be implemented and a site inspection shall be conducted once every two weeks throughout the construction period. The Event / Action Plan (EAP) for landscape and visual is presented in **Appendix I**. The implementation status is given in **Appendix J**.

#### 4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

- 4.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status of the environmental mitigation measures of the reporting period is summarized in **Appendix J**. Status of required submissions under the Environmental Permit (EP) of the reporting period is presented in **Table 4.1**.

**Table 4.1 Status of Required Submissions under EP**

| EP Condition  | Submission                          | Submission Date           |
|---------------|-------------------------------------|---------------------------|
| Condition 3.4 | Monthly EM&A Report<br>(April 2017) | 12 <sup>th</sup> May 2017 |

## 5 MONITORING RESULTS

### Regular Construction Noise Monitoring

- 5.1 A total of 10 sets of 30-minute construction noise measurements were carried out at the monitoring stations during normal weekdays of the reporting period by ET of SCL Works Contract 1106. No exceedance of the limit level was recorded at designated monitoring stations.
- 5.2 The noise monitoring results recorded at NMS-CA-5<sup>(1)</sup>/NMS-CA-2<sup>(2)</sup> (Block 1, Rhythm Garden (northern façade)) in May 2017 exceeded the daytime construction noise criterion. However, the result is not considered as exceedance since the result was below the baseline noise level. The noise monitoring results recorded at NMS-CA-4<sup>(1)</sup>/NMS-CA-3<sup>(2)</sup> (Block 1, Rhythm Garden (north-eastern façade)) in May 2017 did not exceed the daytime construction noise criterion.
- 5.3 The noise monitoring results together with their graphical presentations are presented in **Appendix F**.
- 5.4 No exceedance of the Action and Limit Levels of construction noise due to the Project was recorded during the reporting period.

### Regular Dust Monitoring

- 5.5 A total of 5 sets of 24-hour TSP monitoring were carried out at the designated monitoring stations during normal weekdays of the reporting period by ET of SCL Works Contract 1106. The monitoring results together with their graphical presentations are presented in **Appendix E** and a summary of the dust monitoring results in this reporting month is given in **Table 5.1**.

**Table 5.1 Summary Table of Dust Monitoring Results during the reporting month**

| Parameter  | Minimum<br>µg/m <sup>3</sup> | Maximum<br>µg/m <sup>3</sup> | Average<br>µg/m <sup>3</sup> | Action<br>Level, µg/m <sup>3</sup> | Limit Level,<br>µg/m <sup>3</sup> |
|--|------------------------------|------------------------------|------------------------------|------------------------------------|-----------------------------------|
| 24-hr TSP<br>(DMS-4 <sup>(1)(3)</sup> /<br>DMS-3 <sup>(2)(3)</sup> ) | 28.2                         | 82.9                         | 40.7                         | 160.4                              | 260                               |

Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Dust monitoring on DMS-4<sup>(1)</sup>/DMS-3<sup>(2)</sup> (Block 1, Rhythm Garden) is carried out by Environmental Team of SCL Works Contract 1106.
- 5.6 Based on observation during the on-site monitoring, road traffic emission nearby is considered as a potential dust source other than construction works of the Project that affects the monitoring results of the reporting month.
- 5.7 Meteorological data were obtained from the Kai Tak Meteorological Station of Hong Kong Observatory and was shown on **Appendix E**.
- 5.8 No exceedance of the Action and Limit Levels of the 24-hour TSP was recorded during the reporting period.

## Waste Management

- 5.9 Waste generated from this Project 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 like plastics and paper/cardboard packaging materials. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in **Table 5.2**. 25 tonnes of general refuse and 170 kg of paper/cardboard packaging were generated and disposed in the reporting month; no C&D materials, chemical waste, plastics and metals were generated during this reporting month. Details of waste management data is presented in **Appendix K**.

**Table 5.2 Quantities of Waste Generated from the Project**

| Reporting Month   | Quantity                             |  |                |                    |      |      |
|---|--------------------------------------|--|----------------|--------------------|------|------|
|   | C&D Materials (inert) <sup>(a)</sup> | C&D Materials (non-inert) <sup>(b)</sup> |                |                    |      |      |
|   |                                      | General Refuse                           | Chemical Waste | Recycled materials |      |      |
| Paper/ cardboard  | Plastics                             |  |                | Metals             |      |      |
| May 2017  | 0 m <sup>3</sup>                     | 25 tonnes                                | 0 litres       | 170 kg             | 0 kg | 0 kg |
| Notes:  |                                      |  |                |                    |      |      |
| (a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil,   |                                      |  |                |                    |      |      |
| (b) Non-inert C&D materials include steel, paper/cardboard packaging waste, plastics and other wastes such as general refuse and vegetative wastes. Steel materials generated from the project are grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. |                                      |  |                |                    |      |      |

## Landscape and Visual

- 5.10 Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 11<sup>th</sup> & 25<sup>th</sup> May 2017. The observations and recommendations made during the audit sessions are summarized in **Table 6.1**.

## 6 ENVIRONMENTAL SITE INSPECTION

### Site Audit

- 6.1 Site audit was carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audit are attached in **Appendix H**.
- 6.2 Site audits were conducted on 4<sup>th</sup>, 11<sup>th</sup>, 18<sup>th</sup> & 25<sup>th</sup> May 2017 by ET. A joint site audit with the representative with IEC, ER, the Contractor and the ET was carried out on 11<sup>th</sup> May 2017. The details of observations during site audit can refer to **Table 6.1**.

### Implementation Status of Environmental Mitigation Measures

- 6.3 According to the EIA Study Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix J**.
- 6.4 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations made during the audit sessions are summarized in **Table 6.1**.

**Table 6.1 Observations and Recommendations of Site Audit**

| Parameters                         | Date                        | Observations and Recommendations  | Follow-up  |
|------------------------------------|-----------------------------|---|--|
| <i>Water Quality</i>               | ---                         | ---   | ---  |
| <i>Noise</i>                       | ---                         | ---   | ---  |
| <i>Landscape and Visual</i>        | ---                         | ---   | ---  |
| <i>Air Quality</i>                 | 27 <sup>th</sup> April 2017 | <u>Reminder:</u><br>The stockpile of dusty material should be covered by impervious material to prevent dust emission.                    | As observed on 4 <sup>th</sup> May 2017, stockpile of dusty material was covered during the site inspection.                 |
|                                    | 4 <sup>th</sup> May 2017    | <u>Reminder:</u><br>To provide frequent water spray to unpaved area to avoid dust generation.   | As observed on 11 <sup>th</sup> May 2017, the unpaved area was observed wet during the site inspection.                      |
|                                    | 11 <sup>th</sup> May 2017   | <u>Reminder:</u><br>The stockpiles of dusty material should be covered by impervious material properly to prevent the dust emission.      | This item would be followed up on 18 <sup>th</sup> May 2017.   |
|                                    | 18 <sup>th</sup> May 2017   | <u>Reminder:</u><br>The stockpiles of dusty material should be covered by impervious material properly to prevent the dust emission.      | As observed on 25 <sup>th</sup> May 2017, the stockpiles of dusty material were cleared and not observed.                    |
| <i>Waste / Chemical Management</i> | 11 <sup>th</sup> May 2017   | The oil leakage was observed from the excavator. The Contractor was reminded to provide the maintenance and clear the oil stain properly. | As observed on 18 <sup>th</sup> May 2017, the oil leakage was not observed from the excavator and the oil stain was cleared. |
|                                    | 11 <sup>th</sup> May 2017   | The drip tray should be provided for the chemical containers to prevent the chemical spillage in the site.                                | This item would be followed up on 18 <sup>th</sup> May 2017.   |



| <b>Parameters</b>       | <b>Date</b>               | <b>Observations and Recommendations</b>   | <b>Follow-up</b>   |
|-------------------------|---------------------------|---|--|
|                         | 18 <sup>th</sup> May 2017 | The drip tray should be provided for the chemical containers to prevent the chemical spillage in the site.  | This item would be followed up on 25 <sup>th</sup> May 2017. |
|                         | 25 <sup>th</sup> May 2017 | The chemical containers should be provided with the drip tray to prevent the chemical spillage in the site. | This item would be followed up in the next reporting month.  |
| <i>Permits/Licenses</i> | ---                       | ---   | ---  |

## 7 ENVIRONMENTAL NON-CONFORMANCE

### Summary of Exceedances

- 7.1 No exceedance of the Action and Limit Levels of regular construction noise monitoring and 24-hour TSP monitoring was recorded during the reporting period. The summary of exceedance is provided in **Appendix G**.

### Summary of Environmental Non-Compliance

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

### Summary of Environmental Complaint

- 7.3 No environmental Project-related complaint was received in the reporting month. The Cumulative Complaint Log since the commencement of the Project is presented in **Appendix L**.

### Summary of Environmental Summon and Successful Prosecution

- 7.4 There was no successful environmental prosecution or notification of summons received since the Project commencement. The Cumulative Log for environmental summon and successful prosecution since the commencement of the Project is presented in **Appendix L**.

## 8 FUTURE KEY ISSUES

### Construction Programme for the Next Month

- 8.1 A tentative construction programme is provided in **Appendix A**. The major construction activities in the coming month will include:
- Reinstatement and Backfilling works of drainage.

### Key Issues in the Next Month

- 8.2 Key issues to be considered in the coming month include:
- To ensure the performance of sorting of C&D materials at source (during generation); and
  - To carry out inspection of dump truck at site exit to ensure inert and non-inert C&D materials are properly segregated before removing off site.

### Monitoring Schedule in the Next Month

- 8.3 The tentative schedule of regular construction noise monitoring and 24-hour TSP monitoring at Rhythm Garden in the next reporting period is presented in **Appendix D**. The regular construction noise monitoring and 24-hour TSP monitoring will be conducted at the same monitoring locations in the next reporting period.

## 9 CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 9.1 The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1<sup>st</sup> to 31<sup>st</sup> May 2017 in accordance with EM&A Manual and the requirement under EP.
- 9.2 No exceedance of the Action and Limit Levels of regular construction noise and 24-hour TSP monitoring was recorded at the designated monitoring stations during the reporting month.
- 9.3 4 times of joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET and 2 times of bi-weekly inspection of the implementation of landscape and visual mitigation measures were conducted during the reporting period.
- 9.4 There was no Project related environmental complaint, successful prosecution or notification of summons received during the reporting month.
- 9.5 The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

### Recommendations

- 9.6 According to the environmental audit performed in the reporting month, the following recommendations were made:

#### Water Quality

- N/A

#### Landscape and Visual

- N/A

#### Noise

- N/A

#### Air Quality

- The unpaved area should be sprayed with water frequently to avoid the dust generation; and
- The stockpile of dusty material should be covered by impervious material to prevent the dust emission.

#### Waste/Chemical Management

- The maintenance of the excavator should be provided to prevent the oil leakage and clear the oil stain properly; and
- The drip tray should be provided for the chemical containers to prevent the chemical spillage in the site.

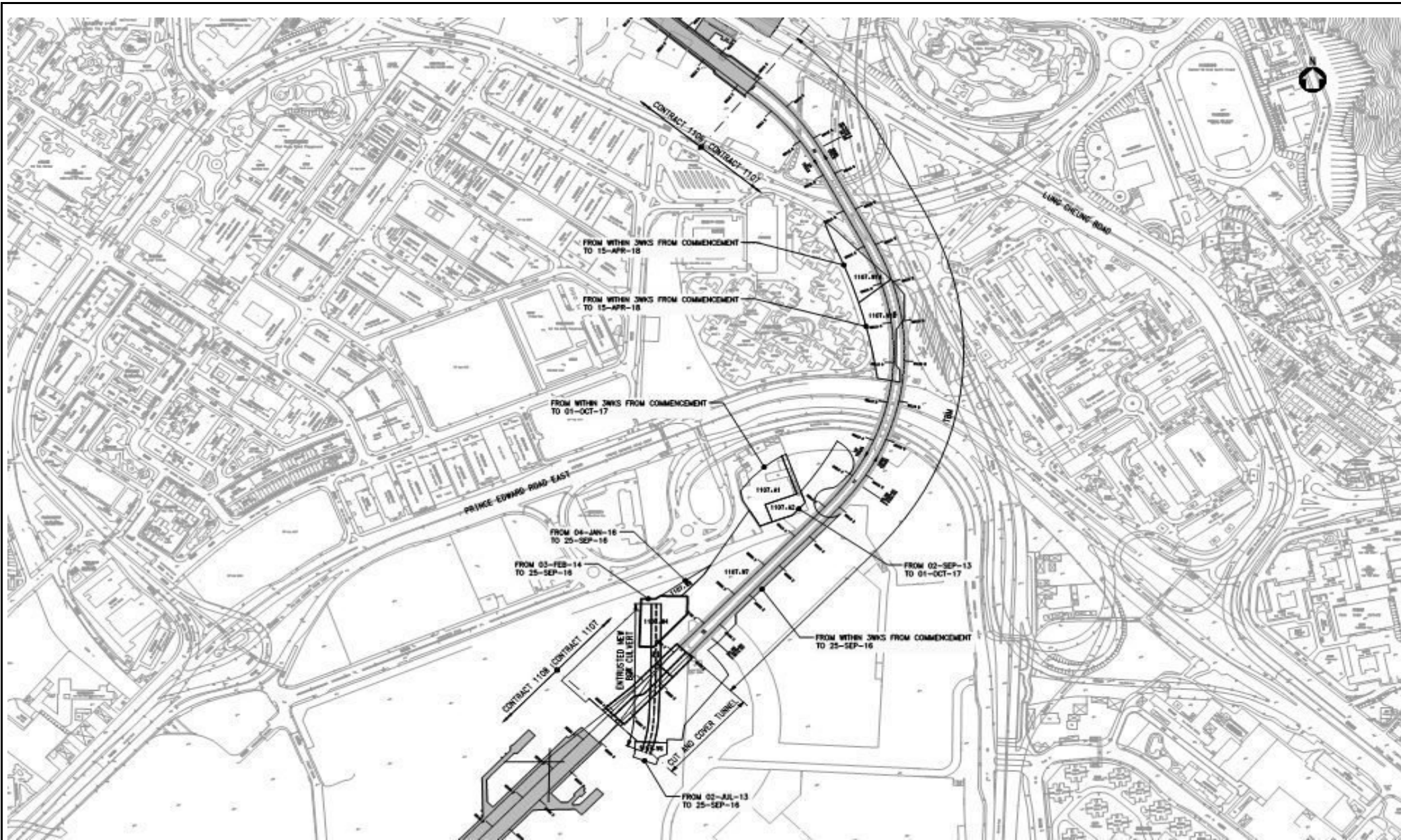
---

---

## FIGURES

---

---



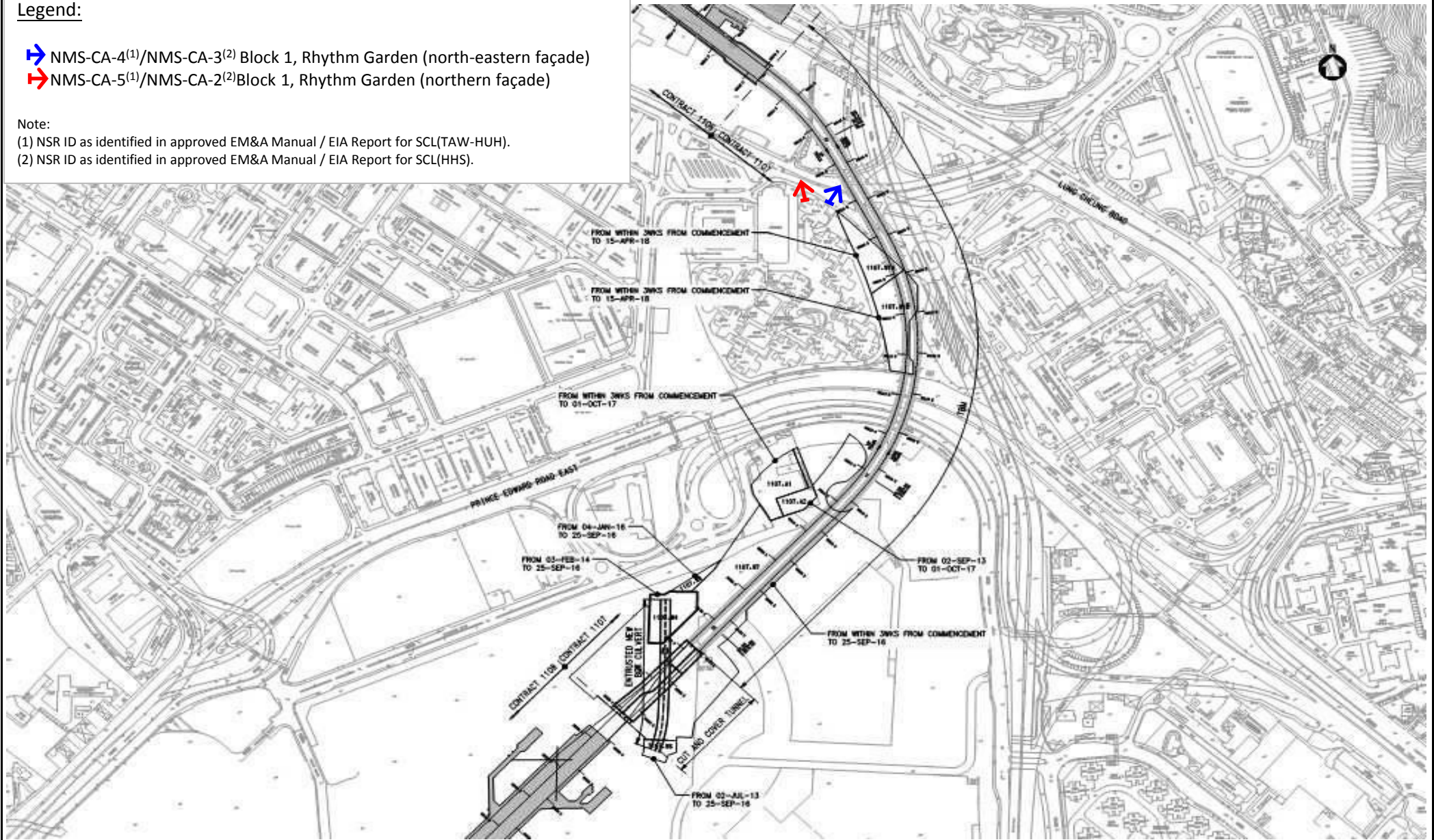
|       |  |       |        |             |         |          |
|-------|--|-------|--------|-------------|---------|----------|
| Title | MTR SCL Works Contract 1107<br>Diamond Hill to Kai Tak Tunnels<br>Site Layout Plan | Scale | N.T.S  | Project No. | MA13018 | CINOTECH |
|       |  | Date  | May-13 | Figure      | 1       |          |

**Legend:**

- ➔ NMS-CA-4<sup>(1)</sup>/NMS-CA-3<sup>(2)</sup> Block 1, Rhythm Garden (north-eastern façade)
- ➔ NMS-CA-5<sup>(1)</sup>/NMS-CA-2<sup>(2)</sup> Block 1, Rhythm Garden (northern façade)

**Note:**

- (1) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).



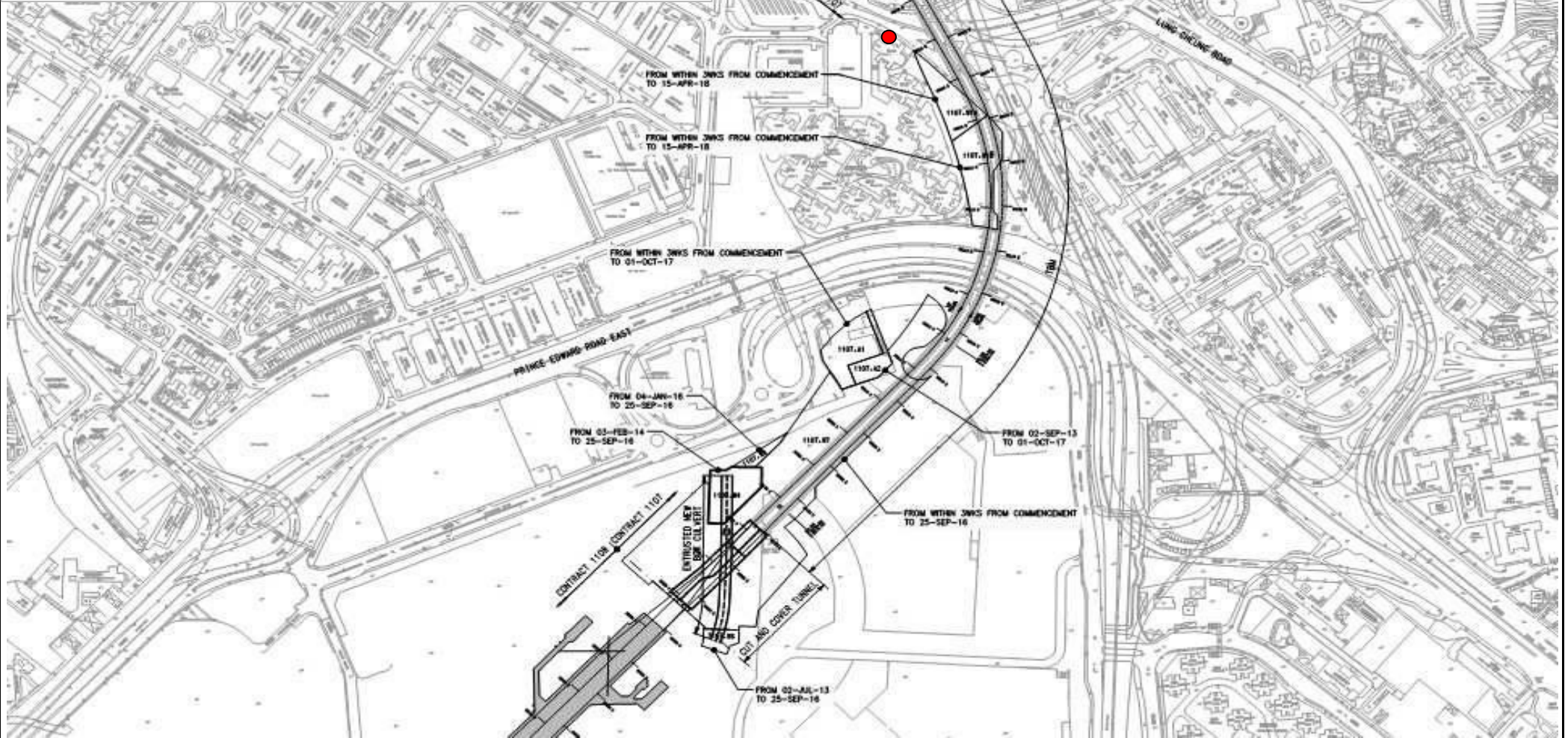
|   |                |                        |  |
|---|----------------|------------------------|--|
| Title<br>MTR SCL Works Contract 1107<br>Diamond Hill to Kai Tak Tunnels<br>Locations of Construction Noise Monitoring | Scale<br>N.T.S | Project No.<br>MA13018 |  |
|   | Date<br>May-13 | Figure<br>2            |  |

**Legend:**

- DMS-4<sup>(1)</sup>/DMS-3<sup>(2)</sup> Block 1, Rhythm Garden

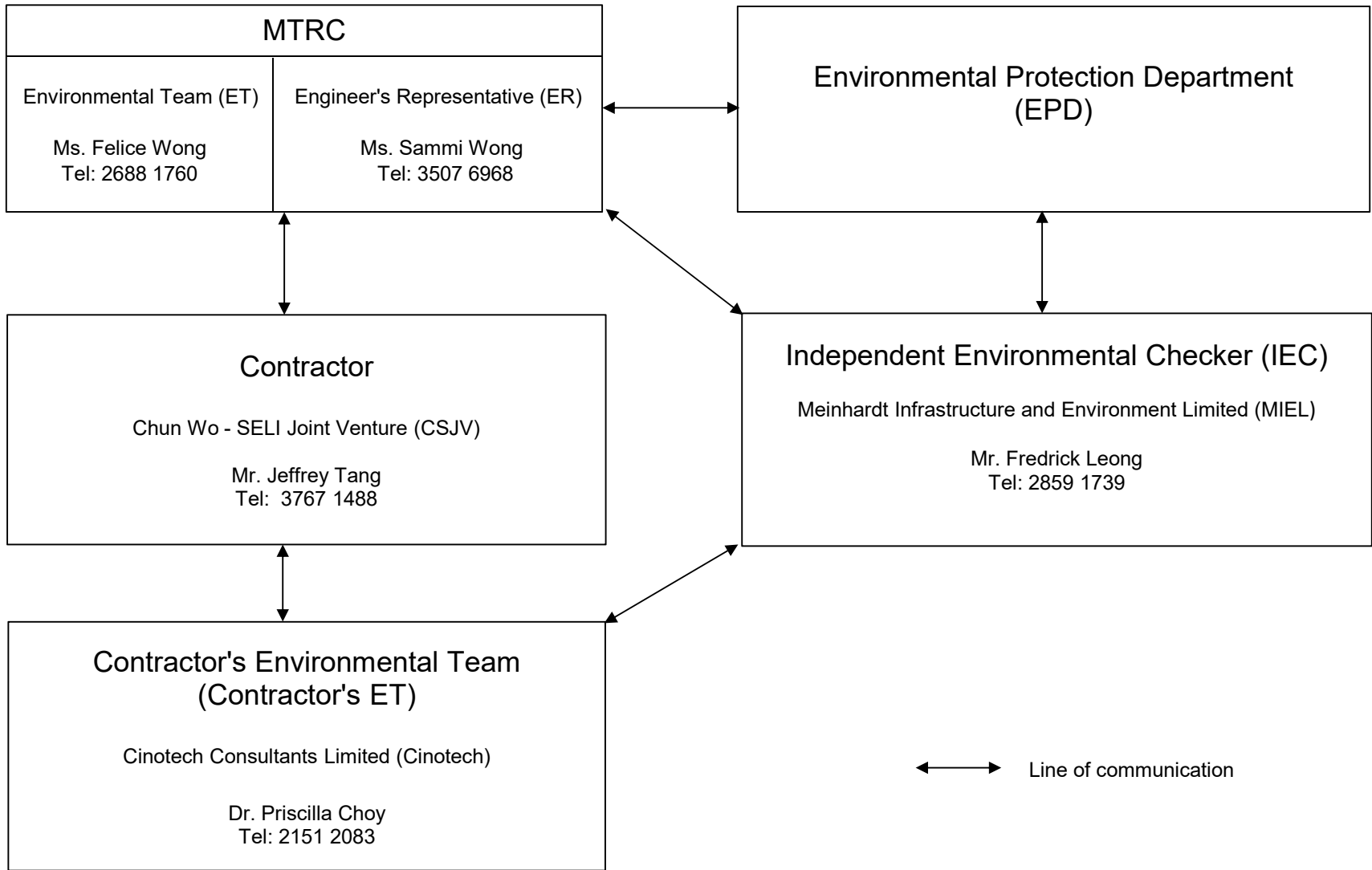
**Note:**

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).



|       |   |        |        |       |             |         |          |
|-------|---|--------|--------|-------|-------------|---------|----------|
| Title | MTR SCL Works Contract 1107<br>Diamond Hill to Kai Tak Tunnels<br>Location of Dust Monitoring |        | Scale  | N.T.S | Project No. | MA13018 | CINOTECH |
|       | Date  | May-13 | Figure | 3     |             |         |          |





Title

MTR SCL Works Contract 1107  
Diamond Hill to Kai Tak Tunnels

Organisation Chart and Key Contact of the Project

Scale

N.T.S

Date

Jan 2017

Proposal

No. MA13018

Figure

4

**CINOTECH**

---

**APPENDIX A  
TENTATIVE CONSTRUCTION  
PROGRAMME**

---

| Activity ID  | Activity Name   | O Dur | MP Start  | MP Finish | Last Mth Start | Last Mth Finish | Start       | Finish      | 2017 |     |     |     |     |
|--|---|-------|-----------|-----------|----------------|-----------------|-------------|-------------|------|-----|-----|-----|-----|
|  |   |       |           |           |                |                 |             |             | Apr  | May | Jun | Jul | Aug |
| <b>MTRC SCL 1107 DIH to KAT Tunnels 3 M</b>        |   |       |           |           |                |                 |             |             |      |     |     |     |     |
| <b>Schedule of Completion Obligation &amp; Otl</b> |   |       |           |           |                |                 |             |             |      |     |     |     |     |
| <b>Schedule of Milestone Dates - Cost Centre A</b> |   |       |           |           |                |                 |             |             |      |     |     |     |     |
| 1107.MS10310                                       | A16 Engr confirm satisfactory implementation of safety & environmental req's in accordance with Specified Plans | 0     |           | 25-Jun-17 |                | 25-Jun-17       |             | 25-Jun-17*  |      |     |     |     |     |
| <b>Programme Data</b>                              |   |       |           |           |                |                 |             |             |      |     |     |     |     |
| 1107.ID10940                                       | 2.0 Overhead Lines Energisation 02JUL17   | 0     |           | 02-Jul-17 |                | 02-Jul-17       |             | 02-Jul-17*  |      |     |     |     |     |
| <b>Cost Centre A - Preliminaries</b>               |   |       |           |           |                |                 |             |             |      |     |     |     |     |
| <b>As Built Drawings &amp; O&amp;M Manuals</b>     |   |       |           |           |                |                 |             |             |      |     |     |     |     |
| 1107.12590   | Revision & Resubmission for Approval of O&M & As Built drawings   | 78    | 14-Mar-17 | 20-Jun-17 | 14-Mar-17      | 20-Jun-17       | 14-Mar-17 A | 20-Jun-17   |      |     |     |     |     |
| 1107.19340   | Approval of O&M & As Built drawings   | 24    | 21-Jun-17 | 19-Jul-17 | 21-Jun-17      | 19-Jul-17       | 21-Jun-17   | 19-Jul-17   |      |     |     |     |     |
| <b>Project Audit</b>                               |   |       |           |           |                |                 |             |             |      |     |     |     |     |
| 1107.12570   | 5th Audit of safety & environmental plans   | 24    | 22-May-17 | 19-Jun-17 | 22-May-17      | 19-Jun-17       | 22-May-17*  | 19-Jun-17   |      |     |     |     |     |
| <b>Site Enabling Works</b>                         |   |       |           |           |                |                 |             |             |      |     |     |     |     |
| <b>Site Setup</b>                                  |   |       |           |           |                |                 |             |             |      |     |     |     |     |
| <b>Misc Items</b>                                  |   |       |           |           |                |                 |             |             |      |     |     |     |     |
| 1107.19110   | Provision of Site General Staff (Drivers, Amahs, etc) - 01Apr to 22Apr17  | 15    | 01-Apr-17 | 30-Jun-17 | 01-Apr-17      | 22-Apr-17       | 01-Apr-17 A | 22-Apr-17 A |      |     |     |     |     |
| 1107.191101  | Provision of Site General Staff (Drivers, Amahs, etc) - 24Apr17 to 11May17                                      | 14    |           |           | 24-Apr-17      | 11-May-17       | 24-Apr-17 A | 11-May-17   |      |     |     |     |     |
| 1107.191102  | Provision of Site General Staff (Drivers, Amahs, etc) - 12May17 to 27May17                                      | 14    |           |           | 12-May-17      | 27-May-17       | 12-May-17   | 27-May-17   |      |     |     |     |     |
| 1107.191103  | Provision of Site General Staff (Drivers, Amahs, etc) - 29May17 to 14Jun17                                      | 14    |           |           | 29-May-17      | 14-Jun-17       | 29-May-17   | 14-Jun-17   |      |     |     |     |     |
| 1107.191104  | Provision of Site General Staff (Drivers, Amahs, etc) - 15Jun17 to 30Jun17                                      | 14    |           |           | 15-Jun-17      | 30-Jun-17       | 15-Jun-17   | 30-Jun-17   |      |     |     |     |     |
| 1107.19120   | Provision of Site General Staff (Drivers, Amahs, etc) - 03Jul17 to 20Jul17                                      | 16    | 03-Jul-17 | 30-Sep-17 | 03-Jul-17      | 30-Sep-17       | 03-Jul-17   | 20-Jul-17   |      |     |     |     |     |
| 1107.19120a  | Provision of Site General Staff (Drivers, Amahs, etc) - 21Jul17 to 08Aug17                                      | 16    |           |           |                |                 | 21-Jul-17   | 08-Aug-17   |      |     |     |     |     |
| 1107.19300   | Provision of Site General Labour for Temporary Works - 01Apr17 to 22Apr17                                       | 15    | 01-Apr-17 | 30-Jun-17 | 01-Apr-17      | 22-Apr-17       | 01-Apr-17 A | 22-Apr-17 A |      |     |     |     |     |
| 1107.193001  | Provision of Site General Labour for Temporary Works - 24Apr17 to 11May17                                       | 14    |           |           | 24-Apr-17      | 11-May-17       | 24-Apr-17 A | 11-May-17   |      |     |     |     |     |
| 1107.193002  | Provision of Site General Labour for Temporary Works - 12May17 to 27May17                                       | 14    |           |           | 12-May-17      | 27-May-17       | 12-May-17   | 27-May-17   |      |     |     |     |     |
| 1107.193003  | Provision of Site General Labour for Temporary Works - 29May17 to 14Jun17                                       | 14    |           |           | 29-May-17      | 14-Jun-17       | 29-May-17   | 14-Jun-17   |      |     |     |     |     |
| 1107.193004  | Provision of Site General Labour for Temporary Works - 15Jun17 to 30Jun17                                       | 14    |           |           | 15-Jun-17      | 30-Jun-17       | 15-Jun-17   | 30-Jun-17   |      |     |     |     |     |
| 1107.19310   | Provision of Site General Labour for Temporary Works - 03Jul17 to 20Jul17                                       | 16    | 03-Jul-17 | 30-Sep-17 | 03-Jul-17      | 30-Sep-17       | 03-Jul-17   | 20-Jul-17   |      |     |     |     |     |
| 1107.19310a  | Provision of Site General Labour for Temporary Works - 21Jul17 to 08Aug17                                       | 16    |           |           |                |                 | 21-Jul-17   | 08-Aug-17   |      |     |     |     |     |

---

---

**APPENDIX B  
ACTION AND LIMIT LEVELS**

---

---

**APPENDIX B – Action and Limit Levels****24-Hour TSP**

| <b>Regular Dust Monitoring Location</b>              | <b>Description</b>     | <b>Action Level, <math>\mu\text{g}/\text{m}^3</math></b> | <b>Limit Level, <math>\mu\text{g}/\text{m}^3</math></b> |
|--|------------------------|--|---|
| DMS-4 <sup>(1)(3)</sup> /<br>DMS-3 <sup>(2)(3)</sup> | Block 1, Rhythm Garden | 160.4  | 260   |

Note:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Dust monitoring on DMS-3<sup>(1)</sup>/DMS-4<sup>(2)</sup> is carried out by Environmental Team of SCL Works Contract 1106.

**Construction Noise**

| <b>Regular Construction Noise Monitoring Location<sup>(1)</sup></b> | <b>Description</b>                            | <b>Time Period</b>                     | <b>Action Level</b>                                | <b>Limit Level</b>           |
|---|---|--|--|------------------------------|
| NMS-CA-4 <sup>(1)(5)</sup> /<br>NMS-CA-3 <sup>(2)(5)</sup>          | Block 1, Rhythm Garden (north-eastern façade) | 0700-1900 hrs<br>on normal<br>weekdays | When one<br>documented<br>complaint is<br>received | 75 dB(A)                     |
| NMS-CA-5 <sup>(1)(3)(5)</sup> /<br>NMS-CA-2 <sup>(2)(3)(5)</sup>    | Block 1, Rhythm Garden (northern façade)      |  |  | 65 / 70 dB(A) <sup>(4)</sup> |

Note:

- (1) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) Access to the monitoring location at Canossa Primary School (San Po Kong) (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (Block 1, Rhythm Garden (northern façade)) was proposed and approved by the ER and agreed by the IEC and EPD.
- (4) Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period.
- (5) Noise monitoring on Block 1, Rhythm Garden are carried out by Environmental Team of SCL Works Contract 1106.

---

---

**APPENDIX C  
CALIBRATION CERTIFICATES FOR  
MONITORING EQUIPEMENT**

---

---

## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

File No. MA12051/57/0025

Station DMS-4 - Rhythm Garden, Block 1 Operator: WK  
 Date: 17-Mar-17 Next Due Date: 16-May-17  
 Equipment No.: A-01-57 Serial No. 2352

| Ambient Condition   |       |                     |       |
|---------------------|-------|---------------------|-------|
| Temperature, Ta (K) | 290.5 | Pressure, Pa (mmHg) | 766.7 |

| Orifice Transfer Standard Information |           |  |        |               |          |
|---------------------------------------|-----------|--|--------|---------------|----------|
| Serial No.:                           | 0993      | Slope, mc (CFM)  | 0.0578 | Intercept, bc | -0.04890 |
| Last Calibration Date:                | 28-Feb-17 | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |        |               |          |
| Next Calibration Date:                | 27-Feb-18 | $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$  |        |               |          |

| Calibration of TSP Sampler |                                    |  |                        |                                |   |
|----------------------------|------------------------------------|--|------------------------|--------------------------------|---|
| Calibration Point          | Orifice                            |  |                        | HVS                            |   |
|                            | $\Delta H$ (orifice), in. of water | $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ | Qstd (CFM)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis |
| 1                          | 11.8                               | 3.49   | 61.33                  | 7.8                            | 2.84  |
| 2                          | 9.5                                | 3.14   | 55.12                  | 6.4                            | 2.57  |
| 3                          | 7.8                                | 2.84   | 50.02                  | 5.1                            | 2.30  |
| 4                          | 5.2                                | 2.32   | 41.00                  | 3.3                            | 1.85  |
| 5                          | 3.3                                | 1.85   | 32.83                  | 2.2                            | 1.51  |

**By Linear Regression of Y on X**

Slope, mw = 0.0476 Intercept, bw : -0.0736

Correlation coefficient\* = 0.9992

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

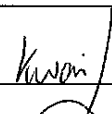

From the TSP Field Calibration Curve, take Qstd = 43 CFM

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

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

Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.76

Remarks: \_\_\_\_\_

Conducted by: Wk Tang Signature:  Date: 17/3/17  
 Checked by:  Signature: \_\_\_\_\_ Date: 17 March 2017

## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

File No. MA12051/57/0026

Station DMS-4 - Rhythm Garden, Block 1 Operator: WK  
 Date: 12-May-17 Next Due Date: 11-Jul-17  
 Equipment No.: A-01-57 Serial No. 2352

| Ambient Condition   |       |                     |       |
|---------------------|-------|---------------------|-------|
| Temperature, Ta (K) | 301.3 | Pressure, Pa (mmHg) | 761.7 |

| Orifice Transfer Standard Information |           |  |        |               |          |
|---------------------------------------|-----------|--|--------|---------------|----------|
| Serial No.:                           | 0993      | Slope, mc (CFM)  | 0.0578 | Intercept, bc | -0.04890 |
| Last Calibration Date:                | 28-Feb-17 | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |        |               |          |
| Next Calibration Date:                | 27-Feb-18 | $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$  |        |               |          |

| Calibration of TSP Sampler |                                    |  |                        |                                |   |
|----------------------------|------------------------------------|--|------------------------|--------------------------------|---|
| Calibration Point          | Orifice                            |  |                        | HVS                            |   |
|                            | $\Delta H$ (orifice), in. of water | $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ | Qstd (CFM)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis |
| 1                          | 11.4                               | 3.36   | 59.03                  | 7.7                            | 2.76  |
| 2                          | 9.7                                | 3.10   | 54.52                  | 6.4                            | 2.52  |
| 3                          | 7.5                                | 2.73   | 48.04                  | 5.0                            | 2.23  |
| 4                          | 5.1                                | 2.25   | 39.76                  | 3.3                            | 1.81  |
| 5                          | 3.2                                | 1.78   | 31.67                  | 2.0                            | 1.41  |

**By Linear Regression of Y on X**

Slope, mw = 0.0492 Intercept, bw = -0.1485  
 Correlation coefficient\* = 0.9998

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

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

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

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

Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.90

Remarks: \_\_\_\_\_

Conducted by: ink Tang Signature: [Signature] Date: 12/5/17  
 Checked by: [Signature] Signature: [Signature] Date: 12 May 2017





TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE  
 VILLAGE OF CLEVELAND, OH  
 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Feb 28, 2017 Rootsmeter S/N 0438320 Ta (K) - 294  
 Operator Tisch Orifice I.D. - 0993 Pa (mm) - 750.57

| PLATE<br>OR<br>Run # | VOLUME<br>START<br>(m3) | VOLUME<br>STOP<br>(m3) | DIFF<br>VOLUME<br>(m3) | DIFF<br>TIME<br>(min) | METER              | ORFICE               |
|----------------------|-------------------------|------------------------|------------------------|-----------------------|--------------------|----------------------|
|                      |                         |                        |                        |                       | DIFF<br>Hg<br>(mm) | DIFF<br>H2O<br>(in.) |
| 1                    | NA                      | NA                     | 1.00                   | 1.3860                | 3.2                | 2.00                 |
| 2                    | NA                      | NA                     | 1.00                   | 0.9910                | 6.4                | 4.00                 |
| 3                    | NA                      | NA                     | 1.00                   | 0.8840                | 7.9                | 5.00                 |
| 4                    | NA                      | NA                     | 1.00                   | 0.8430                | 8.7                | 5.50                 |
| 5                    | NA                      | NA                     | 1.00                   | 0.6970                | 12.6               | 8.00                 |

DATA TABULATION

| Vstd                                | (x axis)<br>Qstd | (y axis) | Va                        | (x axis)<br>Qa | (y axis) |
|-------------------------------------|------------------|----------|---------------------------|----------------|----------|
| 0.9967                              | 0.7191           | 1.4149   | 0.9957                    | 0.7184         | 0.8851   |
| 0.9925                              | 1.0015           | 2.0010   | 0.9915                    | 1.0005         | 1.2517   |
| 0.9904                              | 1.1204           | 2.2372   | 0.9894                    | 1.1192         | 1.3995   |
| 0.9894                              | 1.1737           | 2.3464   | 0.9884                    | 1.1725         | 1.4678   |
| 0.9842                              | 1.4120           | 2.8299   | 0.9832                    | 1.4106         | 1.7702   |
| Qstd slope (m) = 2.04055            |                  |          | Qa slope (m) = 1.27776    |                |          |
| intercept (b) = -0.04890            |                  |          | intercept (b) = -0.03059  |                |          |
| coefficient (r) = 0.99995           |                  |          | coefficient (r) = 0.99995 |                |          |
| y axis = SQRT[H2O(Pa/760) (298/Ta)] |                  |          | y axis = SQRT[H2O(Ta/Pa)] |                |          |

CALCULATIONS

Vstd = Diff. Vol [(Pa-Diff. Hg)/760] (298/Ta)  
 Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]  
 Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{ [SQRT(H2O(Pa/760) (298/Ta))] - b}  
 Qa = 1/m{ [SQRT H2O(Ta/Pa)] - b}

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |             |
|------------------|-------------|
| Test Report No.: | C/N/160917C |
| Date of Issue:   | 2016-09-19  |
| Date Received:   | 2016-09-17  |
| Date Tested:     | 2016-09-17  |
| Date Completed:  | 2016-09-19  |
| Next Due Date:   | 2017-09-18  |

**ATTN:** Mr. W.K. Tang

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

|                |   |
|----------------|---|
| Description    | : 'SVANTEK' Integrating Sound Level Meter |
| Manufacturer   | : SVANTEK                                 |
| Model No.      | : SVAN 955                                |
| Serial No.     | : 12563                                   |
| Microphone No. | : 34377                                   |
| Equipment No.  | : N-08-03                                 |

**Test conditions:**

|                   |                     |
|-------------------|---------------------|
| Room Temperature  | : 24 degree Celsius |
| Relative Humidity | : 57%               |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

| Reference Set Point, dB | Instrument Readings, dB |
|-------------------------|-------------------------|
| 94                      | 94.0                    |
| 114                     | 114.0                   |

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |            |
|------------------|------------|
| Test Report No.: | C/N/161230 |
| Date of Issue:   | 2017-01-03 |
| Date Received:   | 2016-12-30 |
| Date Tested:     | 2016-12-30 |
| Date Completed:  | 2017-01-03 |
| Next Due Date:   | 2018-01-02 |

**ATTN:** Mr. W. K. Tang

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

|                |   |
|----------------|---|
| Description    | : 'SVANTEK' Integrating Sound Level Meter |
| Manufacturer   | : SVANTEK                                 |
| Model No.      | : SVAN 955                                |
| Serial No.     | : 14303                                   |
| Microphone No. | : 35222                                   |
| Equipment No.  | : N-08-05                                 |

**Test conditions:**

|                   |                     |
|-------------------|---------------------|
| Room Temperature  | : 21 degree Celsius |
| Relative Humidity | : 62 %              |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

| Reference Set Point, dB | Instrument Readings, dB |
|-------------------------|-------------------------|
| 94                      | 94.0                    |
| 114                     | 114.0                   |

Remark: 1) This report supersedes the one dated 2012/01/21 with certificate number C/N/120120/1.

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |             |
|------------------|-------------|
| Test Report No.: | C/N/160826A |
| Date of Issue:   | 2016-08-29  |
| Date Received:   | 2016-08-26  |
| Date Tested:     | 2016-08-26  |
| Date Completed:  | 2016-08-29  |
| Next Due Date:   | 2017-08-28  |

**ATTN:** Mr. W.K. Tang

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description : 'SVANTEK' Integrating Sound Level Meter  
Manufacturer : SVANTEK  
Model No. : SVAN 957  
Serial No. : 21455  
Microphone No. : 43730  
Equipment No. : N-08-07

**Test conditions:**

Room Temperature : 25 degree Celsius  
Relative Humidity : 57%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

| Reference Set Point, dB | Instrument Readings, dB |
|-------------------------|-------------------------|
| 94                      | 94.0                    |
| 114                     | 114.0                   |

*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |            |
|------------------|------------|
| Test Report No.: | C/N/161128 |
| Date of Issue:   | 2016-11-30 |
| Date Received:   | 2016-11-28 |
| Date Tested:     | 2016-11-28 |
| Date Completed:  | 2016-11-30 |
| Next Due Date:   | 2017-11-29 |

**ATTN:** Mr. W.K. Tang

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

|                |   |
|----------------|---|
| Description    | : 'SVANTEK' Integrating Sound Level Meter |
| Manufacturer   | : SVANTEK                                 |
| Model No.      | : SVAN 957                                |
| Serial No.     | : 23853                                   |
| Microphone No. | : 48530                                   |
| Equipment No.  | : N-08-10                                 |

**Test conditions:**

|                   |                     |
|-------------------|---------------------|
| Room Temperature  | : 21 degree Celsius |
| Relative Humidity | : 66%               |

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

| Reference Set Point, dB | Instrument Readings, dB |
|-------------------------|-------------------------|
| 94                      | 94.0                    |
| 114                     | 114.0                   |

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |             |
|------------------|-------------|
| Test Report No.: | C/N/160930B |
| Date of Issue:   | 2016-10-03  |
| Date Received:   | 2016-09-30  |
| Date Tested:     | 2016-09-30  |
| Date Completed:  | 2016-10-03  |
| Next Due Date:   | 2017-10-02  |

**ATTN:** Mr. W.K. Tang

Page: 1 of 1

### Item for calibration:

|               |                         |
|---------------|-------------------------|
| Description   | : Acoustical Calibrator |
| Manufacturer  | : SVANTEK               |
| Model No.     | : SV30A                 |
| Serial No.    | : 24791                 |
| Equipment No. | : N-09-04               |

### Test conditions:

|                   |                     |
|-------------------|---------------------|
| Room Temperature  | : 25 degree Celsius |
| Relative Humidity | : 60%               |

### Methodology:

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

### Results:

| Sound Pressure Level (1kHz) | Measured SPL | Tolerance      |
|-----------------------------|--------------|----------------|
| At 94 dB SPL                | 94.0         | 94.0 ± 0.1 dB  |
| At 114 dB SPL               | 114.0        | 114.0 ± 0.1 dB |

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

|                  |              |
|------------------|--------------|
| Test Report No.: | C/N/161104/1 |
| Date of Issue:   | 2016-11-07   |
| Date Received:   | 2016-11-04   |
| Date Tested:     | 2016-11-04   |
| Date Completed:  | 2016-11-07   |
| Next Due Date:   | 2017-11-06   |

**ATTN:** Mr. W.K. Tang

Page: 1 of 1

### Item for calibration:

Description : Acoustical Calibrator  
Manufacturer : Brüel & Kjær  
Model No. : 4231  
Serial No. : 2326353  
Equipment No. : N-02-01

### Test conditions:

Room Temperature : 21 degree Celsius  
Relative Humidity : 62 %

### Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

| Sound Pressure Level (1kHz) | Measured SPL | Tolerance      |
|-----------------------------|--------------|----------------|
| At 94 dB SPL                | 94.0         | 94.0 ± 0.1 dB  |
| At 114 dB SPL               | 114.0        | 114.0 ± 0.1 dB |

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

---

---

**APPENDIX D**  
**IMPACT MONITORING SCHEDULE**

---

---



**Shatin to Central Link – Contract 1107 Diamond Hill to Kai Tak Tunnels  
Impact Air Quality and Noise Monitoring Schedule for May 2017**

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

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

**Air Quality Monitoring Station**

DMS-4: - Rhythm Garden, Block 1

**Noise Monitoring Station**

NMS-CA-4: - Block 1, Rhythm Garden (north-eastern façade)

NMS-CA-5: - Block 1, Rhythm Garden (northern façade)

**Shatin to Central Link – Contract 1107 Diamond Hill to Kai Tak Tunnels  
Tentative Impact Air Quality and Noise Monitoring Schedule for June 2017**

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

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

**Air Quality Monitoring Station**

DMS-4: - Rhythm Garden, Block 1

**Noise Monitoring Station**

NMS-CA-4: - Block 1, Rhythm Garden (north-eastern façade)

NMS-CA-5: - Block 1, Rhythm Garden (northern façade)

---

---

**APPENDIX E**  
**24-HOUR TSP MONITORING RESULTS**  
**AND GRAPHICAL PRESENTATIONIS**

---

---

## Appendix E - 24-hour TSP Monitoring Results

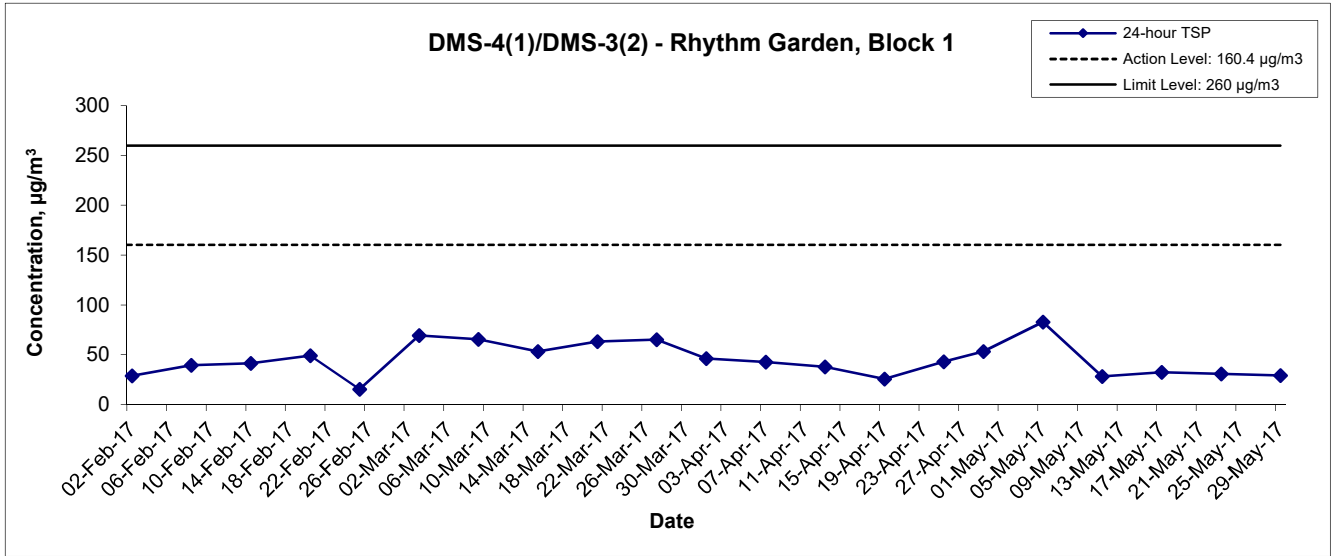
### Location DMS-4(1)/DMS-3(2) - Rhythm Garden, Block 1

| Sampling Date | Start Time | Weather Condition | Air Temp. (K) | Atmospheric Pressure, Pa (mmHg) | Filter Weight (g) |        | Particulate weight (g) | Elapse Time |        | Sampling Time(hrs.) | Flow Rate (m <sup>3</sup> /min.) |       | Av. flow (m <sup>3</sup> /min) | Total vol. (m <sup>3</sup> ) | Conc. (µg/m <sup>3</sup> ) |
|---------------|------------|-------------------|---------------|---------------------------------|-------------------|--------|------------------------|-------------|--------|---------------------|----------------------------------|-------|--------------------------------|------------------------------|----------------------------|
|               |            |                   |               |                                 | Initial           | Final  |                        | Initial     | Final  |                     | Initial                          | Final |                                |                              |                            |
| 05-May-17     | 09:00      | Cloudy            | 297.6         | 763.4                           | 2.8853            | 3.0292 | 0.1439                 | 7294.5      | 7318.5 | 24.0                | 1.21                             | 1.21  | 1.21                           | 1736.7                       | 82.9                       |
| 11-May-17     | 09:00      | Cloudy            | 299.9         | 764.7                           | 3.5906            | 3.6395 | 0.0489                 | 7318.5      | 7342.5 | 24.0                | 1.20                             | 1.20  | 1.20                           | 1731.7                       | 28.2                       |
| 17-May-17     | 09:00      | Cloudy            | 298.8         | 760.0                           | 3.3004            | 3.3573 | 0.0569                 | 7342.5      | 7366.5 | 24.0                | 1.22                             | 1.22  | 1.22                           | 1756.6                       | 32.4                       |
| 23-May-17     | 09:00      | Cloudy            | 300.2         | 759.3                           | 3.2982            | 3.3524 | 0.0542                 | 7366.5      | 7390.5 | 24.0                | 1.22                             | 1.22  | 1.22                           | 1752.0                       | 30.9                       |
| 29-May-17     | 09:00      | Sunny             | 299.4         | 761.0                           | 3.3112            | 3.3625 | 0.0513                 | 7390.5      | 7414.5 | 24.0                | 1.22                             | 1.22  | 1.22                           | 1756.0                       | 29.2                       |
|               |            |                   |               |                                 |                   |        |                        |             |        |                     |                                  |       |                                | Min                          | 28.2                       |
|               |            |                   |               |                                 |                   |        |                        |             |        |                     |                                  |       |                                | Max                          | 82.9                       |
|               |            |                   |               |                                 |                   |        |                        |             |        |                     |                                  |       |                                | Average                      | 40.7                       |

#### Remarks:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

### 24-hour TSP Concentration Levels



**Remarks:**

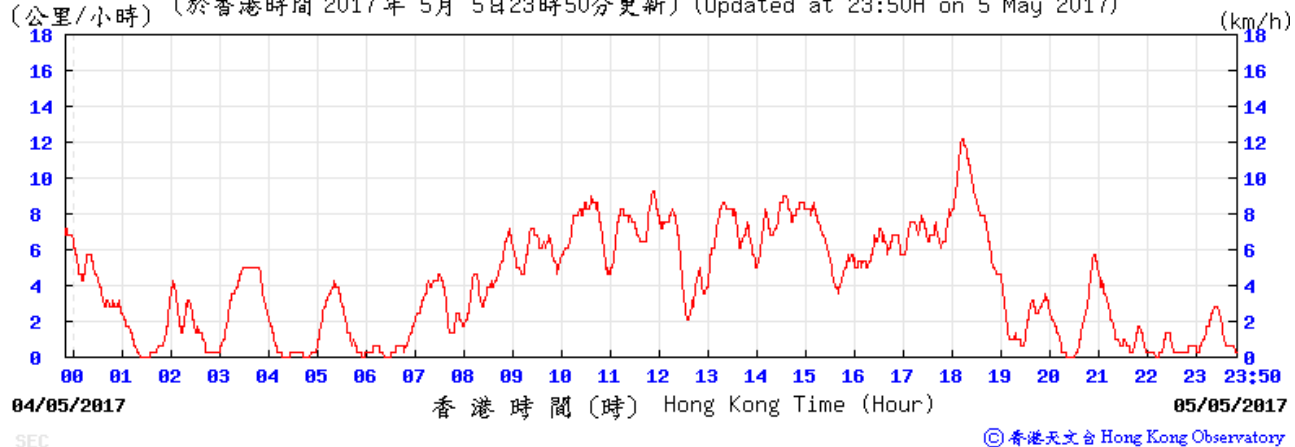
- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) 24 hours TSP concentration level of DMS-3 from July to September 2016 were extracted from the Project 1103.

|       |  |       |        |             |         |                 |
|-------|--|-------|--------|-------------|---------|-----------------|
| Title | Shatin to Central Link - Contract 1107 - Diamond Hill to Kai Tak Tunnels | Scale | N.T.S  | Project No. | MA13018 | <b>CINOTECH</b> |
|       | Graphical Presentation of 24-hour TSP Monitoring Results                 | Date  | May-17 | Appendix    | E       |                 |

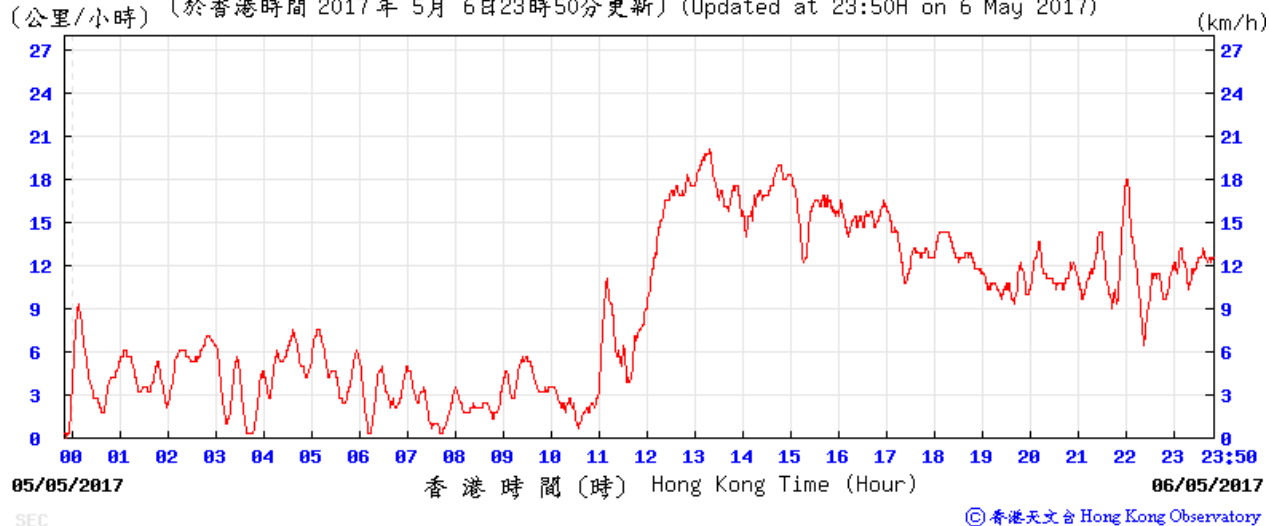
# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

5-6 May 2017

(公里/小時) (於香港時間 2017 年 5 月 5 日 23 時 50 分更新) (Updated at 23:50H on 5 May 2017)



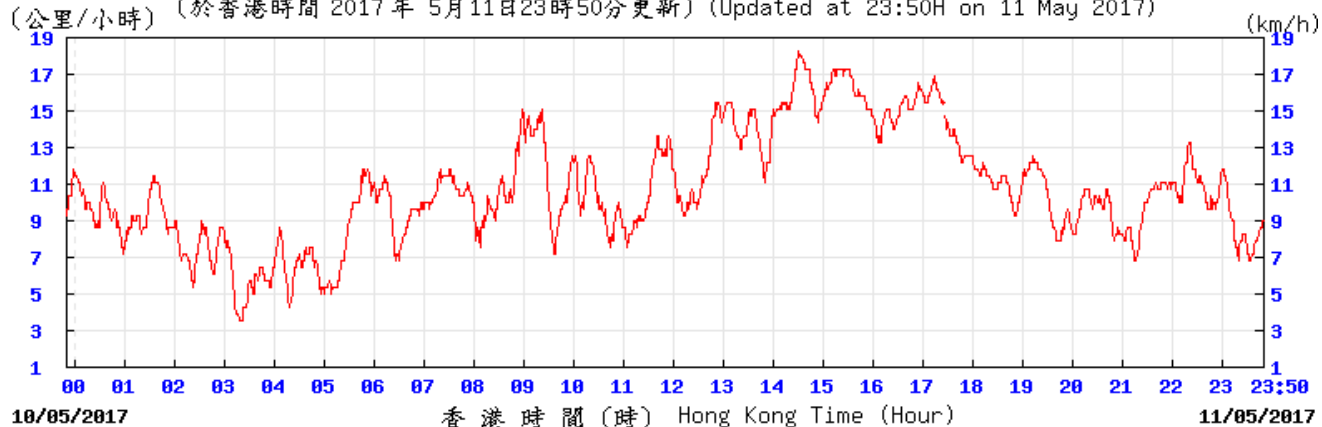
(公里/小時) (於香港時間 2017 年 5 月 6 日 23 時 50 分更新) (Updated at 23:50H on 6 May 2017)



# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

11-12 May 2017

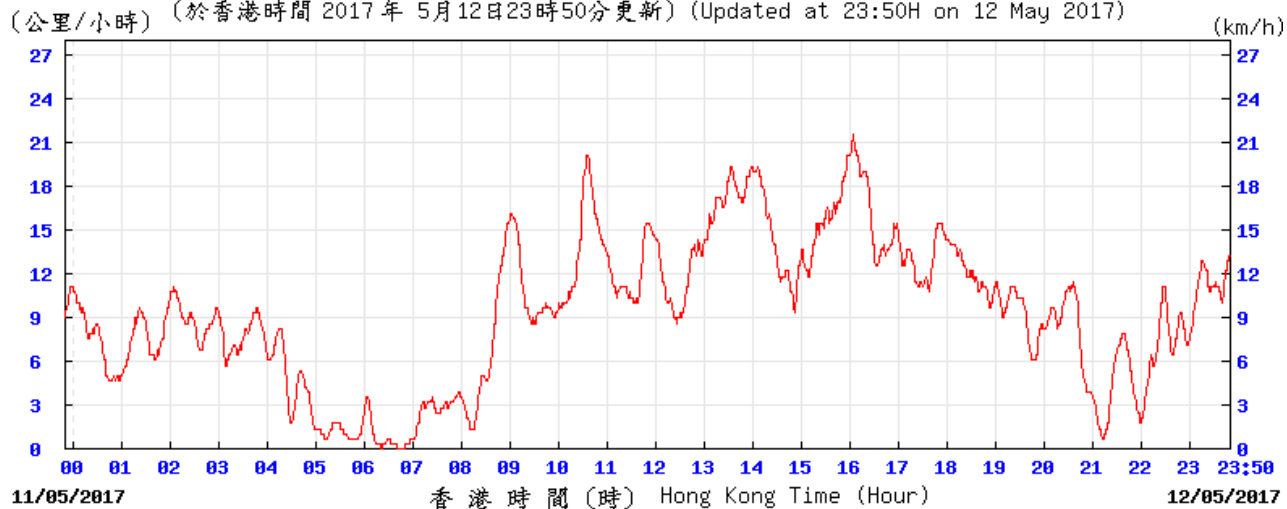
(公里/小時) (於香港時間 2017 年 5 月 11 日 23 時 50 分更新) (Updated at 23:50H on 11 May 2017)



SEC

© 香港天文台 Hong Kong Observatory

(公里/小時) (於香港時間 2017 年 5 月 12 日 23 時 50 分更新) (Updated at 23:50H on 12 May 2017)



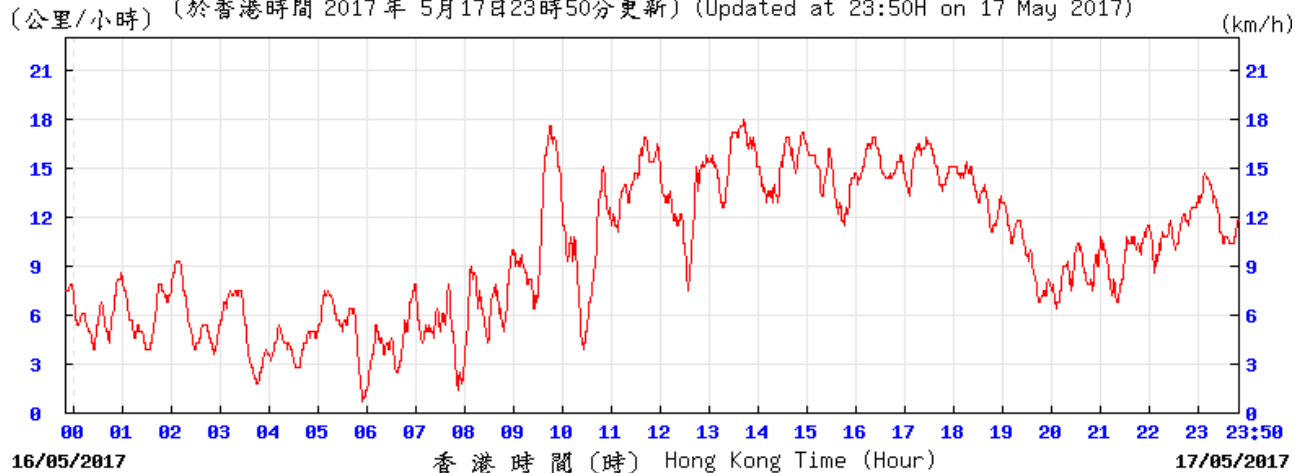
SEC

© 香港天文台 Hong Kong Observatory

# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

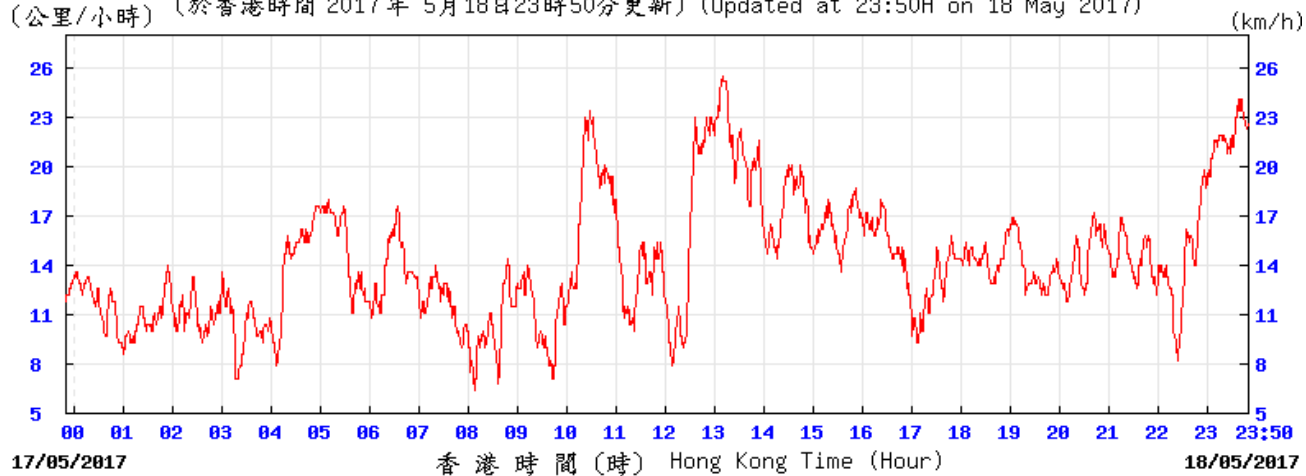
17-18 May 2017

(公里/小時) (於香港時間 2017 年 5 月 17 日 23 時 50 分更新) (Updated at 23:50H on 17 May 2017)



SEC © 香港天文台 Hong Kong Observatory

(公里/小時) (於香港時間 2017 年 5 月 18 日 23 時 50 分更新) (Updated at 23:50H on 18 May 2017)



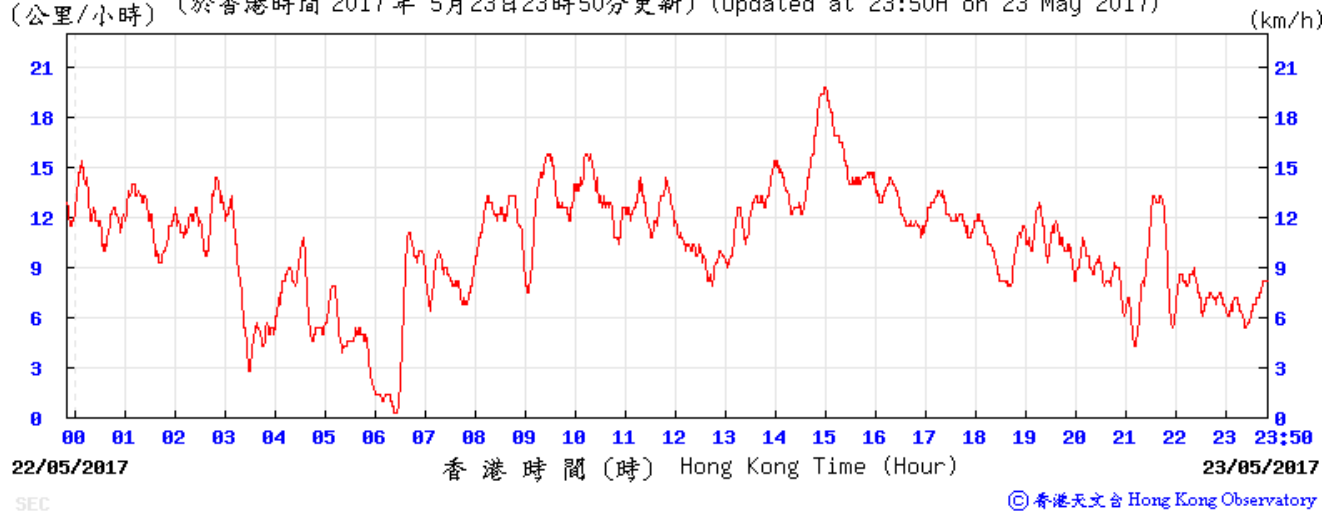
SEC © 香港天文台 Hong Kong Observatory



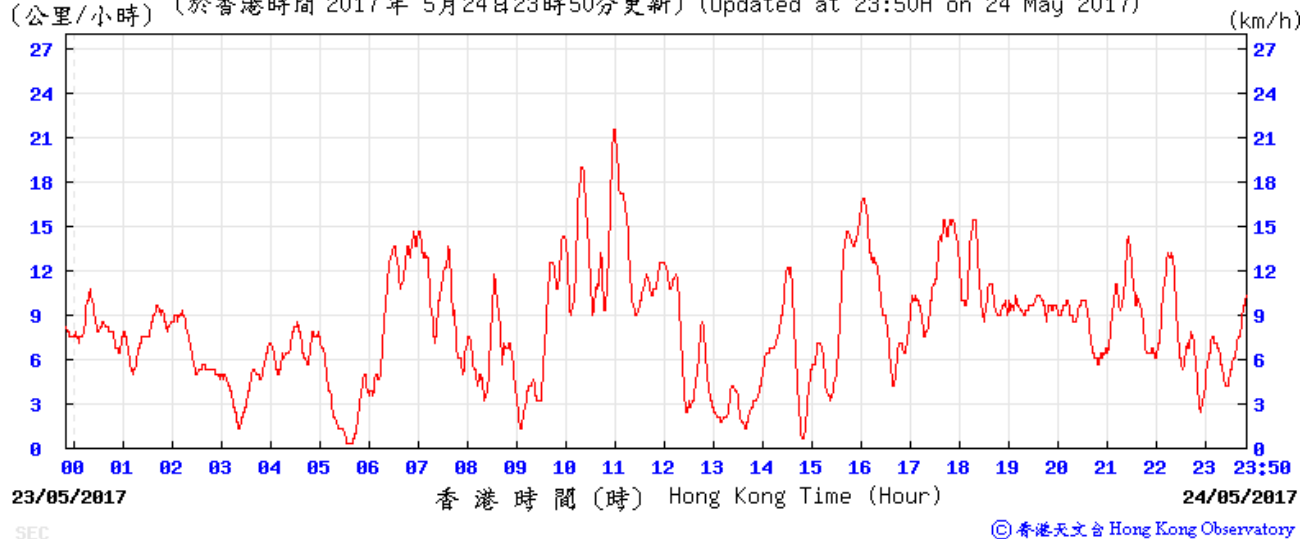
# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

23-24 May 2017

(公里/小時) (於香港時間 2017 年 5月23日23時50分更新) (Updated at 23:50H on 23 May 2017)



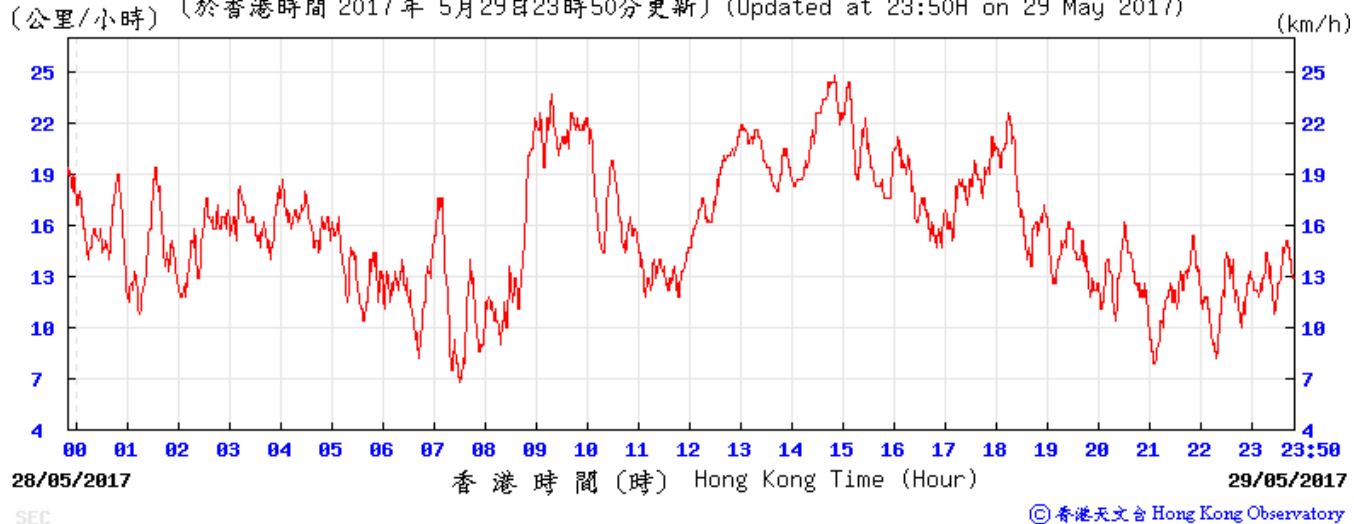
(公里/小時) (於香港時間 2017 年 5月24日23時50分更新) (Updated at 23:50H on 24 May 2017)



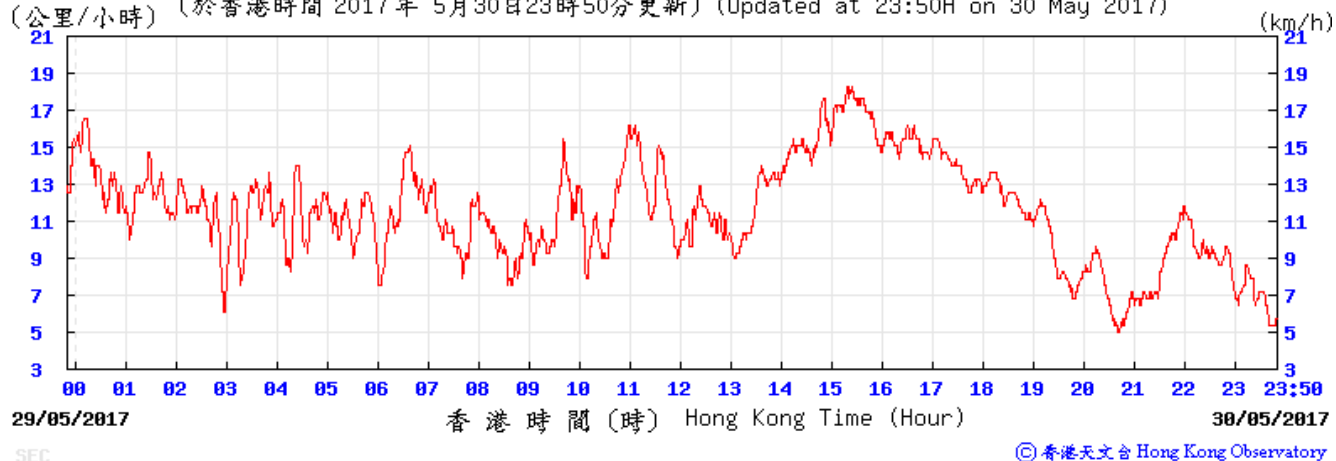
# Average wind speed obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

29-30 May 2017

(公里/小時) (於香港時間 2017 年 5月29日23時50分更新) (Updated at 23:50H on 29 May 2017)

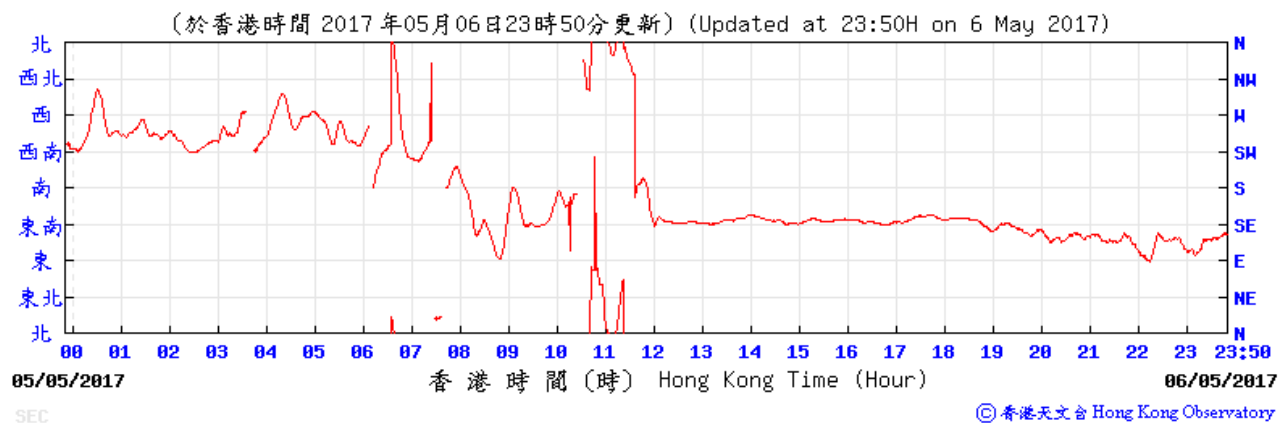
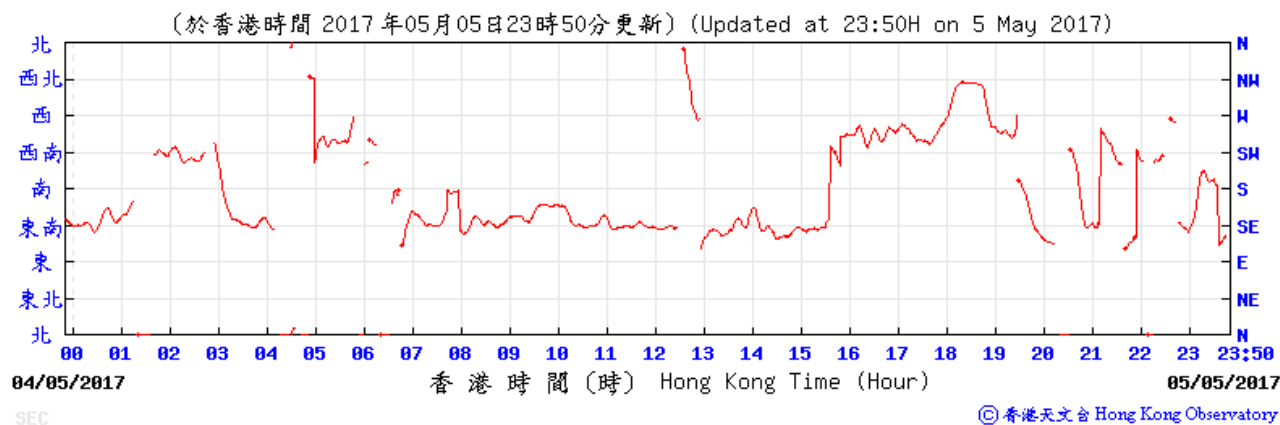


(公里/小時) (於香港時間 2017 年 5月30日23時50分更新) (Updated at 23:50H on 30 May 2017)



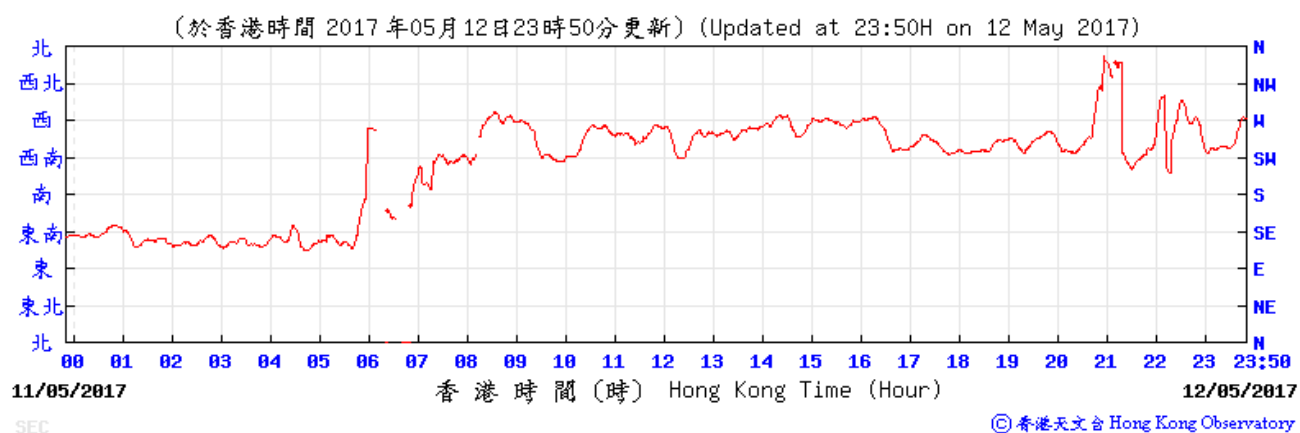
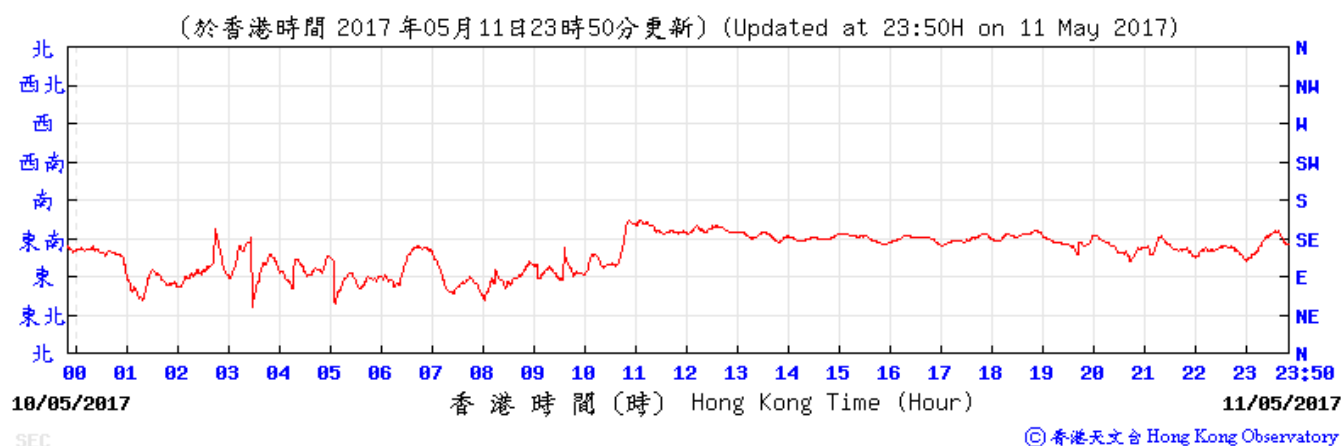
# Wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

5-6 May 2017



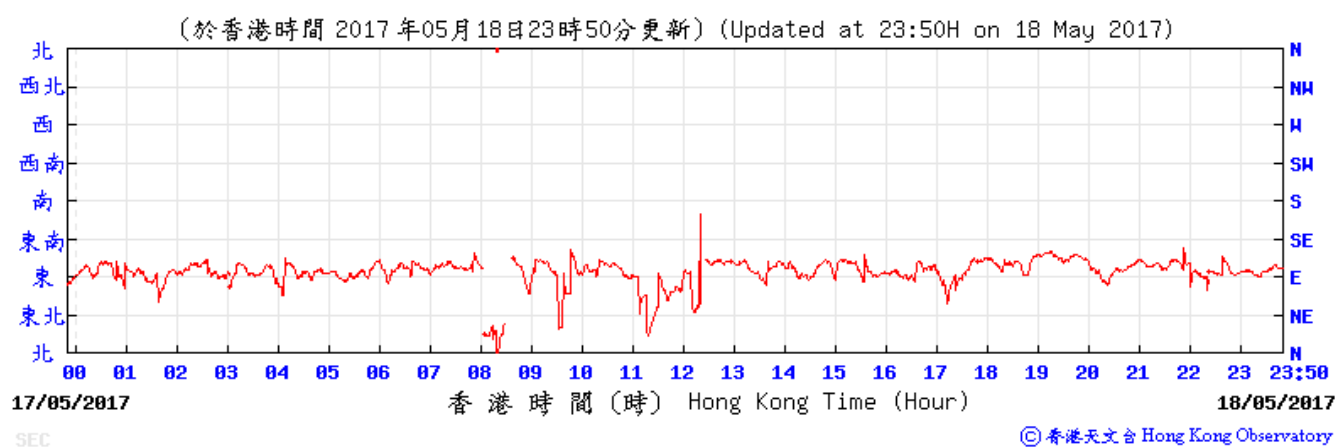
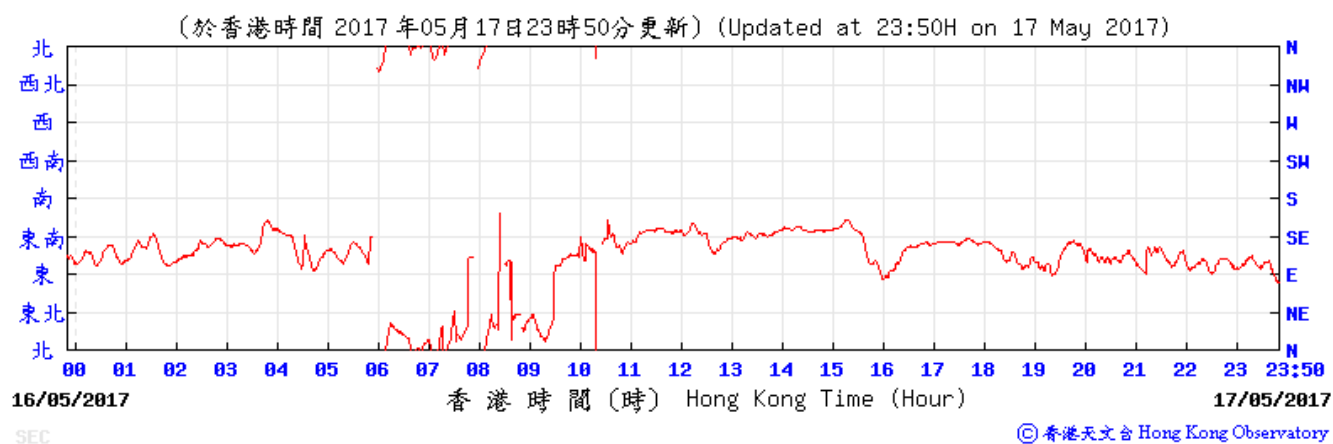
# Wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

11-12 May 2017



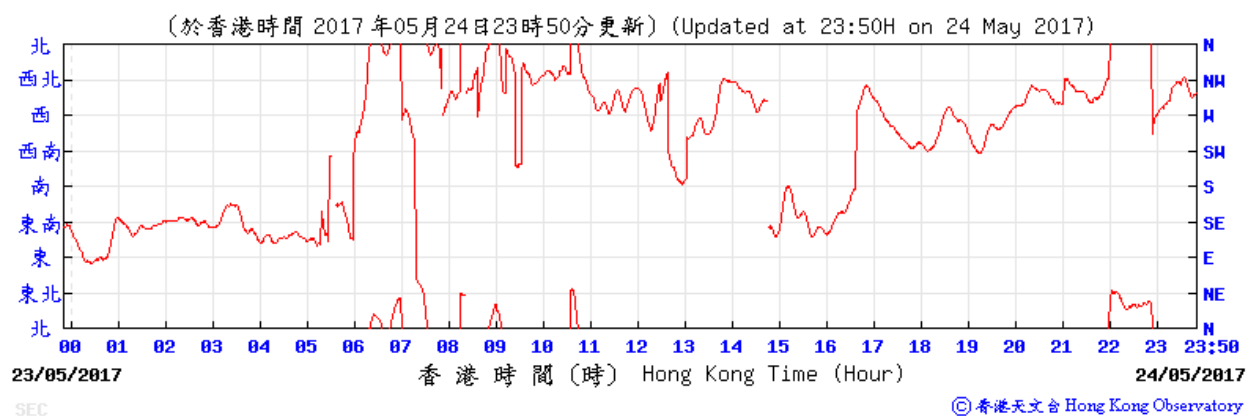
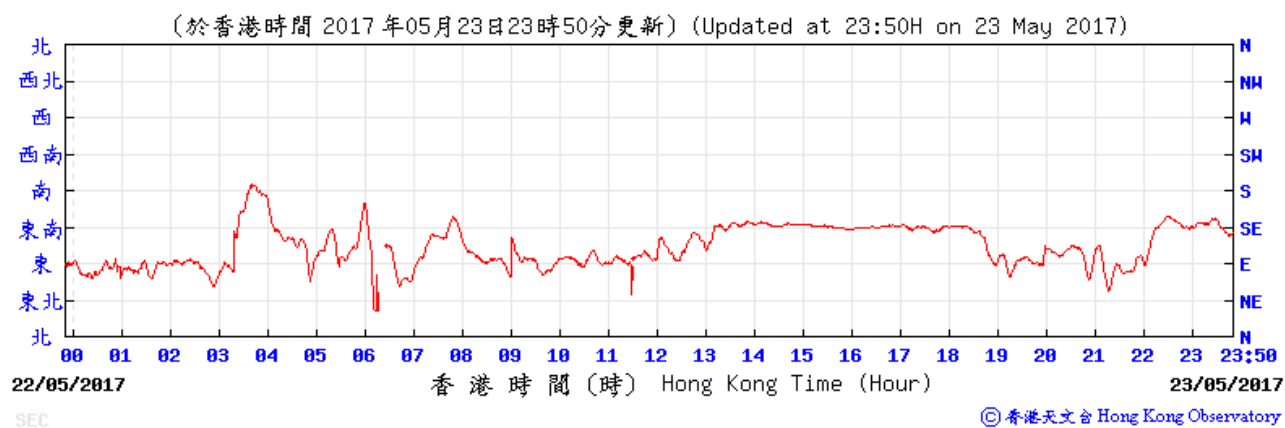
# Wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

17-18 May 2017



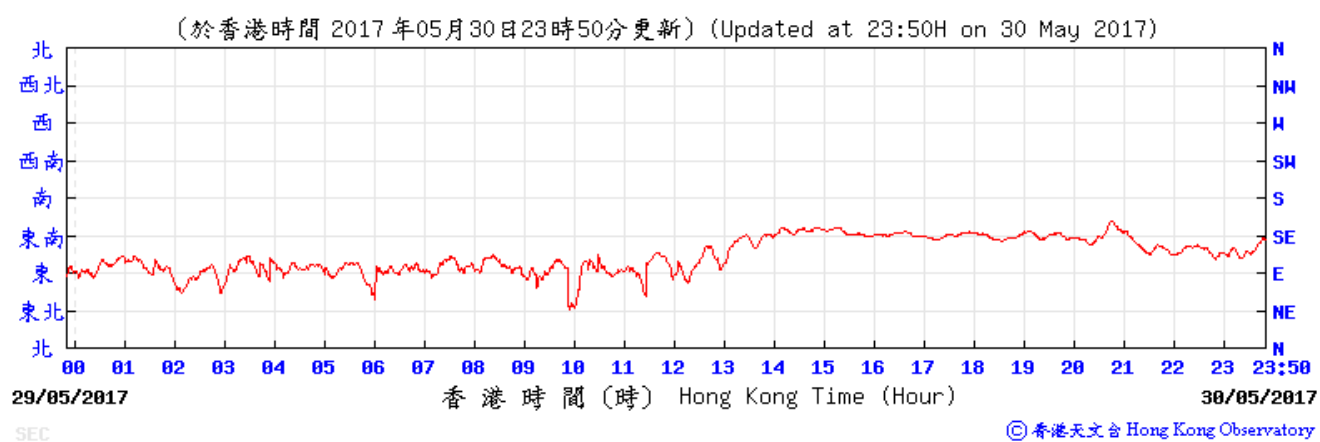
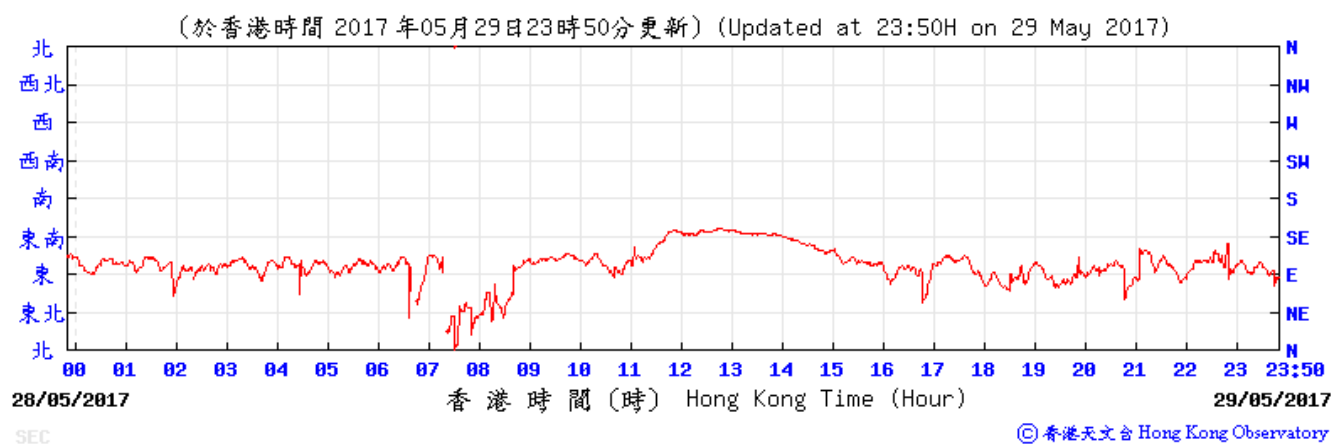
# Wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

23-24 May 2017



# Wind direction obtained from the meteorological station at Kai Tak from the Hong Kong Observatory (HKO)

29-30 May 2017



---

---

**APPENDIX F  
NOISE MONITORING RESULTS AND  
GRAPHICAL PRESENTATIONS**

---

---



## Appendix F - Noise Monitoring Results

| Location NMS-CA-4(1)/NMS-CA-3(2) - Block 1, Rhythm Garden (north-eastern façade) |         |       |                      |                 |                 |                 |                 |                          |
|--|---------|-------|----------------------|-----------------|-----------------|-----------------|-----------------|--------------------------|
| Date   | Weather | Time  | Unit: dB (A) (5-min) |                 |                 | Average         | Baseline Level  | Construction Noise Level |
|  |         |       | L <sub>eq</sub>      | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>eq</sub> | L <sub>eq</sub>          |
| 2-May-17   | Sunny   | 11:20 | 71.4                 | 73.1            | 69.6            | 71.2            | 71              | 57.7                     |
|  |         | 11:25 | 71.6                 | 73.1            | 70.0            |                 |                 |                          |
|  |         | 11:30 | 71.1                 | 73.3            | 69.7            |                 |                 |                          |
|  |         | 11:35 | 71.2                 | 72.4            | 70.0            |                 |                 |                          |
|  |         | 11:40 | 71.2                 | 72.0            | 70.1            |                 |                 |                          |
|  |         | 11:45 | 70.4                 | 71.4            | 69.1            |                 |                 |                          |
| 8-May-17   | Cloudy  | 11:30 | 71.9                 | 73.5            | 70.0            | 71.9            | 71              | 64.6                     |
|  |         | 11:35 | 71.7                 | 72.7            | 70.4            |                 |                 |                          |
|  |         | 11:40 | 71.1                 | 71.9            | 70.1            |                 |                 |                          |
|  |         | 11:45 | 72.7                 | 74.3            | 70.7            |                 |                 |                          |
|  |         | 11:50 | 72.1                 | 73.2            | 71.0            |                 |                 |                          |
|  |         | 11:55 | 71.5                 | 72.7            | 70.2            |                 |                 |                          |
| 18-May-17  | Cloudy  | 10:35 | 71.5                 | 73.2            | 69.4            | 71.3            | 71              | 59.5                     |
|  |         | 10:40 | 71.4                 | 73.3            | 70.4            |                 |                 |                          |
|  |         | 10:45 | 71.6                 | 72.9            | 69.7            |                 |                 |                          |
|  |         | 10:50 | 71.2                 | 72.5            | 69.5            |                 |                 |                          |
|  |         | 10:55 | 71.3                 | 72.0            | 70.1            |                 |                 |                          |
|  |         | 11:00 | 70.4                 | 71.4            | 69.2            |                 |                 |                          |
| 24-May-17  | Cloudy  | 15:05 | 72.6                 | 74.1            | 71.2            | 71.8            | 71              | 64.1                     |
|  |         | 15:10 | 72.0                 | 73.1            | 70.9            |                 |                 |                          |
|  |         | 15:15 | 71.2                 | 72.6            | 69.7            |                 |                 |                          |
|  |         | 15:20 | 71.3                 | 72.8            | 71.0            |                 |                 |                          |
|  |         | 15:25 | 72.0                 | 74.3            | 71.8            |                 |                 |                          |
|  |         | 15:30 | 71.4                 | 72.6            | 69.2            |                 |                 |                          |
| 31-May-17  | Cloudy  | 10:35 | 72.3                 | 73.4            | 70.9            | 72.4            | 71              | 66.8                     |
|  |         | 10:40 | 72.4                 | 73.6            | 70.1            |                 |                 |                          |
|  |         | 10:45 | 72.5                 | 74.0            | 71.2            |                 |                 |                          |
|  |         | 10:50 | 72.3                 | 73.6            | 71.0            |                 |                 |                          |
|  |         | 10:55 | 72.9                 | 73.8            | 71.1            |                 |                 |                          |
|  |         | 11:00 | 72.0                 | 73.1            | 70.0            |                 |                 |                          |

Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

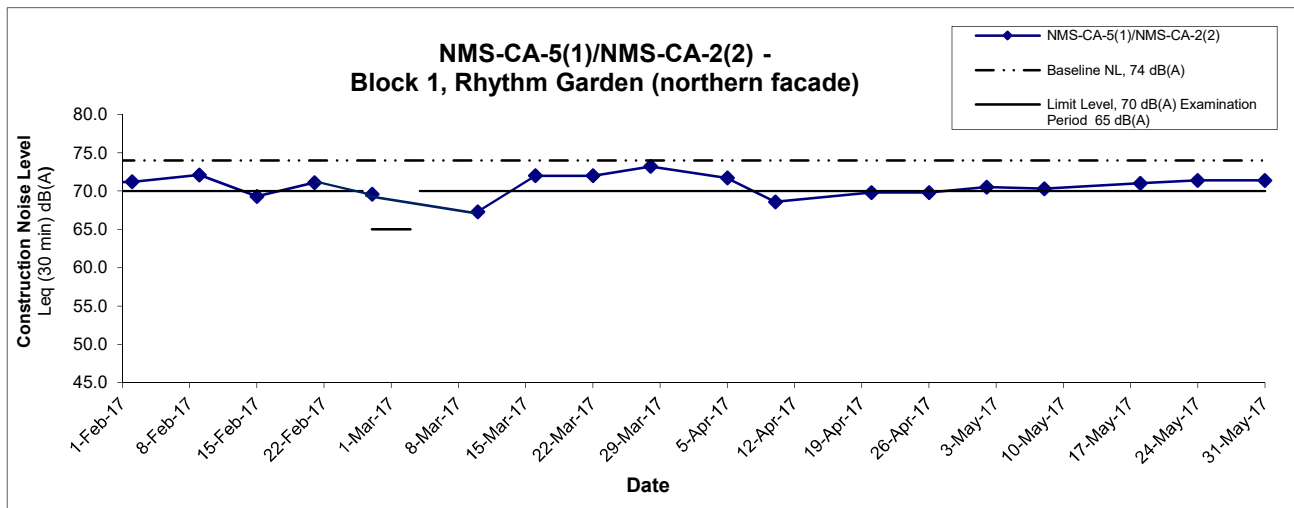
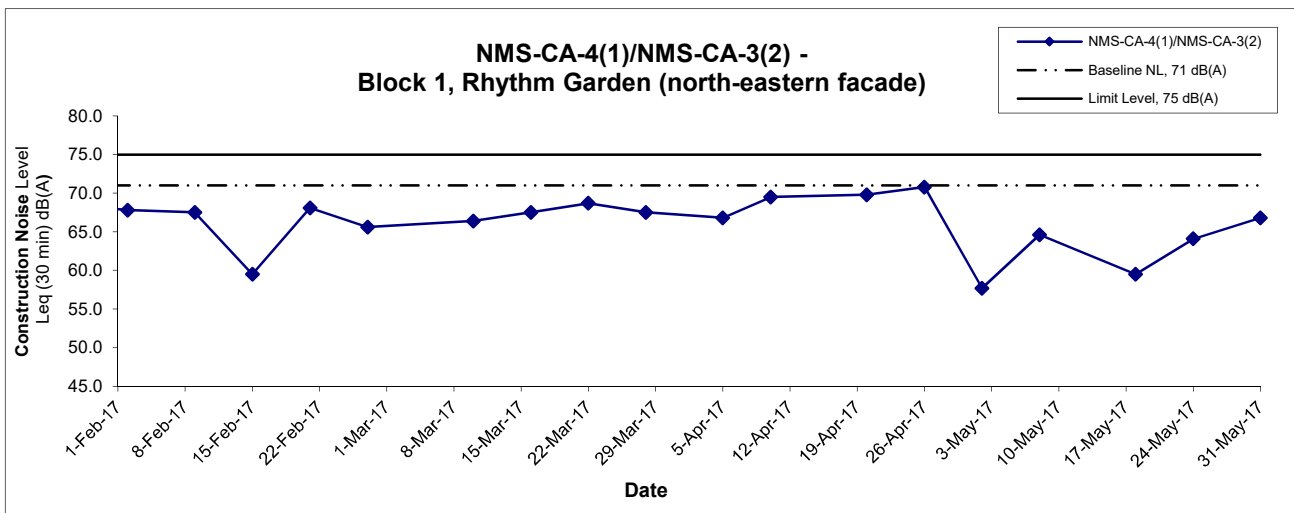
## Appendix F - Noise Monitoring Results

| Location NMS-CA-5(1)/NMS-CA-2(2) - Block 1, Rhythm Garden (northern façade) |         |       |                      |                 |                 |                 |                 |                                |
|---|---------|-------|----------------------|-----------------|-----------------|-----------------|-----------------|--------------------------------|
| Date  | Weather | Time  | Unit: dB (A) (5-min) |                 |                 | Average         | Baseline Level  | Construction Noise Level       |
|   |         |       | L <sub>eq</sub>      | L <sub>10</sub> | L <sub>90</sub> | L <sub>eq</sub> | L <sub>eq</sub> | L <sub>eq</sub>                |
| 2-May-17  | Sunny   | 10:45 | 70.2                 | 71.6            | 68.5            | 70.5            | 74              | 70.5 Measured ≤ Baseline Level |
|   |         | 10:50 | 70.9                 | 72.3            | 69.1            |                 |                 |                                |
|   |         | 10:55 | 69.0                 | 70.1            | 67.8            |                 |                 |                                |
|   |         | 11:00 | 70.5                 | 72.0            | 68.8            |                 |                 |                                |
|   |         | 11:05 | 71.3                 | 72.8            | 69.5            |                 |                 |                                |
|   |         | 11:10 | 70.8                 | 73.0            | 69.1            |                 |                 |                                |
| 8-May-17  | Cloudy  | 10:45 | 70.7                 | 72.0            | 68.6            | 70.3            | 74              | 70.3 Measured ≤ Baseline Level |
|   |         | 10:50 | 69.7                 | 70.8            | 68.3            |                 |                 |                                |
|   |         | 10:55 | 71.2                 | 72.7            | 69.5            |                 |                 |                                |
|   |         | 11:00 | 70.1                 | 71.3            | 68.5            |                 |                 |                                |
|   |         | 11:05 | 69.9                 | 70.9            | 68.8            |                 |                 |                                |
|   |         | 11:10 | 69.7                 | 70.8            | 68.3            |                 |                 |                                |
| 18-May-17   | Cloudy  | 10:00 | 70.3                 | 71.7            | 69.0            | 71.0            | 74              | 71.0 Measured ≤ Baseline Level |
|   |         | 10:05 | 70.8                 | 72.0            | 69.1            |                 |                 |                                |
|   |         | 10:10 | 70.3                 | 71.7            | 69.4            |                 |                 |                                |
|   |         | 10:15 | 71.2                 | 72.3            | 69.5            |                 |                 |                                |
|   |         | 10:20 | 72.0                 | 73.1            | 70.4            |                 |                 |                                |
|   |         | 10:25 | 71.3                 | 72.8            | 69.3            |                 |                 |                                |
| 24-May-17   | Cloudy  | 14:30 | 71.2                 | 72.6            | 69.3            | 71.4            | 74              | 71.4 Measured ≤ Baseline Level |
|   |         | 14:35 | 70.9                 | 72.3            | 69.2            |                 |                 |                                |
|   |         | 14:40 | 71.0                 | 72.1            | 69.8            |                 |                 |                                |
|   |         | 14:45 | 71.5                 | 72.0            | 69.1            |                 |                 |                                |
|   |         | 14:50 | 72.3                 | 73.0            | 70.1            |                 |                 |                                |
|   |         | 14:55 | 71.3                 | 72.9            | 69.5            |                 |                 |                                |
| 31-May-17   | Sunny   | 10:00 | 71.0                 | 72.0            | 69.8            | 71.4            | 74              | 71.4 Measured ≤ Baseline Level |
|   |         | 10:30 | 71.1                 | 72.7            | 68.9            |                 |                 |                                |
|   |         | 10:35 | 71.3                 | 72.5            | 69.1            |                 |                 |                                |
|   |         | 10:40 | 72.0                 | 73.1            | 70.2            |                 |                 |                                |
|   |         | 10:45 | 71.1                 | 72.8            | 69.0            |                 |                 |                                |
|   |         | 10:50 | 71.8                 | 72.4            | 70.1            |                 |                 |                                |

Remarks:

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

## Noise Levels



**Remarks:**

- (1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
- (2) Station ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
- (3) In case of Measured Level  $\leq$  Baseline Level, only Measured Level is presented on the graphical presentation.

|  |                |                        |          |
|--|----------------|------------------------|----------|
| Title    Shatin to Central Link - Contract 1107 - Diamond Hill to Kai Tak Tunnels<br><br>Graphical Presentation of Construction Noise Monitoring Results | Scale<br>N.T.S | Project No.<br>MA13018 | CINOTECH |
|  | Date<br>May 17 | Appendix<br>F          |          |

---

---

**APPENDIX G**  
**SUMMARY OF EXCEEDANCE**

---

---

**APPENDIX G – SUMMARY OF EXCEEDANCE**

**Reporting Month:** May 2017

**a) Exceedance Report for Dust Monitoring (NIL)**

**b) Exceedance Report for Noise Monitoring (NIL)**

---

---

**APPENDIX H**  
**SITE AUDIT SUMMARY**

---

---

*Shatin to Central Link -  
Contract 1107 Diamond Hill to Kai Tak Tunnels*

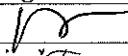

**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |             |
|----------------------------|-------------|
| Checklist Reference Number | 170504      |
| Date                       | 4 May 2017  |
| Time                       | 09:00-09:30 |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations  | Related Item No. |
|------------|---|------------------|
| 170504-R01 | <p><b>Part B - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Air Quality</b></p> <ul style="list-style-type: none"> <li>To provide frequent water spray to unpaved area to avoid dust generation.</li> </ul> <p><b>Part E - Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part G - Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part H - Others</b></p> <ul style="list-style-type: none"> <li>Follow-up action on previous audit section (Ref. No.: 170424), all environmental deficiencies were observed to be rectified/improved by the Contractor.</li> </ul> | D 5              |

|             | Name               | Signature  | Date       |
|-------------|--------------------|--|------------|
| Recorded by | Johnny Fung        |  | 4 May 2017 |
| Checked by  | Dr. Priscilla Choy |   | 4 May 2017 |

*Shatin to Central Link -  
Contract 1107 Diamond Hill to Kai Tak Tunnels*

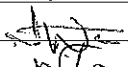
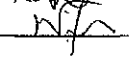
**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |             |
|----------------------------|-------------|
| Checklist Reference Number | 170511      |
| Date                       | 11 May 2017 |
| Time                       | 09:00-09:30 |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations   | Related Item No. |
|------------|--|------------------|
| 170511-R03 | <p><b>Part B - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Air Quality</b></p> <ul style="list-style-type: none"> <li>The stockpiles of dusty material should be covered by impervious material properly to prevent the dust emission.</li> </ul> | D 6              |
| 170511-O01 | <p><b>Part E - Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>The oil leakage was observed from the excavator. The Contractor was reminded to provide the maintenance and clear the oil stain properly.</li> </ul>   | F 9              |
| 170511-O02 | <ul style="list-style-type: none"> <li>The drip tray should be provided for the chemical containers to prevent the chemical spillage in the site.</li> </ul>   | F 10             |
|            | <p><b>Part G - Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part H - Others</b></p> <ul style="list-style-type: none"> <li>Follow-up action on previous audit section (Ref. No.: 170504), all environmental deficiencies were observed to be rectified/improved by the Contractor.</li> </ul>  |                  |

|             | Name               | Signature   | Date        |
|-------------|--------------------|---|-------------|
| Recorded by | Janet Wai          |  | 11 May 2017 |
| Checked by  | Dr. Priscilla Choy |  | 11 May 2017 |



*Shatin to Central Link -  
Contract 1107 Diamond Hill to Kai Tak Tunnels*

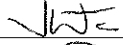

**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |             |
|----------------------------|-------------|
| Checklist Reference Number | 170518      |
| Date                       | 18 May 2017 |
| Time                       | 09:00-09:30 |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations   | Related Item No. |
|------------|--|------------------|
| 170518-R02 | <p><b>Part B - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Air Quality</b></p> <ul style="list-style-type: none"> <li>The stockpiles of dusty material should be covered by impervious material properly to prevent the dust emission.</li> </ul>   | D 6              |
| 170518-O01 | <p><b>Part E - Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>The drip tray should be provided for the chemical containers to prevent the chemical spillage in the site.</li> </ul> <p><b>Part G - Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part H - Others</b></p> <ul style="list-style-type: none"> <li>Follow-up action on previous audit section (Ref. No.: 170511), item 170511-O02 &amp; 170511-R03 were remarked as 170518-O01 &amp; 170518-R02 and should be reviewed during next site inspection.</li> </ul> | F 10             |

|             | Name               | Signature   | Date        |
|-------------|--------------------|---|-------------|
| Recorded by | Janet Wai          |  | 18 May 2017 |
| Checked by  | Dr. Priscilla Choy |  | 18 May 2017 |

*Shatin to Central Link -*

*Contract 1107 Diamond Hill to Kai Tak Tunnels*

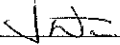

**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |             |
|----------------------------|-------------|
| Checklist Reference Number | 170525      |
| Date                       | 25 May 2017 |
| Time                       | 09:30-10:00 |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations  | Related Item No. |
|------------|---|------------------|
| 170525-001 | <p><b>Part B - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>The chemical containers should be provided with the drip tray to prevent the chemical spillage in the site.</li> </ul> <p><b>Part G - Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part H - Others</b></p> <ul style="list-style-type: none"> <li>Follow-up action on previous audit section (Ref. No.: 170518), item 170518-001 was remarked as 170525-001 and should be reviewed during next site inspection.</li> </ul> | F 10             |

|             | Name               | Signature   | Date        |
|-------------|--------------------|---|-------------|
| Recorded by | Janet Wai          |  | 25 May 2017 |
| Checked by  | Dr. Priscilla Choy |  | 25 May 2017 |

---

---

**APPENDIX I  
EVENT AND ACTION PLANS**

---

---

**Appendix I - Event and Action Plan for Noise Monitoring during Construction Phase**

| EVENT        | ACTION  |  |   |   |
|--------------|---|--|---|---|
|              | Works Contract 1107 ET  | IEC  | ER  | CONTRACTOR  |
| Action Level | <ol style="list-style-type: none"> <li>1. Notify the IEC, Contractor and ER</li> <li>2. Discuss with the ER, IEC and Contractor on the remedial measures required</li> <li>3. Increase monitoring frequency to check mitigation effectiveness</li> </ol>  | <ol style="list-style-type: none"> <li>1. Review the investigation results submitted by the contractor;</li> <li>2. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of complaint in writing</li> <li>2. Notify the Contractor, IEC and ET</li> <li>3. Review and agree on the remedial measures proposed by the Contractor;</li> <li>4. Supervise implementation of remedial measures</li> </ol>  | <ol style="list-style-type: none"> <li>1. Investigate the complaint and propose remedial measures</li> <li>2. Report the results of investigation to the IEC, ET and ER</li> <li>3. Submit noise mitigation proposals to the ER with copy to the IEC and ET within 3 working days of notification.</li> <li>4. Implement noise mitigation proposals</li> </ol>  |
| Limit Level  | <ol style="list-style-type: none"> <li>1. Notify the IEC, Contractor and EPD</li> <li>2. Repeat measurement to confirm findings</li> <li>3. Increase monitoring frequency</li> <li>4. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</li> <li>5. Arrange meeting with the IEC, Contractor and ER to discuss the remedial measures to be taken;</li> <li>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances</li> <li>7. Assess effectiveness of the Contractor's remedial measures and keep IEC, ER and EPD informed of the results</li> </ol> | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET;</li> <li>2. Check the Contractor's working method;</li> <li>3. Discuss with the ER, ET and Contractor on the potential remedial measures</li> <li>4. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing</li> <li>2. Notify the Contractor, IEC and ET</li> <li>3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>4. Supervise the implementation of remedial measures</li> <li>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</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance</li> <li>2. Take immediate action to avoid further exceedance</li> <li>3. Submit proposals for remedial measures to the ER with copy to the IEC and ET within 3 working days of notification.</li> <li>4. Implement the agreed proposals</li> <li>5. Revise and resubmit proposals if problem still not under control</li> <li>6. Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol> |

**Appendix I - Event and Action Plan for Air Quality Monitoring during Construction Phase**

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

**Appendix I - Event and Action Plan for Air Quality Monitoring during Construction Phase**

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

**Appendix I - Event and Action Plan for Landscape and Visual during Construction Phase**

| EVENT                          | ACTION   |   |   |  |
|--------------------------------|--|---|---|--|
|                                | Works Contract 1107 ET   | IEC   | ER  | CONTRACTOR   |
| Non-conformity on one occasion | <ol style="list-style-type: none"> <li>1. Inform the Contractor, the IEC and the ER</li> <li>2. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>3. Monitor remedial actions until rectification has been completed</li> </ol>  | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET, ER and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of non-conformity in writing</li> <li>2. Review and agree on the remedial measures proposed by the Contractor;</li> <li>3. Supervise implementation of remedial measures</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify Source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement</li> </ol>   |
| Repeated Non-conformity        | <ol style="list-style-type: none"> <li>1. Identify Source</li> <li>2. Inform the Contractor, the IEC and the ER</li> <li>3. Increase inspection frequency</li> <li>4. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>5. Monitor remedial actions until rectification has been completed</li> <li>6. If non-conformity stops, cease additional monitoring</li> </ol> | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> </ol>      | <ol style="list-style-type: none"> <li>1. Notify the Contractor</li> <li>2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>3. Supervise implementation of remedial measures.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Identify Source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by the ER until the non-conformity is abated.</li> </ol> |

---

---

**APPENDIX J  
UPDATED ENVIRONMENTAL  
MITIGATION IMPLEMENTATION  
SCHEDULE**

---

---



**SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule**

| EIA Ref.  | EM&A<br><br>Log<br><br>Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status                       |
|---|----------------------------|--|--|---|-----------------------------|---------------------------------------|--|------------------------------|
| <b><i>Landscape &amp; Visual (Construction Phase)</i></b> |                            |  |  |   |                             |                                       |  |                              |
| S6.12   | LV1                        | <p>The following good site practices and measures for minimisation and avoidance of potential impacts are recommended:</p> <p><u>Re-use of Existing Soil</u></p> <ul style="list-style-type: none"> <li>• For soil conservation, existing topsoil shall be re-used where possible for new planting areas within the project. The construction program shall consider using the soil removed from one phase for backfilling another. Suitable storage ground, gathering ground and mixing ground may be set up on-site as necessary.</li> </ul> <p><u>No-intrusion Zone</u></p> <ul style="list-style-type: none"> <li>• To maximize protection to existing trees, ground vegetation and the associated under storey habitats, construction contracts may designate “No-intrusion Zone” to various areas within the site boundary with rigid and durable fencing for each individual no-intrusion zone. The contractor should closely monitor and restrict the site working staff from entering the “no-intrusion zone”, even for indirect construction activities and storage of equipment.</li> </ul> <p><u>Protection of Retained Trees</u></p> <ul style="list-style-type: none"> <li>• All retained trees should be recorded photographically at the commencement of the Contract, and carefully protected during the construction period. Detailed tree protection specification shall</li> </ul> | Minimize visual & landscape impact   | Contractor                              | Within Project Site         | Construction stage                    | •TM-EIAO   | <p>N/A</p> <p>^</p> <p>^</p> |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref.  | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address                 | Who to implement the measures? | Location of the measures | When to Implement the measures?        | What requirements or standards for the measures to achieve?   | Status                    |
|-----------|--------------|--|---|--------------------------------|--------------------------|--|---|---------------------------|
|           |              | <p>be allowed and included in the Contract Specification, which specifying the tree protection requirement, submission and approval system, and the tree monitoring system.</p> <ul style="list-style-type: none"> <li>The Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works sites.</li> </ul>  |   |                                |                          |  |   | ^                         |
| Table 6.9 | LV2          | <p><u>Decorative Hoarding</u></p> <ul style="list-style-type: none"> <li>Erection of decorative screen during construction stage to screen off undesirable views of the construction site for visual and landscape sensitive areas. Hoarding should be designed to be compatible with the existing urban context.</li> </ul> <p><u>Management of facilities on work sites</u></p> <ul style="list-style-type: none"> <li>To provide proper management of the facilities on the sites, give control on the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs.</li> </ul> <p><u>Tree Transplanting</u></p> <ul style="list-style-type: none"> <li>Trees of medium to high survival rate that would be affected by the works shall be transplanted where possible and practicable. Tree transplanting proposal including final location for transplanted trees shall be submitted separately to seek relevant government department's approval, in accordance with ETWB</li> </ul> | Minimize the visual and landscape impact of the Project during construction phase | Contractor                     | Within Project Site      | Detailed design and construction stage | <ul style="list-style-type: none"> <li>EIAO – TM</li> <li>ETWB TCW 2/2004</li> <li>ETWB TCW 3/2006</li> </ul> | N/A<br><br>N/A<br><br>N/A |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref.                                       | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?                   | Status |
|--|--------------------|---|--|---|-----------------------------|---------------------------------------|--|--------|
|  |                    | TCW No 3/2006.  |  |   |                             |                                       |  |        |
| <b><i>Air Quality (Construction Phase)</i></b> |                    |   |  |   |                             |                                       |  |        |
| /  | A1                 | Emission from Vehicles and Plants <ul style="list-style-type: none"> <li>• All vehicles shall be shut down in intermittent use.</li> <li>• Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.</li> <li>• All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD)</li> </ul> | Reduce air pollution<br>emission from construction<br>vehicles and plants  | Contractor                              | All construction<br>sites   | Construction<br>stage                 | • APCO   | ^      |
| /  | A2                 | Open burning shall be prohibited  | Reduce air pollution<br>emission from work site                            | Contractor                              | All construction<br>sites   | Construction<br>stage                 | • APCO   | ^      |
| <b><i>Construction Dust Impact</i></b>         |                    |   |  |   |                             |                                       |  |        |
| S7.6.6   | D1                 | The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation   | Minimize dust impact at the<br>nearby sensitive receivers                  | Contractor                              | All Construction<br>Sites   | Construction<br>stage                 | • APCO<br><br>• To control the dust<br>impact to meet<br>HKAQO and TM-<br>EIA criteria | ^      |
| S7.6.6   | 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 road 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      | Minimize dust impact at the<br>nearby sensitive receivers                  | Contractor                              | All Construction<br>Sites   | Construction<br>stage                 | • APCO<br><br>• To control the dust<br>impact to meet<br>HKAQO and TM-<br>EIA criteria | *      |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?   | Status  |
|----------|--------------------|--|--|---|-----------------------------|---------------------------------------|--|---|
|          |                    | an equivalent intensity of no less than 1.8 L/m <sup>2</sup> to achieve the dust removal efficiency  |  |   |                             |                                       |  |   |
| S7.6.6   | D3                 | <ul style="list-style-type: none"> <li>• Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</li> <li>• Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>• A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones.</li> <li>• The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;</li> <li>• 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;</li> <li>• 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</li> </ul> | Minimize dust impact at the nearby sensitive receivers                     | Contractor                              | All Construction Sites      | Construction stage                    | <ul style="list-style-type: none"> <li>• APCO</li> <li>• To control the dust impact to meet HKAQO and TM-EIA criteria</li> </ul> | <p>*</p> <p>^</p> <p>^</p> <p>N/A</p> <p>^</p> <p>N/A</p> |

### SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status   |
|----------|--------------------|---|--|---|-----------------------------|---------------------------------------|--|--|
|          |                    | <p>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;</p> <ul style="list-style-type: none"> <li>• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;</li> <li>• Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously;</li> <li>• Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;</li> <li>• Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;</li> <li>• Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">N/A</p> <p style="text-align: center;">N/A</p> |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref.                           | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures                        | When to Implement the measures? | What requirements or standards for the measures to achieve? | Status |
|------------------------------------|--------------|---|---|--------------------------------|---|---------------------------------|---|--------|
|                                    |              | <ul style="list-style-type: none"> <li>• Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;</li> <li>• 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;</li> <li>• 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</li> <li>• 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.</li> </ul> |   |                                |   |                                 |   | N/A    |
| S7.6.6                             | D4           | Implement regular dust monitoring under EM&A programme during the construction stage.   | Monitoring of dust impact   | Contractor                     | Selected representative dust monitoring station | Construction stage              | • TM-EIA  | ^      |
| <b>Construction Airborne Noise</b> |              |   |   |                                |   |                                 |   |        |
| S8.5.6                             | AN1          | Implement the following good site practices: <ul style="list-style-type: none"> <li>• only well-maintained plant should be operated on-site and plant</li> </ul>  | Control construction airborne                                     | Contractor                     | All Construction Sites where                    | Construction stage              | • Annex 5, TM-EIA   | ^      |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address                | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status                              |
|----------|--------------------|---|---|---|-----------------------------|---------------------------------------|--|-------------------------------------|
|          |                    | <p>should be serviced regularly during the construction programme;</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;</li> <li>• silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> <li>• mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>• material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul> | noise   |   | practicable                 |                                       |  | ^<br><br>^<br><br>^<br>^<br><br>N/A |
|          | AN2                | 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 construction period.  | Reduce the construction noise levels at low-level zone of NSRs through partial screening. | Contractor                              | All Construction Sites      | Construction stage                    | • Annex 5, TM-EIA  | ^                                   |
| S8.5.6   | AN3                | 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   | Screen the noisy plant items to be used at all  | Contractor                              | All Construction Sites      | Construction stage                    | • Annex 5, TM-EIA  | ^                                   |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref.                                  | EM&A Log Ref | Recommended Mitigation Measures   | Objectives of the recommended Measures & Main Concerns to address                                  | Who to implement the measures? | Location of the measures                         | When to Implement the measures? | What requirements or standards for the measures to achieve?  | Status |
|---|--------------|---|--|--------------------------------|--|---------------------------------|--|--------|
|   |              | plants including air compressor, generators and saw.  | construction sites   |                                |  |                                 |  |        |
| S8.5.6                                    | AN4          | Use "Quiet" plant   | Reduce the noise levels of plant items   | Contractor                     | All Construction Sites where practicable         | Construction stage              | • Annex 5, TM-EIA  | N/A    |
| S8.5.6                                    | AN5          | Sequencing operation of construction plants where practicable.  | Operate sequentially within the same work site to reduce the construction airborne noise           | Contractor                     | All Construction Sites where practicable         | Construction stage              | • Annex 5, TM-EIA  | ^      |
| S8.5.6                                    | AN6          | Implement a noise monitoring under EM&A programme.  | Monitor the construction noise levels at the selected representative locations                     | Contractor                     | Selected representative noise monitoring station | Construction stage              | • TM-EIA   | ^      |
| <b>Water Quality (Construction Phase)</b> |              |   |  |                                |  |                                 |  |        |
| S10.7.1                                   | W1           | In accordance with the Practice Noise for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following:<br><u>Construction Runoff and Site Drainage</u><br><ul style="list-style-type: none"> <li>At the start of site establishment (including the barging facilities), perimeter cut-off drains to direct off-site water around the site</li> </ul> | To minimize water quality impact from construction site runoff and general construction activities | Contractor                     | All construction sites where practicable         | Construction stage              | <ul style="list-style-type: none"> <li>Water Pollution Control Ordinance</li> <li>ProPECC PN1/94</li> <li>TM-EIAO</li> <li>TM-Water</li> </ul> | ^      |



## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status |
|----------|--------------------|--|--|---|-----------------------------|---------------------------------------|--|--------|
|          |                    | <p>should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction.</p> <ul style="list-style-type: none"> <li>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<sup>3</sup>/s a sedimentation basin of 30m<sup>3</sup> would be required and for a flow rate of 0.5 m<sup>3</sup>/s the basin would be 150 m<sup>3</sup>. The detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction.</li> </ul> |  |   |                             |                                       |  | ^      |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status  |
|----------|--------------------|---|--|---|-----------------------------|---------------------------------------|--|---|
|          |                    | <ul style="list-style-type: none"> <li>• All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means.</li> <li>• The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows.</li> <li>• All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.</li> <li>• Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">^</p> <p style="text-align: center;">N/A</p> <p style="text-align: center;">^</p> <p style="text-align: center;">N/A</p> |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status  |
|----------|--------------------|---|--|---|-----------------------------|---------------------------------------|--|---|
|          |                    | <p>silt removal facilities.</p> <ul style="list-style-type: none"> <li>• Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m<sup>3</sup> should be covered with tarpaulin or similar fabric during rainstorms.</li> <li>• 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</li> <li>• Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes</li> <li>• All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing 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</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status  |
|----------|--------------------|--|--|---|-----------------------------|---------------------------------------|--|---|
|          |                    | <p>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.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.</li> <li>• All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby</li> <li>• All the earth works involving should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">N/A</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address  | Who to implement the measures? | Location of the measures     | When to Implement the measures? | What requirements or standards for the measures to achieve?   | Status              |
|----------|--------------|--|--|--------------------------------|------------------------------|---------------------------------|---|---------------------|
|          |              | <ul style="list-style-type: none"> <li>Adopt best management practices.</li> </ul>   |  |                                |                              |                                 |   | ^                   |
| S10.7.1  | W2           | <u>Tunneling Works</u> <ul style="list-style-type: none"> <li>Cut-&amp;-cover/ open cut tunnelling work should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.</li> <li>Uncontaminated discharge should pass through sedimentation tanks prior to off-site discharge</li> <li>The wastewater with a high concentration of SS should be treated (e.g. by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater.</li> <li>Direct discharge of the bentonite slurry (as a result of D-wall and bored tunnelling construction) is not allowed. It 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 are completed. The requirements in ProPECC PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.</li> </ul> | To minimize construction water quality impact from tunneling works | Contractor                     | All tunneling portion        | Construction stage              | <ul style="list-style-type: none"> <li>Water Pollution Control Ordinance</li> <li>ProPECC PN 1/94</li> <li>TM-water</li> <li>TM-EIAO</li> </ul> | ^<br><br>^<br><br>^ |
| S10.7.1  | W3           | <u>Sewage Effluent</u> <ul style="list-style-type: none"> <li>Portable chemical toilets and sewage holding tanks are</li> </ul>  | To minimize water quality from sewage effluent                     | Contractor                     | All construction sites where | Construction stage              | <ul style="list-style-type: none"> <li>Water Pollution Control Ordinance</li> </ul>   | ^                   |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref.                                     | EM&A<br>Log<br>Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures              | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?   | Status                                |
|--|--------------------|--|--|---|--|---------------------------------------|--|---------------------------------------|
|  |                    | recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.  |  |   | practicable                              |                                       | • TM-water   |                                       |
| S10.7.1                                      | W5                 | <p><u>Accidental Spillage</u></p> <p>In order to prevent accidental spillage of chemicals, the following is recommended:</p> <ul style="list-style-type: none"> <li>• Proper storage and handling facilities should be provided;</li> <li>• 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;</li> <li>• 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; and</li> <li>• Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation.</li> </ul> | To minimize water quality impact from accidental spillage                  | Contractor                              | All construction sites where practicable | Construction stage                    | <ul style="list-style-type: none"> <li>• Water Pollution Control Ordinance</li> <li>• ProPECC PN1/94</li> <li>• TM-EIAO</li> <li>• TM-Water</li> </ul> | <p>^</p> <p>^</p> <p>^</p> <p>N/A</p> |
| <b>Waste Management (Construction Waste)</b> |                    |  |  |   |  |                                       |  |                                       |
| S11.4.1.1                                    | WM1                | <p><u>On-site sorting of C&amp;D material</u></p> <ul style="list-style-type: none"> <li>• Geological assessment should be carried out by competent persons on site during excavation to identify materials which are</li> </ul>   | Separation of unsuitable rock from ending up at concrete batching plants   | Contractor                              | All construction sites                   | Construction stage                    | • DEVB TC(W) No. 6/2010  | ^                                     |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address                             | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status  |
|----------|--------------------|---|--|---|-----------------------------|---------------------------------------|--|---|
|          |                    | <p>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 at designated stockpile areas preventing them from delivering to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from ended up at concrete batching plants and be turned into concrete for structural use. Details regarding control measures at source site 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 and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced 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.</p> | <p>and be turned into concrete for structural use</p>  |   |                             |                                       |  |   |
| S11.5.1  | WM2                | <p><u>Construction and Demolition Material</u></p> <ul style="list-style-type: none"> <li>• Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>• Carry out on-site sorting;</li> </ul>   | <p>Good site practice to minimize the waste generation and recycle the C&amp;D materials as far as</p> | Contractor                              | All construction sites      | Construction stage                    | <p>• Land (Miscellaneous Provisions) Ordinance</p>                   | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address  | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?  | Status                                  |
|----------|--------------------|--|---|---|-----------------------------|---------------------------------------|---|---|
|          |                    | <ul style="list-style-type: none"> <li>• Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> <li>• Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;</li> <li>• Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified; and</li> <li>• 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&amp;D materials and to minimize their generation during the course of construction.</li> <li>• In addition, disposal of the C&amp;D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and EPD and get their approval before implementation</li> </ul> | practicable so as to reduce<br>the amount for final<br>disposal   |   |                             |                                       | <ul style="list-style-type: none"> <li>• Waste Disposal Ordinance</li> <li>• ETWB TCW No. 19/2005</li> </ul>                      | ^<br><br>N/A<br><br>^<br><br>^<br><br>^ |
| S11.5.1  | WM3                | <u>C&amp;D Waste</u> <ul style="list-style-type: none"> <li>• Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&amp;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, as in other projects. Metal</li> </ul>  | Good site practice to<br>minimize the waste<br>generation and recycle the<br>C&D materials as far as<br>practicable so as to reduce<br>the amount for final | Contractor                              | All construction sites      | Construction stage                    | <ul style="list-style-type: none"> <li>• Land (Miscellaneous Provisions) Ordinance</li> <li>• Waste Disposal Ordinance</li> </ul> | ^                                       |



## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address         | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?       | Status              |
|----------|--------------------|---|--|---|-----------------------------|---------------------------------------|--|---------------------|
|          |                    | <p>hoarding should be used to enhance the possibility of recycling.</p> <p>The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage.</p> <ul style="list-style-type: none"> <li>The Contractor should recycle as much of the C&amp;D materials as possible on-site. Public fill and C&amp;D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal.</li> </ul> <p>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.</p> | disposal   |   |                             |                                       | <ul style="list-style-type: none"> <li>ETWB TCW No.19/2005</li> </ul>      | ^                   |
| S11.5.1  | WM4                | <p><u>General Refuse</u></p> <ul style="list-style-type: none"> <li>General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>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.</li> <li>Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily</li> </ul>  | Minimize production of the general refuse and avoid odour, pest and litter impacts | Contractor                              | All construction sites      | Construction stage                    | <ul style="list-style-type: none"> <li>Waste Disposal Ordinance</li> </ul> | ^<br><br>^<br><br>^ |



## SCL Works Contract 1107 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log<br>Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status |
|----------|--------------------|---|--|---|-----------------------------|---------------------------------------|--|--------|
|          |                    | <p>that area, whichever is the greatest; have adequate ventilation; be covered to prevent rainfall entering; and be arranged so that incompatible materials are adequately separated.</p> <ul style="list-style-type: none"> <li>• Disposal of chemical waste should be via a licensed waste collector; and be 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 be to a reuser of the waste, under approval from the EPD.</li> </ul> |  |   |                             |                                       |  | N/A    |

Remarks:    ^    Compliance of mitigation measure                      X    Non-compliance of mitigation measure

- Non-compliance but rectified by the contractor
- \*    Recommendation was made during site audit but improved/rectified by the contractor.

N/A    Not Applicable

---

---

**APPENDIX K  
WASTE GENERATION IN THE  
REPORTING MONTH**

---

---

**CW - SELI Joint Venture**

Name of Department: MTRC

Contract No.:1107

AppendixC1

**Monthly Summary Waste Flow Table for 2017**

| Year         | Estimated Quantities of Inert C&D Materials (in '000m <sup>3</sup> ) (see Note 4) |              |                                  |              |                        |              |                          |              |                         |              | Estimated Quantities of C&D Wastes |              |                           |              |                       |              |                |              |                             |              |              |              |
|--------------|---|--------------|----------------------------------|--------------|------------------------|--------------|--------------------------|--------------|-------------------------|--------------|------------------------------------|--------------|---------------------------|--------------|-----------------------|--------------|----------------|--------------|-----------------------------|--------------|--------------|--------------|
|              | Total Quantity Generated  |              | Suitable for Recycled Aggregates |              | Reused in the Contract |              | Reused in other Projects |              | Disposed as Public Fill |              | Metals                             |              | Paper/cardboard packaging |              | Plastics (see Note 3) |              | Chemical Waste |              | Others, e.g. general refuse |              |              |              |
|              | (a)   |              | (b)                              |              | (c)                    |              | (d)                      |              | (e=a-b-c-d)             |              | (in '000kg)                        |              | (in '000kg)               |              | (in '000kg)           |              | (in '000litre) |              | (in '000 tonne)             |              |              |              |
|              | Est.  | Act.         | Est.                             | Act.         | Est.                   | Act.         | Est.                     | Act.         | Est.                    | Act.         | Est.                               | Act.         | Est.                      | Act.         | Est.                  | Act.         | Est.           | Act.         | Est.                        | Act.         |              |              |
| January      | 0.050   | 0.035        | 0.000                            | 0.000        | 0.000                  | 0.000        | 0.000                    | 0.000        | 0.000                   | 0.050        | 0.035                              | 0.000        | 0.000                     | 0.100        | 0.000                 | 0.000        | 0.000          | 0.000        | 0.000                       | 0.100        | 0.005        |              |
| February     | 0.050   | 0.015        | 0.000                            | 0.000        | 0.010                  | 0.000        | 0.000                    | 0.000        | 0.040                   | 0.015        | 0.000                              | 0.000        | 0.100                     | 0.242        | 0.000                 | 0.000        | 0.000          | 0.000        | 0.000                       | 0.100        | 0.025        |              |
| March        | 0.050   | 0.000        | 0.000                            | 0.000        | 0.000                  | 0.000        | 0.000                    | 0.000        | 0.050                   | 0.000        | 0.000                              | 0.000        | 0.100                     | 0.000        | 0.000                 | 0.000        | 0.000          | 0.000        | 0.000                       | 0.100        | 0.025        |              |
| April        | 0.050   | 0.000        | 0.000                            | 0.000        | 0.000                  | 0.000        | 0.000                    | 0.000        | 0.050                   | 0.000        | 0.000                              | 0.000        | 0.100                     | 0.000        | 0.000                 | 0.000        | 0.100          | 0.000        | 0.100                       | 0.010        | 0.000        |              |
| May          | 0.050   | 0.000        | 0.000                            | 0.000        | 0.000                  | 0.000        | 0.000                    | 0.000        | 0.050                   | 0.000        | 0.000                              | 0.000        | 0.100                     | 0.170        | 0.000                 | 0.000        | 0.000          | 0.000        | 0.000                       | 0.100        | 0.025        |              |
| June         | 0.050   |              | 0.000                            |              | 0.020                  |              | 0.000                    |              | 0.030                   |              | 0.000                              |              | 0.100                     |              | 0.000                 |              | 0.000          |              | 0.000                       | 0.100        |              |              |
| July         | 0.050   |              | 0.000                            |              | 0.020                  |              | 0.000                    |              | 0.030                   |              | 0.000                              |              | 0.100                     |              | 0.100                 |              | 0.000          |              | 0.000                       | 0.100        |              |              |
| August       | 0.050   |              | 0.000                            |              | 0.000                  |              | 0.000                    |              | 0.050                   |              | 0.000                              |              | 0.100                     |              | 0.000                 |              | 0.000          |              | 0.000                       | 0.100        |              |              |
| September    | 0.050   |              | 0.000                            |              | 0.000                  |              | 0.000                    |              | 0.050                   |              | 0.000                              |              | 0.100                     |              | 0.000                 |              | 0.000          |              | 0.000                       | 0.100        |              |              |
| October      | 0.050   |              | 0.000                            |              | 0.000                  |              | 0.000                    |              | 0.050                   |              | 1.000                              |              | 0.100                     |              | 0.000                 |              | 0.000          |              | 0.000                       | 0.100        |              |              |
| November     | 0.050   |              | 0.000                            |              | 0.000                  |              | 0.000                    |              | 0.050                   |              | 0.000                              |              | 0.100                     |              | 0.000                 |              | 0.100          |              | 0.000                       | 0.100        |              |              |
| December     | 0.050   |              | 0.000                            |              | 0.000                  |              | 0.000                    |              | 0.050                   |              | 0.000                              |              | 0.100                     |              | 0.100                 |              | 0.000          |              | 0.000                       | 0.100        |              |              |
| <b>Total</b> | <b>0.600</b>  | <b>0.050</b> | <b>0.000</b>                     | <b>0.000</b> | <b>0.050</b>           | <b>0.000</b> | <b>0.000</b>             | <b>0.000</b> | <b>0.550</b>            | <b>0.050</b> | <b>1.000</b>                       | <b>0.000</b> | <b>1.200</b>              | <b>0.412</b> | <b>0.200</b>          | <b>0.000</b> | <b>0.200</b>   | <b>0.000</b> | <b>0.200</b>                | <b>0.000</b> | <b>1.200</b> | <b>0.090</b> |

- Notes:
- (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
  - (3) The quantiles of C&D Materials, in m<sup>3</sup>, was calculated by multiply the no. of truck with the volume of truck, which is 5m<sup>3</sup>.

---

---

**APPENDIX L  
CUMULATIVE LOG FOR COMPLAINT  
LOGS, NOTIFICATION OF SUMMONS  
AND SUCCESSFUL PROSECUTIONS**

---

---

**Appendix L - Cumulative Log for Complaints, Notifications of Summons and Successful Prosecutions****Cumulative Complaint Log**

| Complaint Location/ Nature   | Incoming Complaint Reference no. | Complainant/ Date of Contact                              | Details of Complaint   | Investigation/ Mitigation Action   | Status |
|--|----------------------------------|---|--|--|--------|
| SCL Contract 1107's Construction Site near Shaft A/ Construction Noise | 14-29958                         | A resident living in Kai Ching Estate/<br>8 December 2014 | A resident of Kai Ching Estate complained about an incident of construction noise disturbance generated from operation of equipment, at the area adjacent to Shaft A in the night. | <p>The Contractor had taken the following mitigation measures:</p> <ul style="list-style-type: none"> <li>• Hoardings and noise absorption blankets were erected along the site boundary to shield residents of Kai Ching Estate from noisy works during the time of the complaint;</li> <li>• The equipment involved in this complaint: the water pump, was removed immediately after the complaint was received to reduce noise nuisance to nearby noise sensitive receivers;</li> <li>• The low area near shaft A enclosure was backfilled to eliminate the flooding issue, thus the need of the water pump;</li> </ul> | Closed |

|  |                 |  |   |   |               |
|--|-----------------|--|---|---|---------------|
| <p>SCL Contract 1107's Construction Site near Site Entrance/ Construction Noise and Dust</p> | <p>14-31154</p> | <p>A resident living in Kai Ching Estate/<br/>15 December 2014</p> | <p>A resident of Kai Ching Estate complained about the noise disturbance generated from some sort of alarm noise at night from the construction site entrance; and dust nuisance from the construction site in general.</p> | <p>The alarm bell was installed to alert pedestrians of moving vehicles. During the time of complaint, vehicles might had moved in or out of the site, thus triggering the alarm.</p> <p>To avoid the same incident from happening again, the Contractor has agreed to permanently terminate the alarm bell.</p> <p>The Contractor has provided sufficient measures to minimize the smoke and dust emission. These measures include:</p> <ul style="list-style-type: none"> <li>• Covering stockpile of bagged cements and other dusty material with impervious material.</li> <li>• Regularly conducting water spray on work sites and major haul road.</li> <li>• Washing every vehicle leaving the construction site.</li> </ul> <p>The 24-hr TSP level monitoring conducted in December showed that the dust levels at Block 1, Rhythm Garden were under the Action and Limit Levels.</p> | <p>Closed</p> |
|--|-----------------|--|---|---|---------------|



|   |                 |                                |   |  |               |
|---|-----------------|--------------------------------|---|--|---------------|
| <p>SCL Contract 1107's Construction Site/ Construction Noise and Dust</p> | <p>15-04622</p> | <p>N/A /<br/>12 March 2015</p> | <p>A public complaint about noise and dust nuisance from the Kai Tak Development Area was received. Since this Project is within the development area, the complaint was referred to the Contractor of SCL Contract 1107.</p> | <p>The Contractor had implemented appropriate and sufficient measures to minimise the noise and dust nuisance to adjacent sensitive receivers.</p> <p>The noise mitigation measures include:</p> <ul style="list-style-type: none"> <li>• Installing noise absorption blankets on the hoarding at the site boundary near Kai Ching Estate;</li> <li>• Erecting acoustic enclosures to seal up the noisy PME and construction works (see Photo 2) in the shaft.</li> </ul> <p>The dust mitigation measures include:</p> <ul style="list-style-type: none"> <li>• Covering of stockpile of bagged cement and other dusty materials to reduce dust generation.</li> <li>• Water spraying stockpile of dusty materials as well as major haul roads and work sites to keep the surface wet.</li> <li>• Washing every vehicle leaving the construction site.</li> <li>• Regular cleaning of the access roads connecting public roads to vehicle washing areas.</li> </ul> <p>There was also no non-compliance on construction noise and air quality recorded during the site inspections in March.</p> <p>The construction noise and 24-hr TSP level monitoring conducted in March also showed that the noise and dust levels at the monitoring stations were under the Action and Limit Levels.</p> | <p>Closed</p> |
|---|-----------------|--------------------------------|---|--|---------------|

|   |   |  |   |  |   |
|---|---|--|---|--|---|
| <p style="text-align: center;">SCL Contract<br/>1107's<br/>Construction Site/<br/>Construction Noise<br/>and Dust</p> | <p style="text-align: center;">15-13442</p> | <p style="text-align: center;">N/A /<br/>9 June 2015</p> | <p>A public complaint about noise and dust nuisance from the Kai Tak Development Area was received. Since this Project is within the development area, the complaint was referred to the Contractor of SCL Contract 1107.</p> | <p>Investigation conducted by the Contract ET and the results showed that sufficient mitigation measures were provided by the Contractor to minimize the noise and dust nuisance to adjacent sensitive receivers.</p> <p>The noise mitigation measures include:</p> <ul style="list-style-type: none"> <li>• Noise absorption blankets were installed on the hoarding at the site boundary near Kai Ching Estate;</li> <li>• Acoustic enclosures were erected to seal up the noisy PME and construction works in the shaft;</li> <li>• The formwork erection was conducted inside the shaft which shield off the noisy operation.</li> </ul> <p>The dust mitigation measures include:</p> <ul style="list-style-type: none"> <li>• The stockpiles of dusty materials were covered by dust protective screens to reduce dust generation. Uncovered parts of the stockpile were provided with water spray to keep the dusty surface wet to reduce dust emission during stockpiling/backfilling work.</li> <li>• Watering on work sites and major haul roads was implemented regularly as stipulated in the Air Pollution Control Regulation and the Environmental Permit. Watering record is kept at the site entrance for easy inspection;</li> <li>• Vehicle movements were confined to designated haul roads. Automatic sprinkler system was installed at major haul roads to provide regular water spraying to reduce dust emission from vehicle movements;</li> </ul> | <p style="text-align: center;">Closed</p> |
|---|---|--|---|--|---|

|  |          |                    |   |  |        |
|--|----------|--------------------|---|--|--------|
|  |          |                    |   | <ul style="list-style-type: none"> <li>• Hoarding was provided along the entire length of the site boundary and beside roads or areas with public access;</li> <li>• Wheel washing facilities was provided at all vehicle exits and vehicle washing was provided for vehicles leaving the site. Access road leading to and exiting from vehicle washing areas were kept clean to ensure the public roads around site entrances were free from dust;</li> </ul> <p>The construction noise and 24-hr TSP level monitoring conducted in May 2015 also showed that the noise and dust levels at the monitoring stations were under the Action and Limit Levels.</p>  |        |
| SCL Contract 1107's Construction Site/ Construction Noise and Dust | 15-12472 | N/A / 30 June 2015 | <p>A public complaint about dust nuisance and muddy water discharge in the Kai Tak Development Area. Complainant alleged that uncovered dusty materials were found in Kai Tak development area and muddy water was found discharged into Kai Tak nullah.</p> <p>Since this Project is within the development area, the complaint was referred to the Contractor of SCL Contract 1107.</p> | <p>Investigation was conducted by the Contract ET. According to investigation results, the coverage for the stockpile was removed during the backfilling works, while the other parts of the stockpile were covered by dust protective screen. Mitigation measures including providing water spray and installation of waster sprinkler were implemented to keep the uncovered part wet during backfilling. The stockpile was completely covered after work.</p> <p>Wastewater was treated by sedimentation tanks with sufficient retention time before discharge into Kai Tak Nullah. All drainage facilities and erosion and sediment control structures were regularly inspected and maintained to ensure normal operation at</p> | Closed |

|  |          |                           |  |   |        |
|--|----------|---------------------------|--|---|--------|
|  |          |                           |  | all times and during rainstorms. Water sampling was conducted monthly in accordance with the requirement of Effluent Discharge License (License No. WT00015861-2013). The lab test results complied with the conditions set in the Effluent Discharge License during the complaint period.  |        |
| SCL Contract 1107's Construction Site/ Construction Dust | 16-29816 | N/A /<br>16 November 2016 | A public complaint about the construction dust from the construction work which would be affecting the complainant health.<br><br>The complaint was referred to the Contractor of SCL Contract 1107. | Investigation conducted by the Contract ET and the results showed that sufficient mitigation measures were provided by the Contractor to minimize the dust nuisance to adjacent sensitive receivers.<br><br>The dust mitigation measures include: <ul style="list-style-type: none"> <li>• Inactive parts of stockpiles were covered by dust protective screens to minimize potential dust generation. Uncovered parts of the stockpile was compacted and kept wet to reduce dust emission during stockpiling/backfilling work;</li> <li>• Watering on work sites and major haul roads was implemented at least once per hour. Watering record is kept on site for ease of inspection;</li> <li>• Automatic sprinkler system was installed at major haul roads to provide regular water spraying to reduce dust emission from vehicle movements;</li> <li>• Wheel washing facilities was provided at all vehicle exits and site vehicle was fully washed before leaving site. Access road leading to</li> </ul> | Closed |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  | <p>and exiting from vehicle washing areas were kept clean to ensure the public roads around site entrances were free from dust;<br/>The 24-hr TSP level monitoring conducted in November 2016 also showed that the dust levels at the monitoring station were under the Action and Limit Levels.</p> |  |
|--|--|--|--|--|--|

**Cumulative Log for Notifications of Summons**

| Log Ref. | Date/Location | Subject | Status | Total no. Received in this reporting month | Total no. Received since project commencement |
|----------|---------------|---------|--------|--|---|
| --       | --            | --      | --     | --   | --  |

**Cumulative Log for Successful Prosecutions**

| Log Ref. | Date/Location | Subject | Status | Total no. Received in this reporting month | Total no. Received since the commencement of the project |
|----------|---------------|---------|--------|--|--|
| --       | --            | --      | --     | --   | --   |

---

**Appendix F**

**48<sup>th</sup> Monthly EM&A Report for Works Contract 1112 –  
Hung Hom Station and Stabling Sidings**

---

MTR Corporation Limited

**Shatin to Central Link –  
Tai Wai to Hung Hom Section and  
Mong Kok East to Hung Hom Section**

Monthly EM&A Report

[Period from 1 to 31 May 2017]

(June 2017)

Certified by:           Vivian Chan          



Position:           Environmental Team Leader          

Date:           7 June 2017





Member of the Surbana Jurong Group

**48<sup>th</sup> Monthly EM&A Report for May 2017**

# **Shatin to Central Link – Works Contract 1112 Hung Hom Station and Stabling Sidings**

**June 2017**

|                         |   |
|-------------------------|---|
| Project/Deliverable No. | 7076187   D200/01 – Revision No. 2.1  |
| Project Name            | Shatin to Central Link – Works Contract 1112<br>Hung Hom Station and Stabling Sidings |
| Report Name             | 48 <sup>th</sup> Monthly EM&A Report for May 2017                                     |
| Report Date             | June 2017   |
| Report for              | Leighton Contractors (Asia) Limited   |

#### PREPARATION, REVIEW AND AUTHORISATION

| Revision #  | Date      | Prepared by | Reviewed by | Approved by  |
|-------------|-----------|-------------|-------------|--------------|
| 1.0 (Draft) | June 2017 | Joanne PONG | Vivian CHAN | Alexi BHANJA |
| 2.0 (Draft) | June 2017 | Joanne PONG | Vivian CHAN | Alexi BHANJA |
| 2.1 (Final) | June 2017 | Joanne PONG | Vivian CHAN | Alexi BHANJA |
|             |           |             |             |              |

#### ISSUE REGISTER

| Distribution List                   | Date Issued | Number of Copies |
|-------------------------------------|-------------|------------------|
| Leighton Contractors (Asia) Limited | June 2017   | 1 soft copy      |
| MTR Corporation Limited             | June 2017   | 1 soft copy      |
|                                     |             |                  |
| SMEC Project File:                  |             | 1 electronic     |

#### SMEC COMPANY DETAILS

##### SMEC Asia Limited

27/F Ford Glory Plaza, 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

T +852 3995 8100 | F +852 3995 8101

smecasia@smec.com | www.smec.com

The information within this document is and shall remain the property of **SMEC Asia Limited**

# CONTENTS

|   |           |
|---|-----------|
| <b>EXECUTIVE SUMMARY</b> .....  | <b>IV</b> |
| Introduction .....  | iv        |
| Landscape and Visual Monitoring.....                                      | iv        |
| Air Quality Monitoring .....  | iv        |
| Noise Quality Monitoring.....   | iv        |
| Waste Management.....   | iv        |
| Environmental Auditing .....  | v         |
| Compliant, Notification of Summons and Successful Prosecution .....       | v         |
| Future Key Issues .....   | v         |
| <b>1 INTRODUCTION</b> .....   | <b>6</b>  |
| 1.1 Project Background .....  | 6         |
| 1.2 Purpose of the Report .....   | 6         |
| 1.3 Report Structure.....   | 6         |
| <b>2 PROJECT INFORMATION</b> .....  | <b>7</b>  |
| 2.1 General Site Description .....  | 7         |
| 2.2 Construction Programme and Activities .....                           | 8         |
| 2.3 Project Organisation .....  | 8         |
| 2.4 Status of Environmental Licences, Notification and Permits.....       | 9         |
| <b>3 ENVIRONMENTAL MONITORING PARAMETERS</b> .....                        | <b>11</b> |
| 3.1 Landscape and Visual Impact Monitoring.....                           | 11        |
| 3.2 Air Quality Monitoring .....  | 11        |
| 3.3 Construction Noise Monitoring.....                                    | 14        |
| <b>4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES</b> ..... | <b>15</b> |
| <b>5 MONITORING RESULTS</b> .....   | <b>16</b> |
| 5.1 Landscape and Visual .....  | 16        |
| 5.2 Air Quality Monitoring .....  | 16        |
| 5.3 Regular Construction Noise Monitoring .....                           | 16        |
| 5.4 Waste Management.....   | 16        |
| <b>6 ENVIRONMENTAL SITE INSPECTION AND AUDIT</b> .....                    | <b>18</b> |
| <b>7 ENVIRONMENTAL NON-CONFORMANCE</b> .....                              | <b>22</b> |
| 7.1 Summary of Monitoring Exceedances .....                               | 22        |
| 7.2 Summary of Environmental Non-Compliance .....                         | 22        |
| 7.3 Summary of Environmental Complaint.....                               | 22        |

|          |  |           |
|----------|--|-----------|
| 7.4      | Summary of Environmental Summons and Successful Prosecution..... | 22        |
| <b>8</b> | <b>FUTURE KEY ISSUES.....</b>                                    | <b>23</b> |
| 8.1      | Construction Programme for Next Month.....                       | 23        |
| 8.2      | Key Issues for the Coming Months .....                           | 23        |
| 8.3      | Monitoring Schedule for Next Month.....                          | 23        |
| <b>9</b> | <b>CONCLUSIONS AND RECOMMENDATIONS.....</b>                      | <b>24</b> |
| 9.1      | Conclusions .....  | 24        |
| 9.2      | Recommendations .....  | 24        |

## APPENDICES

|            |  |
|------------|--|
| Appendix A | Project Works Boundary   |
| Appendix B | Construction Programme   |
| Appendix C | Project Organisation for Environmental Works   |
| Appendix D | Location of Air Quality Monitoring Station   |
| Appendix E | Calibration Certificates of Monitoring Equipment   |
| Appendix F | Wind Data  |
| Appendix G | Environmental Monitoring Programme   |
| Appendix H | Implementation Schedule of Environmental Mitigation Measures                             |
| Appendix I | Event and Action Plan  |
| Appendix J | Monitoring Results and their Graphical Presentations                                     |
| Appendix K | Waste Flow Table   |
| Appendix L | Cumulative Statistics of Complaints, Notification of Summons and Successful Prosecutions |

## TABLES

|           |  |
|-----------|--|
| Table 2-1 | Contact Information of Key Personnel                       |
| Table 2-2 | Status of Environmental Licenses, Notification and Permits |
| Table 3-1 | Air Quality Monitoring Parameters and Frequency            |
| Table 3-2 | Air Quality Monitoring Location                            |
| Table 3-3 | Air Quality Monitoring Equipment                           |
| Table 4-1 | Summary of Status of Required Submission under EP          |
| Table 5-1 | Summary of 24-hour TSP Monitoring Results                  |
| Table 6-1 | Observations and Recommendations of Site Audits            |

## EXECUTIVE SUMMARY

---

### Introduction

The construction works of MTRC Shatin to Central Link Works Contract 1112- Hung Hom Station and Stabling Sidings (the Project) comprise permanent works and the necessary temporary works for Hung Hom Station (HUH), Hung Hom Stabling Sidings (HHS), the South Approach Tunnels (SAT) and the North Approach Tunnels (NAT) to the new station, HHS and any reprovisioning remedial and improvement works (RRIW).

Construction works of the Project commenced on 3 June 2013. This is the 48<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works carried out during the period from 1 to 31 May 2017 in accordance with the EM&A manual.

During the reporting month, the following activity took place for the Project:

- Building services works at SAT
- EVA Roadworks at SAT
- Demolition works of bulkhead door adjacent to existing West Rail Stub Tunnel at SAT
- Construction of tunnel structure at HUH, NAT
- Drainage works at HHS
- Platform ABWF and E&M works at HUH
- Utility works at NAT
- Modification works at Concourse level, mid-level walkway

### Landscape and Visual Monitoring

Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 10 and 31 May 2017. All necessary mitigation measures have been implemented by the Contractor.

### Air Quality Monitoring

Air quality (24-hour TSP) monitoring was carried out on 5, 11, 17, 23 and 29 May 2017. No exceedance of Action and Limit Level of 24-hour TSP monitoring was recorded at the monitoring location in the reporting month.

### Noise Quality Monitoring

Construction airborne noise monitoring can be referred to the Monthly EM&A Report for Contract 1111.

### Waste Management

Receptacles for collection of general refuse were provided at the site. As advised by the Contractor, 597,930 kg of general refuse was generated from the Project and disposed of at NENT landfill. A total of 1,230 m<sup>3</sup> inert construction and demolition (C&D) materials were generated from the Project,

1,230 m<sup>3</sup> was reused in other projects. No chemical waste was disposed. No Type 1 and Type 2 marine sediments were generated from SCL1112. 160 m<sup>3</sup> of paper/cardboard packaging was recycled and no metals were recycled. No asphalt and plastic were recycled from the Project.

## Environmental Auditing

A total of 4 weekly environmental site audits were conducted on 4, 11, 17 and 25 May 2017. The IEC joint site audit was undertaken on 17 May 2017.

## Complaint, Notification of Summons and Successful Prosecution

No environmental complaint was received during the reporting month.

No summons or prosecution related to the environmental issues were received in the reporting period.

## Future Key Issues

Major site activities for the coming reporting month will include:

- Building services works at SAT
- EVA Roadworks at SAT
- Utility and drainage works at SAT
- Demolition works of bulkhead door adjacent to existing West Rail Stub Tunnel at SAT
- Construction of tunnel structure at HUH, NAT
- Drainage works at HHS
- Platform ABWF and E&M works at HUH
- Utility works at NAT
- Modification works at Concourse level, mid-level walkway

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

# 1 INTRODUCTION

---

## 1.1 Project Background

1.1.1 The Shatin to Central Link (SCL) is a designated project (DP) under the Environmental Impact Assessment Ordinance (EIAO). For the purposes of the Environmental Impact Assessment (EIA), five EIA studies have been conducted to cover different sections of the SCL. These are Tai Wai to Hung Hom Section (SCL (TAW-HUH)), Mong Kok East to Hung Hom Section (SCL (MKK-HUH)), Hung Hom to Admiralty Section (SCL (HUH-ADM)), Protection Works at Causeway Bay Typhoon Shelter and Stabling Sidings at Hung Hom Freight Yard (SCL (HHS)).

1.1.2 Three EIA reports are of relevance to Works Contract 1112 (the Project), namely EIA for SCL (TAW-HUH) (Register No. AEIAR-167/2012), EIA for SCL (MKK-HUH) (Register No. AEIAR-165/2012) and EIA for SCL (HHS) (Register No. AEIAR-164/2012). These were submitted and subsequently approved with conditions by the Environmental Protection Department (EPD) on 17 March 2012. Two Environmental Permits (EPs), Environmental Permit No. EP-437/2012 for SCL (MKK-HUH) and Environmental Permit No. EP-438/2012 for SCL (TAW-HUH) were subsequently obtained on 22 March 2012. An application for variation of the EP for SCL (TAW-HUH) was approved and a varied EP (EP No. EP-438/2012/K) was issued by Director of Environmental Protection (DEP) on 4 October 2016.

1.1.3 Construction of the SCL has been divided into a number of works contracts. This Works Contract 1112 was awarded to Leighton Contractors (Asia) Limited (the Contractor) in March 2013. Leighton has engaged SMEC Asia Limited as the Environmental Team under the EIAO for Works Contract 1112.

## 1.2 Purpose of the Report

1.2.1 This is the 48<sup>th</sup> EM&A report which summarizes the monitoring results and audit findings during the reporting period from 1 to 31 May 2017.

## 1.3 Report Structure

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



## 2 PROJECT INFORMATION

### 2.1 General Site Description

2.1.1 The works under Works Contract 1112 comprise permanent works and the necessary temporary works for Hung Hom Station (HUH), Hung Hom Stabling Sidings (HHS), the South Approach Tunnels (SAT) and the North Approach Tunnels (NAT) to the new station, HHS and any reprovisioning remedial and improvement works (RRIW). The major permanent works under Works Contract 1112 generally comprise the following:

- New HUH integrated with the existing HUH station, with associated entrances, ventilation facilities, plant rooms, other ancillary facilities, and ABWF works.
- Modification of the existing HUH station to allow interchange between Existing East Rail Line and SCL(TAW-HUH), and between SCL(MKK-HUH) and SCL(TAW-HUH) comprising alteration and addition works at podium level, mid-level, and platform level.
- Running tunnels of the SCL(TAW-HUH) at the south and north ends of the new HUH to the existing stub tunnel of Existing West Rail and interface with Works Contract 1111.
- Running tunnels of the SCL(MKK-HUH) at the south and north ends of the new HUH to the proposed North Ventilation Building and interface with Works Contract 1111.
- Extensive underpinning and modification of the existing podium structure of HUH and the Hong Kong Coliseum, and associated protection works.
- Diversion, modification and dismantling of existing building services associated with underpinning and modification of existing structures.
- Demolition and clearance of the majority of the existing Hung Hom Freight Terminal infrastructure.
- Protection, diversion, and modification of utilities and services.
- Launching and retrieval track connecting the SCL(TAW-HUH) to HHS from the turnout close to WRL at the south and interface with Works Contract 1111 at the north.
- CLP Transformer Building.
- Demolition of the existing International Mail Centre adjacent to Salisbury Road, the MTR Freight Operations Building within the southern end of the Hung Hom Freight Terminal, and other ancillary buildings.
- Reconstruction of Cheong Wan Road Viaduct.
- Civil, BS and ABWF provisions for designated and interfacing contracts.
- Landscape works.
- Modification to various parts of existing disused Freight Yard structure for provision of HHS, comprising alteration and addition works at underground level, ground level, mezzanine level and podium level including new

accommodation and plant areas and stablings and associated track provisions connecting to the interface with Works Contract 1111.

- Extensive underpinning of the podium structures above the existing disused Freight Yard for provision of HHS and its associated works.
- Construct part of the shunting track.
- Construct the emergency track and its associated works which connect the stabling siding to the mainline which run parallel with the northern approach of HUH.
- Construct the semi-enclosed noise enclosure and its associated works over the entire HHS north fan area.
- Preparation works, operation, and reinstatement of an additional storage area near Muk Chui Street, Kai Tak.

2.1.2 The works area for the Works Contract 1112 is shown in **Appendix A**.

## 2.2 Construction Programme and Activities

2.2.1 The summary of construction programme is presented in **Appendix B**.

2.2.2 The major construction activities carried out by the Contractor in the reporting period are summarized as below:

- Building services works at SAT
- EVA Roadworks at SAT
- Demolition works of bulkhead door adjacent to existing West Rail Stub Tunnel at SAT
- Construction of tunnel structure at HUH, NAT
- Drainage work at HHS
- Platform ABWF and E&M works at HUH
- Utility works at NAT
- Modification works at Concourse level, mid-level walkway

## 2.3 Project Organisation

2.3.1 The project organization structure is presented in **Appendix C**. The contact names and numbers for key personnel of the Project are summarized in **Table 2-1**.

**Table 2-1 Contact Information of Key Personnel**

| Company | Position                              | Name           | Telephone | Fax       |
|---------|---------------------------------------|----------------|-----------|-----------|
| MTR     | Construction Manager                  | Mr Michael FU  | 3127 6201 | 3127 6422 |
|         | SCL Project Environmental Team Leader | Ms Felice WONG | 2688 1283 | 2993 7577 |

| Company   | Position                          | Name              | Telephone | Fax       |
|-----------|-----------------------------------|-------------------|-----------|-----------|
| Meinhardt | Independent Environmental Checker | Mr Fredrick LEONG | 2859 1739 | 2540 1580 |
| Leighton  | Environmental Manager             | Mr Kevin HARMAN   | 3973 0270 | 2356 9355 |
| SMEC      | ET Leader                         | Ms Vivian CHAN    | 3995 8140 | 3995 8101 |

## 2.4 Status of Environmental Licences, Notification and Permits

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

**Table 2-2 Status of Environmental Licenses, Notification and Permits**

| Permit / Licence No. / Notification / Reference No. | Valid Period |              | Status                                  | Remark   |
|---|--------------|--------------|---|--|
|   | From         | To           |   |  |
| <b>Environmental Permit</b>                         |              |              |   |  |
| EP-437/2012   | 22 Mar 2012  | -            | Valid                                   | EP for SCL (MKK-HUH)   |
| EP-438/2012/K                                       | 4 Oct 2016   | -            | Valid                                   | EP for SCL (TAW-HUH)   |
| <b>Construction Noise Permit</b>                    |              |              |   |  |
| GW-RE1209-16  | 30 Dec 2016  | 26 Jun 2017  | Valid                                   | Works in concourse   |
| GW-RE0124-17  | 28 Feb 2017  | 27 Aug 2017  | Valid                                   | Under Podium   |
| GW-RE0151-17  | 13 Mar 2017  | 13 June 2017 | Valid                                   | Wall breaking at West Rail Line  |
| GW-RE0222-17  | 21 Mar 2017  | 20 Jun 2017  | Valid                                   | External work for Concourse involving TTM + Mid-level Walkway + Installation of Instrument near NAT Track + Painting outside Concourse for North East Corner + Hoarding Work for Concourse Stage 3 |
| GW-RE0296-17  | 20 Apr 2017  | 19 May 2017  | Valid until cancellation on 19 May 2017 | Water Work Connection at Planter Area adjoining Cheong Tung Road South   |

| Permit / Licence No. / Notification / Reference No.                            | Valid Period                                |             | Status         | Remark   |
|--|---|-------------|----------------|--|
|  | From  | To          |                |  |
| GW-RE0321-17   | 4 May 2017                                  | 3 Aug 2017  | Valid          | External work for Concourse involving TTM + Mid-level Walkway + Installation of Instrument near NAT Track + Painting outside Concourse for North East Corner + Hoarding Work for Concourse Stage 3 |
| GW-RE0368-17   | 6 May 2017                                  | 30 Jun 2017 | Valid          | Demolition of Bulkhead Wall at SAT adjoining West Rail Line  |
| <b>Wastewater Discharge License</b>  |   |             |                |  |
| WT00015983-2013  | 28 Jun 2013                                 | 30 Jun 2018 | Valid          | -  |
| <b>Chemical Waste Producer Registration</b>                                    |   |             |                |  |
| 5213-213-L2603-03  | 28 Jun 2013                                 | -           | Valid          | -  |
| <b>Billing Account for Construction Waste Disposal</b>                         |   |             |                |  |
| 7017179  | 27 Mar 2013                                 | -           | Active Account | -  |
| <b>Notification Under Air Pollution Control (Construction Dust) Regulation</b> |   |             |                |  |
| 357078   | 18 Mar 2013                                 | -           | Notified       | -  |
| <b>Notification of Asbestos Abatement Works</b>                                |   |             |                |  |
| AX141187   | 11 Oct 2014<br>(earliest commencement date) | -           | Notified       | Demolition of International Mail Centre, 80 Salisbury Road, Hung Hom   |
| AX141235   | 27 Oct 2014<br>(earliest commencement date) | -           | Notified       | Demolition of Freight Operation Building, MTR Hung Hom Depot   |

## 3 ENVIRONMENTAL MONITORING PARAMETERS

### 3.1 Landscape and Visual Impact Monitoring

3.1.1 In accordance with the EM&A Manual, the landscape and visual mitigation measures shall be implemented and a site inspection shall be conducted once every two weeks throughout the construction period.

### 3.2 Air Quality Monitoring

#### Parameter, Frequency and Duration

3.2.1 In accordance with the EM&A Manual, 24-hour Total Suspended Particulates (TSP) level at the designated air quality monitoring station is required throughout the construction period. The monitoring parameters and frequency are provided in **Table 3-1**.

**Table 3-1 Air Quality Monitoring Parameters and Frequency**

| Parameter                  | Frequency   |
|----------------------------|---|
| 1-hour TSP                 | 3 times in every 6 days when one documented valid complaint is received |
| 24-hour TSP <sup>[1]</sup> | Once per 6 days   |

**Note:**

1. 24-hour TSP will be conducted when project-related construction activities are being undertaken within a radius of 500m from monitoring stations.

#### Monitoring Location

3.2.2 One air quality monitoring station was set up at the location in accordance with the approved EM&A Manuals. The location of the construction dust monitoring station is summarised in **Table 3-2** and shown in **Appendix D**.

3.2.3 The monitoring location of AM2 has been located on the roof of the Site Office Building next to Harbourfront Horizon since 19 March 2014.

**Table 3-2 Air Quality Monitoring Location**

| ID                 | Location                            |
|--------------------|-------------------------------------|
| AM2 <sup>[1]</sup> | Harbourfront Horizon <sup>[2]</sup> |

**Note:**

1. Different IDs were used in various EM&A Manuals for dust monitoring location at Harbourfront Horizon, DMS-12 was used in EM&A Manual for SCL(TAW-HUH), AM2 were used in EM&A Manual and EIA report for SCL(MKK-HUH), and DMS-1 Works Contract 1112 were used in EM&A Manual and EIA report for HHS. For ease of future reference, AM2 will be adopted for EM&A reporting for Works Contract 1112 when referring to this monitoring location.
2. Air quality monitoring location at Harbourfront Horizon is the same as monitoring station CD6a as proposed in the EM&A Manual for “Kwun Tong Line Extension (KTE)”. Access to Harbourfront Horizon was rejected by the owner during preparation for baseline

monitoring for the KTE in early 2011. A representative monitoring location at the adjacent Finger Pier, at about 25m from Harbourfront Horizon, was adopted as an alternative monitoring location for KTE. This monitoring location is considered the most appropriate alternative monitoring location for AM2 and have been adopted for dust monitoring for Contract 1112.

### **Monitoring Equipment**

3.2.4 The air quality monitoring was performed using High Volume Sampler (HVS). The HVS meets all the requirements of the EM&A Manual. Detail of the HVS used in air quality monitoring is provided in **Table 3-3**.

**Table 3-3 Air Quality Monitoring Equipment**

| Equipment           | Brand and Model  | Serial Number |
|---------------------|------------------|---------------|
| High Volume Sampler | GS-2310 Accu-vol | 694-0665      |
| Calibration Kit     | Tisch (TE-5025A) | 1612, 1941    |

3.2.5 The HVS were calibrated in every six months interval using calibration kit which is re-calibrated by the manufacturer after one year of use. The calibration certificate of the calibration kit and the calibration spreadsheet of the HVS is provided in **Appendix E**.

### **Monitoring Procedures**

3.2.6 Specifications of HVS are as follow:

- i. 0.6 - 1.7m<sup>3</sup> per minute adjustable flow range
- ii. Equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation
- iii. Installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation
- iv. Capable of providing a minimum exposed area of 406cm<sup>2</sup>
- v. Flow control accuracy: +/- 2.5% deviation over 24-hour sampling period
- vi. Equipped with a shelter to protect the filter and sampler
- vii. Incorporated with an electronic mass flow rate controller or other equivalent devices
- viii. Equipped with a flow recorder for continuous monitoring
- ix. Provided with a peaked roof inlet
- x. Incorporated with a manometer
- xi. Able to hold and seal the filter paper to the sampler housing at horizontal position
- xii. Easily changeable filter and
- xiii. Capable of operating continuously for a 24-hour period.

3.2.7 Preparation of Filter Papers

- i. Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.

- ii. All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25°C and not variable by more than ±3 °C; the relative humidity (RH) was < 50% and not variable by more than ±5%. A convenient working RH was 40%.
- iii. All filter papers were prepared and analysed by ALS Technichem (HK) Pty Ltd., which is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes.

### 3.2.8 Field Monitoring

- i. The power supply was checked to ensure the HVS works properly.
- ii. The filter holder and the area surrounding the filter were cleaned.
- iii. The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
- iv. The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
- v. The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied was sufficient to avoid air leakage at the edges.
- vi. Then the shelter lid was closed and was secured with the aluminium strip.
- vii. The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
- viii. A new flow rate record sheet was set into the flow recorder.
- ix. On site temperature and atmospheric pressure readings were taken and the flow rate of the HVS was checked and adjusted at around 1.3 m<sup>3</sup>/min, and complied with the range specified in the EM&A Manual (i.e. 0.6-1.7 m<sup>3</sup>/min).
- x. The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
- xi. The initial elapsed time was recorded.
- xii. At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
- xiii. The final elapsed time was recorded.
- xiv. The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
- xv. It was then placed in a clean plastic envelope and sealed.
- xvi. All monitoring information was recorded on a standard data sheet.
- xvii. Filters were then sent to ALS Technichem (HK) Pty Ltd. for analysis.

#### **Wind Data Monitoring**

- 3.2.9 Average wind data (wind speed and direction) at the King's Park meteorological station during the monitoring period were obtained from the Hong Kong Observatory (HKO) and presented in **Appendix F**.

#### **Monitoring Schedule**

- 3.2.10 The schedule for environmental monitoring in May 2017 is provided in **Appendix G**.

### **3.3 Construction Noise Monitoring**

- 3.3.1 In accordance with the approved EM&A Manuals for SCL (TAW-HUH), SCL (MKK-HUH) and SCL (HHS), construction noise monitoring is required at No. 234-238 Chatham Road North (originally proposed as Wing Fung Building in the approved EM&A Manuals).
- 3.3.2 Construction airborne noise monitoring requirement details at No. 234 -238 Chatham Road North (NM2) can be referred to the Monthly EM&A Report for Contract 1111.



## 4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

- 4.1.1 All environmental mitigation measures and requirements as stated in EIA Reports, Environmental Permits and EM&A Manuals are implemented. The implementation status of the environmental mitigation measures for this Works Contract during the reporting period is summarized in *Appendix H*.
- 4.1.2 Submissions to EPD during construction stage had been made in accordance with the EP requirements. A summary of EP submission requirements and their status is presented in *Table 4-1*.

**Table 4-1 Summary of Status of Required Submission under EP**

| Required Submission   | Environmental Permit | Date of Submission | Status    |
|---|----------------------|--------------------|-----------|
| EP Condition 3.4 - Monthly Environmental Monitoring & Audit (EM&A) Report | EP-437/2012          | 12 May 2017        | Submitted |
|   | EP-438/2012/K        | 12 May 2017        | Submitted |

## 5 MONITORING RESULTS

### 5.1 Landscape and Visual

5.1.1 Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted on 10 and 31 May 2017. All necessary mitigation measures have been implemented by the Contractor.

5.1.2 The Event and Action Plan for Landscape and Visual Impact Monitoring is provided in *Appendix I*.

### 5.2 Air Quality Monitoring

5.2.1 The monitoring results for 24-hour TSP are summarized in *Table 5-1*. Detailed air quality monitoring results are presented in *Appendix J*.

**Table 5-1 Summary of 24-hour TSP Monitoring Results**

| ID  | Average ( $\mu\text{g}/\text{m}^3$ ) | Range ( $\mu\text{g}/\text{m}^3$ ) | Action Level ( $\mu\text{g}/\text{m}^3$ ) | Limit Level ( $\mu\text{g}/\text{m}^3$ ) |
|-----|--------------------------------------|------------------------------------|---|--|
| AM2 | 42.5                                 | 38.0 – 45.9                        | 182                                       | 260                                      |

5.2.2 No Action and Limit Level exceedance was recorded in the reporting month.

5.2.3 The Event and Action Plan is provided in *Appendix I*.

### 5.3 Regular Construction Noise Monitoring

5.3.1 Construction airborne noise monitoring results in the reporting month can be referred to the Monthly EM&A Report for Contract 1111.

5.3.2 The Action and Limit levels for construction noise are summarised in *Table 5-2*.

**Table 5-2 Action and Limit Levels**

| Time Period                          | Action Level                                    | Limit Level |
|--------------------------------------|---|-------------|
| 07:00-19:00 hours on normal weekdays | When one documented valid complaint is received | 75dB(A)*    |

**Note:** 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.

\* Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

5.3.3 The Event and Action Plan for construction noise is provided in *Appendix I*.

### 5.4 Waste Management

5.4.1 Receptacles for collection of general refuse were provided at the site. As advised by the Contractor, 597,930 kg of general refuse was generated from the Project and disposed of at NENT landfill. A total of 1,230 m<sup>3</sup> inert construction and demolition (C&D)

materials were generated from the Project, 1,230 m<sup>3</sup> was reused in other projects. No chemical waste was disposed. No Type 1 and Type 2 marine sediments were generated from SCL1112. 160 m<sup>3</sup> of paper/cardboard packaging was recycled and no metals were recycled. No asphalt and plastic were recycled from the Project. The waste flow table and marine sediment flow table were presented in **Appendix K**.

- 5.4.2 A billing account for construction waste disposal has been approved and a trip ticket system was implemented to record the waste generated from the Project in the reporting month.

## 6 ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 6.1.1 Weekly site audits were conducted by the ET and attended by the ER and the Contractor to monitor the timely implementation of proper environmental management practices and mitigation measures at the site. 4 site audits were carried out on 4, 11, 17 and 25 May 2017 during the reporting month. Representative of the IEC joined the site inspection on 17 May 2017. A summary of the implementation schedule of environmental mitigation measures is provided in *Appendix H*.
- 6.1.2 EPD inspection was carried out on 8 May 2017, where no major findings were found.
- 6.1.3 During the weekly site inspections, no non-conformance was identified. Details of observations recorded during site inspection are summarized in *Table 6-1*.

**Table 6-1 Observations and Recommendations of Site Audits**

| Parameters  | Description   | Works Area   | Observation Date | Status   |
|-------------|---|--------------|------------------|--|
| Air Quality | NRMM labels were found missing. The Contractor should ensure provision of NRMM labels to all non-road mobile machineries.   | EWL Platform | 11 May 2017      | The item was rectified by the Contractor on 17 May 2017. |
|             | More than 20 bags of cement were observed without entirely covered with impervious sheeting. The Contractor should cover the cement bags entirely with impervious sheeting. | HUH (K-13)   | 27 April 2017    | The item was rectified by the Contractor on 17 May 2017. |
|             |   | HHS (Q/R-6)  | 27 April 2017    | The item was rectified by the Contractor on 4 May 2017.  |
|             |   | HHS (Q-30)   | 4 May 2017       | The item was rectified by the Contractor on 11 May 2017. |
|             |   | HHS (TS1)    | 4 May 2017       | The item was rectified by the Contractor on 11 May 2017. |
|             |   | HUH (K-14)   | 4 May 2017       | The item was rectified by the Contractor on 17 May 2017. |
|             | Stockpile was observed uncovered. The Contractor should cover the stockpile with impervious sheeting to prevent dust and silty runoff.                                      | NAT          | 11 May 2017      | The item was rectified by the Contractor on 17 May 2017. |

| Parameters                        | Description  | Works Area   | Observation Date         | Status  |
|-----------------------------------|--|--|--------------------------|---|
| Noise Quality                     | Latest CNP was found missing. The Contractor should post updated CNP on notice board or vehicular site entrance.   | Gate 3   | 17 May 2017              | The item was rectified by the Contractor on 25 May 2017.  |
| Water Quality                     | Suspicious blue pipes were observed. The Contractor should ensure wastewater generated from louver installation work was properly treated prior to discharge.                                    | SAT  | 27 April 2017            | The item was rectified by the Contractor on 4 May 2017.   |
|                                   | Flexible hoses connecting to excavated trench were observed. The Contractor should remove the hoses and ensure that all wastewater should be properly treated prior to discharge.                | Block 1  | 25 May 2017              | The item will be followed-up in the next reporting month. |
| Waste/<br>Chemicals<br>Management | Chemical containers without secondary containment were observed. The Contractor should provide secondary containment such as drip tray to all chemical containers to prevent land contamination. | NAT  | 19 April 2017            | The item was rectified by the Contractor on 4 May 2017.   |
|                                   |  | NSL Trackside  | 4 May 2017               | The item was rectified by the Contractor on 11 May 2017.  |
|                                   |  | EWL Platform M-24  | 11 May 2017              | The item was rectified by the Contractor on 17 May 2017.  |
|                                   |  | Gate 3   | 17 May 2017              | The item will be followed-up in the next reporting month. |
|                                   |  | HHS (A23a)   | 25 May 2017              | The item will be followed-up in the next reporting month. |
|                                   |  | NSL Platform   | 25 May 2017              | The item will be followed-up in the next reporting month. |
|                                   |  | HHS Sliding North Tunnel   | 25 May 2017              | The item will be followed-up in the next reporting month. |
|                                   |  | General refuse was observed on the ground. The Contractor should | Area A next to L/R Track | 27 April 2017   |

| Parameters | Description   | Works Area        | Observation Date | Status  |
|------------|---|-------------------|------------------|---|
|            | remove the general refuse, provide garbage bins for waste collection and avoid waste accumulation.  |                   |                  | May 2017.   |
|            |   | HHS (P/Q-14)      | 27 April 2017    | The item was rectified by the Contractor on 4 May 2017.   |
|            |   | HHS (A-23)        | 11 May 2017      | The item was rectified by the Contractor on 17 May 2017.  |
|            |   | HHS (Cb12)        | 25 May 2017      | The item will be followed-up in the next reporting month. |
|            |   | HHS (Ca15)        | 25 May 2017      | The item will be followed-up in the next reporting month. |
|            | C&D material was observed on the ground. The Contractor should sort C&D materials on-site to recover the inert portions for reuse and provide sufficient mitigation measures or dispose to designated outlet. | NAT               | 19 April 2017    | The item was rectified by the Contractor on 4 May 2017.   |
|            |   | Mid-level Walkway | 25 May 2017      | The item will be followed-up in the next reporting month. |
|            | Oil stain was observed on the ground. The Contractor should remove the oil stain and dispose it as chemical waste.  | Gate 1            | 17 May 2017      | The item was rectified by the Contractor on 25 May 2017.  |

**Note:**

1. HUH: Hung Hom Station
2. HHS: Hung Hom Stabling Sidings
3. NAT: North Approach Tunnels
4. SAT: South Approach Tunnels
5. HKC: Hong Kong Coliseum
6. NSL: North South Line
7. BoH: Back of House
8. EWL: East West Line

6.1.4 Follow-up actions requested by Contractor's ET and IEC during site inspections were undertaken by the Contractor and the work were confirmed in the following weekly site inspection. Follow-up actions that are still outstanding in the reporting month will be

inspected in site inspections in following month, until the corresponding action has been satisfactorily completed by the Contractor.

---

## 7 ENVIRONMENTAL NON-CONFORMANCE

---

### 7.1 Summary of Monitoring Exceedances

7.1.1 All 24-hour TSP results were below the Action and Limit level at all monitoring locations in the reporting month.

### 7.2 Summary of Environmental Non-Compliance

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

### 7.3 Summary of Environmental Complaint

7.3.1 Details and cumulative statistics on environmental complaints can be referred to *Appendix L*.

### 7.4 Summary of Environmental Summons and Successful Prosecution

7.4.1 No summon was received during the reporting month.

7.4.2 The cumulative statistics on notification of summons and successful prosecutions is provided in *Appendix L*.



## 8 FUTURE KEY ISSUES

---

### 8.1 Construction Programme for Next Month

8.1.1 The construction programme for the upcoming month is provided in *Appendix B* and the key issues to be considered in the upcoming months include:

- Building services works at SAT
- EVA Roadworks at SAT
- Utility and drainage works at SAT
- Demolition works of bulkhead door adjacent to existing West Rail Stub Tunnel at SAT
- Construction of tunnel structure at HUH, NAT
- Drainage works at HHS
- Platform ABWF and E&M works at HUH
- Utility works at NAT
- Modification works at Concourse level, mid-level walkway

### 8.2 Key Issues for the Coming Months

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

### 8.3 Monitoring Schedule for Next Month

8.3.1 The tentative schedule for environmental monitoring in June 2017 is provided in *Appendix G*.

## 9 CONCLUSIONS AND RECOMMENDATIONS

### 9.1 Conclusions

- 9.1.1 The construction phase of the Project was commenced on 3 June 2013. The EM&A programme have been implemented to include air quality monitoring and environmental site audits. This is the 48<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works carried out during the period from 1 to 31 May 2017.
- 9.1.2 5 nos. of 24-hour TSP monitoring were carried out in the reporting month.
- 9.1.3 No exceedance of the Action and Limit Levels of air quality monitoring was recorded at the designated monitoring stations during reporting period.
- 9.1.4 Two landscape and visual monitoring and four environmental site audits were conducted in the reporting month. Recommendations on remedial actions were provided to the Contractor for deficiencies identified during the site audits.
- 9.1.5 The ET will keep track on the EM&A programme to ensure the compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

### 9.2 Recommendations

- 9.2.1 According to the environmental audit performed in the reporting month, the following recommendations were made:

#### Air Quality Impact

- Ensure provision of NRMM labels to all non-road mobile machineries.
- Cover the cement bags entirely with impervious sheeting.
- Cover the stockpile with impervious sheeting to prevent dust and silty runoff.

#### Noise Quality Impact

- Post updated CNP on notice board or vehicular site entrance.

#### Water Quality Impact

- Ensure wastewater generated from louver installation work was properly treated prior to discharge.
- Ensure that all wastewater should be properly treated prior to discharge.

#### Chemical and Waste Management

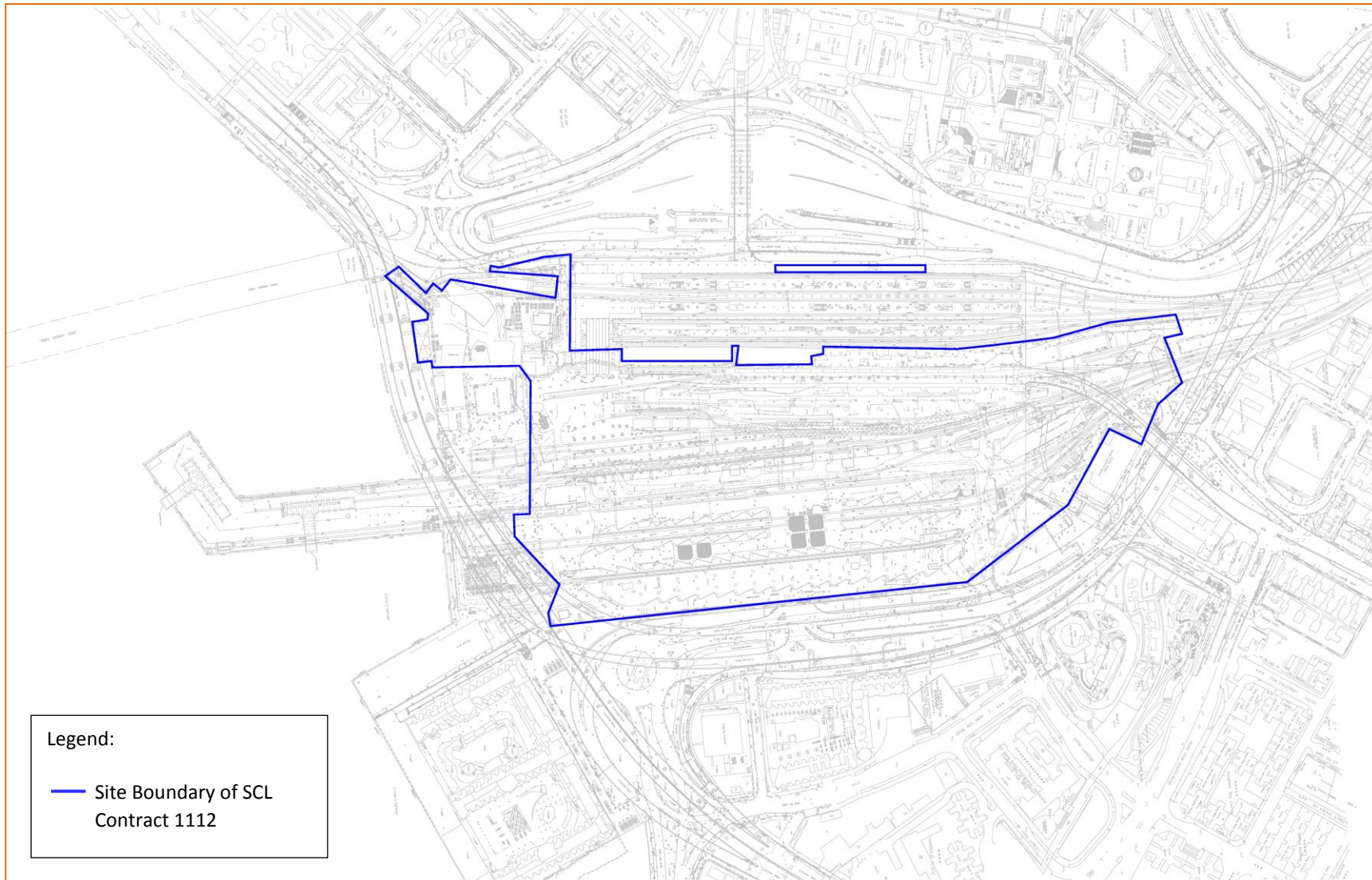
- Provide secondary containment such as drip tray to all chemical containers to prevent land contamination.
- Remove the general refuse, provide garbage buns for waste collection and avoid waste accumulation.
- Sort C&D materials on-site to recover the inert portions for reuse and provide sufficient mitigation measures or dispose to designated outlet.

- Remove the oil stain and dispose it as chemical waste.

---

## APPENDIX A

### Project Works Boundary



## APPENDIX B

---

### Construction Programme



| Data Date : 25-May-17<br>Print Date : 02-Jun-17              |  | MTR Shatin to Central Link - Contract 1112<br>Hung Hom Station and Stabling Sidings |                   |                          |                           |                   |                          |                           |                   |             |                     | 2017 |     |     |     |   |
|--|--|---|-------------------|--------------------------|---------------------------|-------------------|--------------------------|---------------------------|-------------------|-------------|---------------------|------|-----|-----|-----|---|
| Activity ID  | Activity Name  | TCP1 Early Start  | TCP1 Early Finish | Apr/2017 3MR Early Start | Apr/2017 3MR Early Finish | Apr/2017 Variance | May/2017 3MR Early Start | May/2017 3MR Early Finish | May/2017 Variance | Total Float | Activity % Complete | May  | Jun | Jul | Aug |   |
| <b>MTR SCL 1112 - May 17 Report (TCP)</b>                    |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |   |
| <b>PRELIMINARIES</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |   |
| <b>Salient Key Dates and Milestones</b>                      |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |   |
| <b>Specified Degrees of Completion</b>                       |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |   |
| 01112.COMP4K1  | HUH Concourse Level, Mezzanine Level and Mid-Level - Stage 3 modification Dag 1 (24/17)                                  |   | 18-Jun-17         | 18-Jun-17                | 27-Feb-18                 | 27-Feb-18         |                          | 09-Aug-17                 | 09-Aug-17         | -52         | -52                 |      |     |     |     | ◆ |
| <b>Schedule of CLP Access Dates</b>                          |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |   |
| 01112.CLP1   | CLP Access to CLP TX Rooms at EWL Platform Level G.L. 1-5/Q-R and ass. cable route incl. external cable trenches (39/16) | 02-Oct-16   | 02-Oct-16         | 25-Apr-17                | 25-Apr-17                 |                   | 25-May-17                | 25-May-17                 | -235              | 326         | 0%                  | ◆    |     |     |     |   |
| <b>Schedule of Power On Dates</b>                            |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |   |
| 01112.POWER1   | CLP Transformer Rooms at EWL Platform Level G.L. 1-5/Q-R Power On (05/17)  | 05-Feb-17   | 05-Feb-17         | 25-Apr-17                | 25-Apr-17                 |                   | 25-May-17                | 25-May-17                 | -109              | 326         | 0%                  | ◆    |     |     |     |   |
| <b>Schedule of Access Dates for Works Areas (Return)</b>     |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |   |
| 01112.M02_R  | 1112.M2 Return (15/18)   |   | 17-Sep-16         |                          | 07-Jun-17                 | 312               |                          | 07-Jul-17                 | -293              | 282         | 0%                  |      |     | ◆   |     |   |
| 01112.M03_R  | 1112.M3 Return (15/18)   |   | 17-Sep-16         |                          | 07-Jun-17                 | 312               |                          | 07-Jul-17                 | -293              | 282         | 0%                  |      |     | ◆   |     |   |
| 01112.M04A_R   | 1112.M4A Return (15/18)  |   | 18-Oct-16         |                          | 18-May-17                 | 332               |                          | 15-Jun-17                 | -240              | 304         | 0%                  |      |     |     |     | ◆ |
| 01112.M05_R  | 1112.M5 Return (15/18)   |   | 12-Sep-16         |                          | 02-May-17                 | 348               |                          | 25-May-17                 | -254              | 326         | 0%                  | ◆    |     |     |     |   |
| 01112.M05A_R   | 1112.M5A Return (15/18)  |   | 27-Apr-16         |                          | 14-Jun-17                 | 305               |                          | 14-Jul-17                 | -443              | 275         | 0%                  |      |     | ◆   |     |   |
| 01112.M05B_R   | 1112.M5B Return (15/18)  |   | 11-Aug-16         |                          | 14-Jun-17                 | 305               |                          | 14-Jul-17                 | -337              | 275         | 0%                  |      |     | ◆   |     |   |
| 01112.M05C_R   | 1112.M5C Return (15/18)  |   | 27-Apr-16         |                          | 14-Jun-17                 | 305               |                          | 14-Jul-17                 | -443              | 275         | 0%                  |      |     | ◆   |     |   |
| 01112.M05D_R   | 1112.M5D Return (15/18)  |   | 27-Apr-16         |                          | 14-Jun-17                 | 305               |                          | 14-Jul-17                 | -443              | 275         | 0%                  |      |     | ◆   |     |   |
| 01112.M06_R  | 1112.M6 Return (15/18)   |   | 18-Oct-16         |                          | 18-May-17                 | 332               |                          | 15-Jun-17                 | -240              | 304         | 0%                  |      | ◆   |     |     |   |
| 01112.W01C_R   | 1112.W1C Return (15/18)  |   | 27-Apr-16         |                          | 14-Jun-17                 | 305               |                          | 14-Jul-17                 | -443              | 275         | 0%                  |      |     | ◆   |     |   |
| 01112.W01E_R   | 1112.W1E Return (15/18)  |   | 27-Apr-16         |                          | 14-Jun-17                 | 305               |                          | 14-Jul-17                 | -443              | 275         | 0%                  |      |     | ◆   |     |   |
| 01112.W01F_R   | 1112.W1F Return (15/18)  |   | 30-May-16         |                          | 25-Apr-17                 | 356               |                          | 25-May-17                 | -359              | 326         | 0%                  | ◆    |     |     |     |   |
| 01112.W02_R  | 1112.W2 Return (15/18)   |   | 30-May-16         |                          | 25-Apr-17                 | 356               |                          | 25-May-17                 | -359              | 326         | 0%                  | ◆    |     |     |     |   |
| <b>Schedule of Access Dates for Designated Contractors-1</b> |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |   |
| 01112.DC1120B.1  | NSL tunnels (UP&DN tracks) and HUH NSL Platform Level - Track and trackside areas  | 06-Feb-17   |                   |                          | 14-Jul-17                 | -158              |                          | 11-Aug-17                 | -186              | -186        | 0%                  |      |     |     |     | ◆ |
| 01112.DC1130A.1  | HUH - NSL Platform Level   | 01-Aug-16   |                   |                          | 11-May-17                 | -283              |                          | 25-May-17                 | -297              | -297        | 0%                  | ◆    |     |     |     |   |
| 01112.DC1130A.2  | HUH - EWL Platform Level   | 05-Sep-16   |                   |                          | 15-Jun-17                 | -283              |                          | 15-Jul-17                 | -313              | -313        | 0%                  | ◆    |     |     |     |   |
| 01112.DC1130A.5  | HUH - Areas with Podium Concourse Modification Stage 3   | 19-Jun-17   |                   |                          | 28-Feb-18                 | -254              |                          | 10-Aug-17                 | -52               | -52         | 0%                  |      |     |     |     | ◆ |
| 01112.DC1159.3   | HUH - Lift shafts at all remaining areas   | 30-Jan-17   |                   |                          | 06-May-17                 | -96               |                          | 25-May-17                 | -115              | -115        | 0%                  | ◆    |     |     |     |   |
| 01112.DC1162.6   | HUH - All remaining areas on Mid-Level except for those under Podium Concourse Modification Stages 1 to 3                | 30-Jan-17   |                   |                          | 06-May-17                 | -96               |                          | 25-May-17                 | -115              | -115        | 0%                  | ◆    |     |     |     |   |
| 01112.DC1162B.6  | HUH - All remaining areas on Mid-Level except for those under Podium Concourse Modification Stages 1 to 3                | 30-Jan-17   |                   |                          | 06-May-17                 | -96               |                          | 25-May-17                 | -115              | -115        | 0%                  | ◆    |     |     |     |   |
| 01112.DC1163.6   | HUH - All remaining areas on Mid-Level except for those under Podium Concourse Modification Stages 1 to 3                | 30-Jan-17   |                   |                          | 06-May-17                 | -96               |                          | 25-May-17                 | -115              | -115        | 0%                  | ◆    |     |     |     |   |
| 01112.DC1169.6   | HUH - All remaining areas on Mid-Level except for those under Podium Concourse Modification Stages 1 to 3                | 30-Jan-17   |                   |                          | 06-May-17                 | -96               |                          | 25-May-17                 | -115              | -115        | 0%                  | ◆    |     |     |     |   |
| 01112.DC1173.7   | HUH - Areas with Podium Concourse Modification Stage 3   | 19-Jun-17   |                   |                          | 28-Feb-18                 | -254              |                          | 10-Aug-17                 | -52               | -52         | 0%                  |      |     |     |     | ◆ |

■ Remaining Level of Effort ◆ Milestone  
■ Actual Level of Effort  
■ Actual Work  
■ Remaining Work  
■ Critical Remaining Work

**Three Month Rolling Programme (25-May-17)**

Project ID : 01112-3M51A  
 Layout : May 2017 MPR  
 Page 1 of 6

| Date      | Revision              | Checked | Approved |
|-----------|-----------------------|---------|----------|
| 13-May-13 | Revision 1 - Recalled |         |          |
| 25-Jun-13 | Revision 1            |         |          |
| 10-Oct-13 | Revision 2            |         |          |



| Data Date : 25-May-17<br>Print Date : 02-Jun-17                           |  | MTR Shatin to Central Link - Contract 1112<br>Hung Hom Station and Stabling Sidings |                   |                          |                           |                   |                          |                           |                   |             |                     | 2017 |     |     |     |
|---|--|---|-------------------|--------------------------|---------------------------|-------------------|--------------------------|---------------------------|-------------------|-------------|---------------------|------|-----|-----|-----|
| Activity ID   | Activity Name  | TCP1 Early Start  | TCP1 Early Finish | Apr/2017 3MR Early Start | Apr/2017 3MR Early Finish | Apr/2017 Variance | May/2017 3MR Early Start | May/2017 3MR Early Finish | May/2017 Variance | Total Float | Activity % Complete | May  | Jun | Jul | Aug |
| <b>Establishment; Mobilisation &amp; Advanced Works</b>                   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>Building Services Diversion / Protection</b>                           |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.12020   | BS - Demolition BS System in Freight Yard                            | 21-May-13   | 16-Oct-13         | 25-Apr-17                | 08-May-17                 |                   | 25-May-17                | 05-Jun-17                 | -1063             | 488         |                     |      |     |     |     |
| <b>HUNG HOM STATION (HOM)</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>HUH South Approach Tunnel (SAT)</b>                                    |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>Utilities</b>  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.33010   | SAT - Storm Drain DSSD-1112-117 Hong Wan Path                        | 25-Feb-16   | 13-Apr-16         | 25-Apr-17                | 28-Apr-17                 | -191              | 25-May-17                | 29-May-17                 | -330              | -215        | 65%                 |      |     |     |     |
| 01112.33030   | SAT - Sewer DSDS-1112-113  | 23-Mar-16   | 20-Apr-16         | 25-Apr-17                | 02-May-17                 | -193              | 25-May-17                | 31-May-17                 | -326              | -217        | 80%                 |      |     |     |     |
| <b>Modification of Hong Wan Path Ramp</b>                                 |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.32780   | HWP - Construct New Roadworks  | 21-Apr-16   | 27-Apr-16         | 10-Jun-17                | 14-Jun-17                 |                   | 11-Jul-17                | 14-Jul-17                 | -356              | -249        |                     |      |     |     |     |
| <b>Building Services Works</b>  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| A3170   | P/O - Installation of new RWO (DR)                                   | 23-Jan-16   | 31-Mar-16         | 25-Apr-17                | 09-Jun-17                 | -225              | 25-May-17                | 10-Jul-17                 | -374              | -249        | 70%                 |      |     |     |     |
| <b>EVA and Fireman Access</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.32900   | SAT - EVA Roadworks  | 13-May-15   | 13-Jul-15         | 25-Apr-17                | 23-May-17                 | 276               | 25-May-17                | 20-Jun-17                 | -569              | 252         | 60%                 |      |     |     |     |
| 01112.32910   | SAT - EVA Street Furniture & Signage                                 | 14-Jul-15   | 27-Jul-15         | 25-Apr-17                | 06-May-17                 | 276               | 25-May-17                | 03-Jun-17                 | -543              | 252         | 60%                 |      |     |     |     |
| <b>Temporary Bulkhead Door adjacent to Existing West Rail Stub Tunnel</b> |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.32760   | Temp Bulkhead - Erect Temporary Hoarding & Dismantling Existing Wall | 02-Nov-16   | 16-Nov-16         | 26-Apr-17                | 12-May-17                 | 135               | 26-May-17                | 07-Jun-17                 | -78               | 124         | 90%                 |      |     |     |     |
| <b>HUH (New NSL and EWL)</b>  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>HUH Area A (Grid 1 to 7)</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>Building Services at G.L. J &amp; K</b>                                |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| A3140   | Installation of new cable containments (Col J1/18)                   | 11-Jul-14   | 25-Sep-14         | 25-Apr-17                | 01-Sep-17                 | 369               | 25-May-17                | 29-Sep-17                 | -884              | 345         | 90%                 |      |     |     |     |
| <b>ELS and Tunnel Structure</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>Remaining Structures at Area A</b>                                     |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.23426   | A - Construct Hanger Wall and Slab                                   | 02-Jun-16   | 22-Jun-16         | 25-Apr-17                | 06-May-17                 | -100              | 25-May-17                | 25-May-17                 | -269              | -115        | 70%                 |      |     |     |     |
| 01112.23428   | A - Construct Derailment Kerb for NSL                                | 23-Jun-16   | 26-Jul-16         | 08-May-17                | 08-Jun-17                 | -100              | 25-May-17                | 26-Jun-17                 | -269              | -115        | 30%                 |      |     |     |     |
| <b>HUH Area Hong Kong Coliseum (Grid 7 to 15)</b>                         |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>ELS and Tunnel Structure</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.24220   | HKC - Construct Derailment Kerb for NSL                              | 02-Jan-16   | 18-Jan-16         | 25-Apr-17                | 02-May-17                 | -69               | 25-May-17                | 31-May-17                 | -396              | -93         | 97%                 |      |     |     |     |
| <b>HUH Area B (Grid 15 to 22)</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>ELS and Tunnel Structure</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.25270   | B - Construct Derailment Kerb for NSL                                | 30-May-16   | 15-Jun-16         | 29-Apr-17                | 17-May-17                 | -81               | 25-May-17                | 09-Jun-17                 | -289              | -101        | 91%                 |      |     |     |     |
| <b>HUH Area C1 (Grid 22 to 31)</b>  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>ELS and Tunnel Structure</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.26350   | C1 - Construct Derailment Kerb for NSL                               | 14-Jul-16   | 30-Jul-16         | 11-May-17                | 27-May-17                 | -90               | 25-May-17                | 10-Jun-17                 | -252              | -102        | 99%                 |      |     |     |     |
| <b>HUH Area C2 (Grid 31 to 40)</b>  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>ELS and Tunnel Structure</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.27300   | C2 - Construct Derailment Kerb for NSL                               | 26-Apr-16   | 13-May-16         | 11-May-17                | 27-May-17                 | -90               | 25-May-17                | 25-May-17                 | -301              | -87         | 98%                 |      |     |     |     |
| 01112.27570   | C2 - Platform Degree 1 Works   | 02-Jun-16   | 16-Jun-16         | 15-May-17                | 27-May-17                 | -210              | 25-May-17                | 07-Jun-17                 | -286              | -219        | 99%                 |      |     |     |     |
| <b>Structure Above Ground (Grid M1 ECS Room / Grid J-K1 Staff Rooms)</b>  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.27490   | C2 - Upgrade of Fire Protection to Underside of Podium Removal       | 18-Jul-15   | 25-Sep-15         | 25-Apr-17                | 08-May-17                 | -210              | 25-May-17                | 05-Jun-17                 | -492              | -219        | 95%                 |      |     |     |     |

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

**Three Month Rolling Programme (25-May-17)**

Project ID : 01112-3M51A  
 Layout : May 2017 MPR  
 Page 2 of 6

| Date      | Revision              | Checked | Approved |
|-----------|-----------------------|---------|----------|
| 13-May-13 | Revision 1 - Recalled |         |          |
| 25-Jun-13 | Revision 1            |         |          |
| 10-Oct-13 | Revision 2            |         |          |





| Data Date : 25-May-17<br>Print Date : 02-Jun-17                      |   | MTR Shatin to Central Link - Contract 1112<br>Hung Hom Station and Stabling Sidings |                   |                          |                           |                   |                          |                           |                   |             |                     | 2017 |     |     |     |
|--|---|---|-------------------|--------------------------|---------------------------|-------------------|--------------------------|---------------------------|-------------------|-------------|---------------------|------|-----|-----|-----|
| Activity ID  | Activity Name   | TCP1 Early Start  | TCP1 Early Finish | Apr/2017 3MR Early Start | Apr/2017 3MR Early Finish | Apr/2017 Variance | May/2017 3MR Early Start | May/2017 3MR Early Finish | May/2017 Variance | Total Float | Activity % Complete | May  | Jun | Jul | Aug |
| <b>HUH Area C3 (Grid 40 to 50)</b>                                   |   | 11-Sep-15   | 06-Aug-16         | 25-Apr-17                | 27-May-17                 |                   | 25-May-17                | 10-Jun-17                 | -246              | -102        |                     |      |     |     |     |
| <b>ELS and Tunnel Structure</b>                                      |   | 18-Jun-16   | 06-Aug-16         | 25-Apr-17                | 27-May-17                 |                   | 25-May-17                | 10-Jun-17                 | -246              | -102        |                     |      |     |     |     |
| 01112.28310  | C3 - Construct Derailment Kerb for NSL  | 18-Jun-16   | 06-Jul-16         | 11-May-17                | 27-May-17                 | -90               | 25-May-17                | 10-Jun-17                 | -273              | -102        | 15%                 |      |     |     |     |
| 01112.28670  | C3 - Platform Degree 1 Works  | 25-Jul-16   | 06-Aug-16         | 25-Apr-17                | 10-May-17                 | -195              | 25-May-17                | 07-Jun-17                 | -243              | -219        | 95%                 |      |     |     |     |
| <b>Structure Above Ground (Grid M1, J-K1 SVS / TSF / TSVS Rooms)</b> |   | 11-Sep-15   | 23-Nov-15         | 25-Apr-17                | 09-May-17                 |                   | 25-May-17                | 06-Jun-17                 | -446              | -219        |                     |      |     |     |     |
| 01112.28520  | C3 - Upgrade of Fire Protection to Underside of Podium Removal                      | 11-Sep-15   | 23-Nov-15         | 25-Apr-17                | 09-May-17                 | -195              | 25-May-17                | 06-Jun-17                 | -446              | -219        | 90%                 |      |     |     |     |
| <b>Platform ABWF and E&amp;M (Degree 2 &amp; Degree 3 Works)</b>     |   | 01-Aug-16   | 17-Mar-17         | 11-May-17                | 02-Nov-17                 |                   | 25-May-17                | 30-Nov-17                 | -210              | -207        |                     |      |     |     |     |
| 01112.29010  | HUH - NSL Platform Level BOH ABWF to 4A Degree 3                                    | 03-Jan-17   | 17-Mar-17         | 26-Jul-17                | 30-Sep-17                 | -158              | 09-Aug-17                | 17-Oct-17                 | -173              | -170        | 0%                  |      |     |     |     |
| 01112.29020  | HUH - NSL Platform Level E&M to 4B Degree 2   | 03-Oct-16   | 03-Dec-16         | 13-Jul-17                | 12-Sep-17                 | -203              | 27-Jul-17                | 26-Sep-17                 | -237              | -215        | 23%                 |      |     |     |     |
| 01112.29030  | HUH - EWL Platform Level E&M to 4F Degree 2   | 17-Nov-16   | 27-Jan-17         | 27-Jun-17                | 05-Sep-17                 | -175              | 27-Jul-17                | 04-Oct-17                 | -199              | -199        | 14%                 |      |     |     |     |
| 01112.29100  | HUH - NSL Platform Level E&M to 4A Degree 2   | 18-Oct-16   | 31-Dec-16         | 11-May-17                | 25-Jul-17                 | -158              | 25-May-17                | 08-Aug-17                 | -173              | -170        | 23%                 |      |     |     |     |
| 01112.29110  | HUH - NSL Platform Level ABWF to 4B Degree 2  | 01-Aug-16   | 30-Sep-16         | 11-May-17                | 12-Jul-17                 | -203              | 25-May-17                | 26-Jul-17                 | -237              | -215        | 8%                  |      |     |     |     |
| 01112.29120  | HUH - EWL Platform Level BOH ABWF to 4F Degree 2                                    | 05-Sep-16   | 16-Nov-16         | 11-May-17                | 26-Jun-17                 | -175              | 08-Jun-17                | 26-Jul-17                 | -199              | -199        | 30%                 |      |     |     |     |
| 01112.29160  | HUH - EWL Platform Level E&M to 4G Degree 2   | 15-Nov-16   | 24-Jan-17         | 24-Aug-17                | 02-Nov-17                 | -222              | 21-Sep-17                | 30-Nov-17                 | -249              | -246        | 14%                 |      |     |     |     |
| 01112.29170  | HUH - NSL Platform Level BOH ABWF to 4A Degree 2                                    | 01-Aug-16   | 17-Oct-16         | 11-May-17                | 26-Jul-17                 | -158              | 25-May-17                | 09-Aug-17                 | -237              | -170        | 8%                  |      |     |     |     |
| 01112.29270  | HUH - EWL Platform Level ABWF to 4G Degree 2  | 05-Sep-16   | 14-Nov-16         | 15-Jun-17                | 23-Aug-17                 | -222              | 15-Jul-17                | 20-Sep-17                 | -249              | -246        | 30%                 |      |     |     |     |
| <b>Utilities</b>   |   | 18-Jun-15   | 04-Jul-16         | 25-Apr-17                | 29-May-17                 |                   | 25-May-17                | 26-Jun-17                 | -288              | 221         |                     |      |     |     |     |
| 01112.29050  | HUH - Storm Drain DSDD-1112-111, 112 for South Vent Shaft                           | 18-Jun-15   | 22-Jul-15         | 25-Apr-17                | 29-May-17                 | -163              | 25-May-17                | 26-Jun-17                 | -566              | -187        | 0%                  |      |     |     |     |
| 01112.29080  | HUH - Water WM-1112-107   | 18-Jun-16   | 04-Jul-16         | 11-May-17                | 11-May-17                 | 261               | 25-May-17                | 25-May-17                 | -260              | 249         | 40%                 |      |     |     |     |
| 01112.29090  | HUH - Telecom TEL-1112-104  | 28-Nov-15   | 28-Dec-15         | 25-Apr-17                | 24-May-17                 | 249               | 25-May-17                | 21-Jun-17                 | -431              | 225         | 60%                 |      |     |     |     |
| <b>Reinstatement</b>   |   | 30-Jun-16   | 08-Sep-16         | 11-May-17                | 21-Jul-17                 |                   | 25-May-17                | 04-Aug-17                 | -263              | 201         |                     |      |     |     |     |
| 01112.29210  | HUH - Reinstatement   | 30-Jun-16   | 08-Sep-16         | 11-May-17                | 21-Jul-17                 | 213               | 25-May-17                | 04-Aug-17                 | -263              | 201         | 0%                  |      |     |     |     |
| <b>HUH North Approach Tunnel (NAT) &amp; North Fan Area (NFA)</b>    |   | 03-May-14   | 24-Nov-16         | 25-Apr-17                | 25-Jul-17                 |                   | 25-May-17                | 22-Aug-17                 | -215              | 198         |                     |      |     |     |     |
| <b>Utilities</b>   |   | 03-May-14   | 22-Aug-16         | 25-Apr-17                | 25-Jul-17                 |                   | 25-May-17                | 22-Aug-17                 | -293              | 198         |                     |      |     |     |     |
| 01112.31910  | NFA - Storm Drain DSDD-1112-118 Cheung Wan Road Drainage Connect to New Box Culvert | 24-Apr-15   | 06-Jun-15         | 25-Apr-17                | 10-May-17                 | 285               | 25-May-17                | 07-Jun-17                 | -587              | 261         | 80%                 |      |     |     |     |
| 01112.31960  | NFA - Sewer DSDS-1112-117, Temporary Support & Abandon DSDS-1112-007                | 12-Sep-14   | 12-Nov-14         | 25-Apr-17                | 01-Jun-17                 | 254               | 25-May-17                | 29-Jun-17                 | -768              | 230         | 95%                 |      |     |     |     |
| 01112.31970  | NFA - Sewer DSDS-1112-118, Temporary Support & Abandon DSDS-1112-008                | 03-May-14   | 30-Jun-14         | 25-Apr-17                | 25-Jul-17                 | 210               | 25-May-17                | 22-Aug-17                 | -924              | 186         | 95%                 |      |     |     |     |
| 01112.32030  | NFA - Water WM-1112-114   | 06-Aug-16   | 22-Aug-16         | 25-Apr-17                | 12-May-17                 | -107              | 25-May-17                | 09-Jun-17                 | -232              | -131        | 0%                  |      |     |     |     |
| <b>NSL/EWL Area 1 - NSL U100+347 to U100+408</b>                     |   | 25-May-16   | 29-Sep-16         | 25-Apr-17                | 13-Jul-17                 |                   | 25-May-17                | 10-Aug-17                 | -251              | 196         |                     |      |     |     |     |
| <b>ELS and Tunnel Structure</b>                                      |   | 25-May-16   | 08-Jun-16         | 25-Apr-17                | 13-Jul-17                 |                   | 25-May-17                | 10-Aug-17                 | -345              | -152        |                     |      |     |     |     |
| 01112.31380  | N1 - Construct Derailment Kerb to NSL   | 25-May-16   | 08-Jun-16         | 25-Apr-17                | 13-Jul-17                 | -128              | 25-May-17                | 10-Aug-17                 | -345              | -152        | 30%                 |      |     |     |     |
| <b>Noise Barrier - Option 1</b>                                      |   | 04-Aug-16   | 29-Sep-16         | 25-Apr-17                | 07-Jun-17                 |                   | 25-May-17                | 07-Jul-17                 | -222              | 225         |                     |      |     |     |     |
| 01112.31410  | N1 - Noise Barrier Erect Steel Structure  | 04-Aug-16   | 31-Aug-16         | 25-Apr-17                | 24-May-17                 | 249               | 25-May-17                | 21-Jun-17                 | -234              | 225         | 50%                 |      |     |     |     |
| 01112.31420  | N1 - Install Absorptive Panels  | 01-Sep-16   | 29-Sep-16         | 11-May-17                | 07-Jun-17                 | 249               | 08-Jun-17                | 07-Jul-17                 | -222              | 225         | 20%                 |      |     |     |     |
| <b>Noise Enclosure &amp; Stabling Siding Track</b>                   |   | 18-Jun-16   | 18-Oct-16         | 25-Apr-17                | 18-May-17                 |                   | 25-May-17                | 15-Jun-17                 | -191              | 242         |                     |      |     |     |     |
| <b>Launching / Emergency Retrieval / Stabling Siding Track</b>       |   | 18-Jun-16   | 27-Aug-16         | 25-Apr-17                | 29-Apr-17                 |                   | 25-May-17                | 30-May-17                 | -218              | 242         |                     |      |     |     |     |
| 01112.55080  | NFA - Construct Trough Structure, Plinth  | 18-Jun-16   | 27-Aug-16         | 25-Apr-17                | 29-Apr-17                 | 266               | 25-May-17                | 30-May-17                 | -218              | 242         | 99%                 |      |     |     |     |
| <b>Noise Enclosure</b>   |   | 22-Aug-16   | 18-Oct-16         | 25-Apr-17                | 18-May-17                 |                   | 25-May-17                | 15-Jun-17                 | -191              | 242         |                     |      |     |     |     |
| 01112.55060  | NFA - Acoustic Test   | 04-Oct-16   | 18-Oct-16         | 05-May-17                | 18-May-17                 | 266               | 02-Jun-17                | 15-Jun-17                 | -191              | 242         | 0%                  |      |     |     |     |

■ Remaining Level of Effort ■ Actual Level of Effort  
■ Actual Work ■ Remaining Work  
■ Critical Remaining Work

**Three Month Rolling Programme (25-May-17)**

Project ID : 01112-3M51A  
 Layout : May 2017 MPR  
 Page 3 of 6

| Date      | Revision              | Checked | Approved |
|-----------|-----------------------|---------|----------|
| 13-May-13 | Revision 1 - Recalled |         |          |
| 25-Jun-13 | Revision 1            |         |          |
| 10-Oct-13 | Revision 2            |         |          |



| Data Date : 25-May-17<br>Print Date : 02-Jun-17   |   | MTR Shatin to Central Link - Contract 1112<br>Hung Hom Station and Stabling Sidings |                    |                          |                           |                   |                          |                           |                   |             |                     | 2017 |     |     |     |
|---|---|---|--------------------|--------------------------|---------------------------|-------------------|--------------------------|---------------------------|-------------------|-------------|---------------------|------|-----|-----|-----|
| Activity ID   | Activity Name   | TCPT1 Early Start   | TCPT1 Early Finish | Apr/2017 3MR Early Start | Apr/2017 3MR Early Finish | Apr/2017 Variance | May/2017 3MR Early Start | May/2017 3MR Early Finish | May/2017 Variance | Total Float | Activity % Complete | May  | Jun | Jul | Aug |
| 01112.55120   | NFA - Noise Metal Cladding  | 22-Aug-16   | 03-Oct-16          | 25-Apr-17                | 04-May-17                 | 266               | 25-May-17                | 01-Jun-17                 | -191              | 242         | 98%                 |      |     |     |     |
| <b>NSL/ EWL Area 2 - NSL U100+408 to U100+466</b>   |   | 09-Jul-16   | 24-Nov-16          | 25-Apr-17                | 16-Jun-17                 |                   | 25-May-17                | 17-Jul-17                 | -184              | 217         |                     |      |     |     |     |
| <b>ELS and Tunnel Structure</b>   |   | 09-Jul-16   | 02-Sep-16          | 25-Apr-17                | 24-May-17                 |                   | 25-May-17                | 21-Jun-17                 | -232              | 237         |                     |      |     |     |     |
| 01112.31560   | N2 - Construct Derailment Kerb to NSL   | 09-Jul-16   | 23-Jul-16          | 25-Apr-17                | 11-May-17                 | -76               | 25-May-17                | 08-Jun-17                 | -256              | -100        | 30%                 |      |     |     |     |
| 01112.81090   | N2 - Install Noise Absorptive Panels  | 06-Aug-16   | 02-Sep-16          | 25-Apr-17                | 24-May-17                 | 261               | 25-May-17                | 21-Jun-17                 | -232              | 237         | 20%                 |      |     |     |     |
| <b>Noise Barrier - Option 1</b>   |   | 13-Sep-16   | 24-Sep-16          | 25-Apr-17                | 08-May-17                 |                   | 25-May-17                | 05-Jun-17                 | -200              | 251         |                     |      |     |     |     |
| 01112.31590   | N2 - Noise Barrier Erect Steel Structure  | 13-Sep-16   | 20-Sep-16          | 25-Apr-17                | 02-May-17                 | 275               | 25-May-17                | 31-May-17                 | -200              | 251         | 50%                 |      |     |     |     |
| 01112.31592   | N2 - Install Absorptive Panels (Final Works to be completed after System Works)                 | 21-Sep-16   | 24-Sep-16          | 04-May-17                | 08-May-17                 | 275               | 01-Jun-17                | 05-Jun-17                 | -200              | 251         | 20%                 |      |     |     |     |
| <b>Interfacing with 1111</b>  |   | 14-Oct-16   | 24-Nov-16          | 13-May-17                | 16-Jun-17                 |                   | 10-Jun-17                | 17-Jul-17                 | -184              | -131        |                     |      |     |     |     |
| 01112.31720   | 1111 - Complete Stitching and Make Good Waterproofing   | 14-Oct-16   | 24-Nov-16          | 13-May-17                | 16-Jun-17                 | -107              | 10-Jun-17                | 17-Jul-17                 | -184              | -131        | 30%                 |      |     |     |     |
| <b>Reinstatement</b>  |   | 23-Jul-16   | 17-Sep-16          | 25-Apr-17                | 07-Jun-17                 |                   | 25-May-17                | 07-Jul-17                 | -232              | 225         |                     |      |     |     |     |
| 01112.55200   | NFA - Underground Utilities   | 23-Jul-16   | 02-Sep-16          | 25-Apr-17                | 11-May-17                 | 249               | 25-May-17                | 08-Jun-17                 | -221              | 225         | 65%                 |      |     |     |     |
| 01112.55210   | NFA - Reinstatement & Landscaping   | 06-Aug-16   | 17-Sep-16          | 25-Apr-17                | 07-Jun-17                 | 249               | 25-May-17                | 07-Jul-17                 | -232              | 225         | 0%                  |      |     |     |     |
| <b>HUH MODIFICATION</b>   |   | 28-Oct-14   | 04-Oct-17          | 25-Apr-17                | 29-Jun-18                 |                   | 25-May-17                | 04-Nov-17                 | -31               | 222         |                     |      |     |     |     |
| <b>Modification Podium Concourse Level</b>  |   | 28-Oct-14   | 04-Oct-17          | 25-Apr-17                | 29-Jun-18                 |                   | 25-May-17                | 04-Nov-17                 | -25               | 175         |                     |      |     |     |     |
| <b>Stage 1</b>  |   | 28-Oct-14   | 26-Jan-16          | 25-Apr-17                | 13-Sep-17                 |                   | 25-May-17                | 13-Oct-17                 | -501              | 193         |                     |      |     |     |     |
| <b>Area M12, M37, M36</b>   |   | 13-Nov-14   | 27-Nov-15          | 25-Apr-17                | 19-Jul-17                 |                   | 25-May-17                | 16-Aug-17                 | -501              | 64          |                     |      |     |     |     |
| <b>Construction of Future Station Control Room and DEE &amp; MOE Stairs at G.L. 21-22/K1-M1</b>           |   | 13-Nov-14   | 27-Nov-15          | 25-Apr-17                | 19-Jul-17                 |                   | 25-May-17                | 16-Aug-17                 | -501              | 64          |                     |      |     |     |     |
| 01112.35320   | S1 - Construction of the R.C. structure of the lift shaft and staircase                         | 13-Nov-14   | 17-Dec-14          | 25-Apr-17                | 28-Apr-17                 | 89                | 25-May-17                | 29-May-17                 | -711              | 65          | 30%                 |      |     |     |     |
| 01112.35340   | S1 - Construction of slab and wall Associated ABWF Works  | 27-Jun-15   | 29-Aug-15          | 02-May-17                | 17-Jun-17                 | 88                | 31-May-17                | 18-Jul-17                 | -550              | 64          | 60%                 |      |     |     |     |
| 01112.35360   | S1 - Station System Works (by other Designated Contractors)                                     | 31-Aug-15   | 27-Nov-15          | 19-Jun-17                | 19-Jul-17                 | 88                | 19-Jul-17                | 16-Aug-17                 | -501              | 64          | 0%                  |      |     |     |     |
| 01112.35370   | S1 - Construction of slab and wall  | 15-Apr-15   | 26-Jun-15          | 25-Apr-17                | 29-Apr-17                 | 88                | 25-May-17                | 30-May-17                 | -564              | 64          | 90%                 |      |     |     |     |
| <b>Area M35</b>   |   | 28-Oct-14   | 20-Dec-14          | 25-Apr-17                | 06-May-17                 |                   | 25-May-17                | 03-Jun-17                 | -713              | 302         |                     |      |     |     |     |
| <b>Modification of Smoke Extract Duct and Revise MOE Staircase at G.L. 23-25/B-C</b>                      |   | 28-Oct-14   | 20-Dec-14          | 25-Apr-17                | 06-May-17                 |                   | 25-May-17                | 03-Jun-17                 | -713              | 302         |                     |      |     |     |     |
| 01112.35640   | S1 - Modification of Smoke Extract Duct and Revise MOE Staircase at G.L. 23-25/B-C              | 28-Oct-14   | 20-Dec-14          | 25-Apr-17                | 06-May-17                 | 326               | 25-May-17                | 03-Jun-17                 | -713              | 302         | 20%                 |      |     |     |     |
| <b>Area M8</b>  |   | 29-Jun-15   | 22-Oct-15          | 25-Apr-17                | 27-Jun-17                 |                   | 25-May-17                | 27-Jul-17                 | -515              | 81          |                     |      |     |     |     |
| 01112.81180   | S1 - Fill-up void and replace existing screeding with light weight concrete over escalator void | 29-Jun-15   | 24-Aug-15          | 25-Apr-17                | 25-May-17                 | 105               | 25-May-17                | 22-Jun-17                 | -535              | 81          | 20%                 |      |     |     |     |
| 01112.81190   | S1 - Replace existing screeding with light weight concrete remaining areas                      | 25-Aug-15   | 22-Oct-15          | 26-May-17                | 27-Jun-17                 | 105               | 23-Jun-17                | 27-Jul-17                 | -515              | 81          | 20%                 |      |     |     |     |
| <b>Inspection and Change Over</b>   |   | 28-Nov-15   | 26-Jan-16          | 20-Jul-17                | 13-Sep-17                 |                   | 17-Aug-17                | 13-Oct-17                 | -501              | 64          |                     |      |     |     |     |
| 01112.35700   | S1 - Inspections, T&C, Change Over  | 28-Nov-15   | 26-Jan-16          | 20-Jul-17                | 13-Sep-17                 | 88                | 17-Aug-17                | 13-Oct-17                 | -501              | 64          | 0%                  |      |     |     |     |
| <b>Stage 2</b>  |   | 21-Mar-16   | 30-Nov-16          | 25-Apr-17                | 20-Nov-17                 |                   | 25-May-17                | 22-Jul-17                 | -184              | 212         |                     |      |     |     |     |
| <b>Area M13 &amp; M14</b>   |   | 21-Mar-16   | 30-Nov-16          | 25-Apr-17                | 20-Nov-17                 |                   | 25-May-17                | 22-Jul-17                 | -184              | 212         |                     |      |     |     |     |
| <b>Civil and ABWF Provision for Escalators at G.L. 27-33/B-C from Mid Level to Podium Concourse Level</b> |   | 21-Mar-16   | 30-Nov-16          | 25-Apr-17                | 20-Nov-17                 |                   | 25-May-17                | 22-Jul-17                 | -184              | 212         |                     |      |     |     |     |
| 01112.36140   | S2 - Modification and strengthening work for the existing structure                             | 21-Mar-16   | 02-Jul-16          | 25-Apr-17                | 07-Jul-17                 | -204              | 25-May-17                | 10-Jun-17                 | -276              | 212         | 95%                 |      |     |     |     |
| 01112.36150   | S2 - Civil Provision for Escalators at G.L. 27-33/B-C from Mid Level to Podium Concourse Level  | 04-Jul-16   | 26-Sep-16          | 08-Jul-17                | 21-Sep-17                 | -204              | 12-Jun-17                | 24-Jun-17                 | -216              | 212         | 95%                 |      |     |     |     |

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

### Three Month Rolling Programme (25-May-17)

Project ID : 01112-3M51A  
 Layout : May 2017 MPR  
 Page 4 of 6

| Date      | Revision              | Checked | Approved |
|-----------|-----------------------|---------|----------|
| 13-May-13 | Revision 1 - Recalled |         |          |
| 25-Jun-13 | Revision 1            |         |          |
| 10-Oct-13 | Revision 2            |         |          |



| Data Date : 25-May-17<br>Print Date : 02-Jun-17  |  | MTR Shatin to Central Link - Contract 1112<br>Hung Hom Station and Stabling Sidings |                   |                          |                           |                   |                          |                           |                   |             | 2017                |      |     |     |     |
|--|--|---|-------------------|--------------------------|---------------------------|-------------------|--------------------------|---------------------------|-------------------|-------------|---------------------|------|-----|-----|-----|
| Activity ID  | Activity Name  | TCP1 Early Start  | TCP1 Early Finish | Apr/2017 3MR Early Start | Apr/2017 3MR Early Finish | Apr/2017 Variance | May/2017 3MR Early Start | May/2017 3MR Early Finish | May/2017 Variance | Total Float | Activity % Complete | 2017 |     |     |     |
|  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     | May  | Jun | Jul | Aug |
| 01112.36160  | S2 - Installation of New Escalators at G.L. 27-33/B-C from Mid Level to Podium Concourse Level (By 1172) | 27-Sep-16   | 30-Nov-16         | 22-Sep-17                | 20-Nov-17                 | -204              | 26-Jun-17                | 08-Jul-17                 | -172              | 212         | 95%                 |      |     |     |     |
| 01112.36170  | S2 - Associated ABWF Works   | 20-Oct-16   | 30-Nov-16         | 09-Oct-17                | 20-Nov-17                 | -204              | 26-Jun-17                | 22-Jul-17                 | -184              | 212         | 95%                 |      |     |     |     |
| <b>Area M17 &amp; M38</b>  |  | 27-Jul-16   | 30-Nov-16         | 25-Apr-17                | 31-May-17                 |                   | 25-May-17                | 28-Jun-17                 | -165              | 231         |                     |      |     |     |     |
| <b>Construction of new Mezzanine Floor For F&amp;B at G.L. 31-37/J1-L1</b>                                     |  | 27-Jul-16   | 26-Nov-16         | 25-Apr-17                | 10-May-17                 |                   | 25-May-17                | 07-Jun-17                 | -150              | 249         |                     |      |     |     |     |
| 01112.36110  | S2 - Building Services Works (by 1173)   | 27-Jul-16   | 26-Nov-16         | 25-Apr-17                | 10-May-17                 | -43               | 25-May-17                | 07-Jun-17                 | -150              | 249         | 99%                 |      |     |     |     |
| <b>Civil and ABWF works for escalator U2-ESC 03, 04, 11-14 at G.L. 26-34/L-L1</b>                              |  | 27-Oct-16   | 30-Nov-16         | 25-Apr-17                | 31-May-17                 |                   | 25-May-17                | 28-Jun-17                 | -165              | 231         |                     |      |     |     |     |
| 01112.36230  | S2 - Installation of new escalators (by 1172)  | 27-Oct-16   | 30-Nov-16         | 25-Apr-17                | 31-May-17                 | -61               | 25-May-17                | 28-Jun-17                 | -165              | 231         | 50%                 |      |     |     |     |
| <b>Stage 3</b>   |  | 20-Mar-17   | 04-Oct-17         | 05-Dec-17                | 29-Jun-18                 |                   | 25-May-17                | 04-Nov-17                 | -25               | -2          |                     |      |     |     |     |
| <b>Area M26</b>  |  | 03-Apr-17   | 28-Sep-17         | 05-Dec-17                | 02-May-18                 |                   | 25-May-17                | 09-Oct-17                 | -7                | 16          |                     |      |     |     |     |
| <b>Construction of New Concession area at G.L. 28-32/E-J1</b>  |  | 26-May-17   | 23-Sep-17         | 05-Dec-17                | 29-Mar-18                 |                   | 25-May-17                | 08-Sep-17                 | 13                | 40          |                     |      |     |     |     |
| 01112.36490  | S3 - ABWF works  | 26-May-17   | 10-Aug-17         | 05-Dec-17                | 27-Feb-18                 | -121              | 25-May-17                | 09-Aug-17                 | 1                 | 40          | 20%                 |      |     |     |     |
| 01112.36500  | S3 - Building services works (by 1173)   | 09-Jun-17   | 23-Sep-17         | 05-Dec-17                | 29-Mar-18                 | -121              | 25-May-17                | 08-Sep-17                 | 13                | 40          | 30%                 |      |     |     |     |
| <b>Civil and ABWF works for escalator U2-ESC 03, 04, 11-14 at G.L. 26-34/L-L1</b>                              |  | 03-Apr-17   | 22-Aug-17         | 05-Dec-17                | 02-May-18                 |                   | 25-May-17                | 09-Oct-17                 | -39               | 16          |                     |      |     |     |     |
| 01112.36506  | S3 - Close extg opening using Bondeck;   | 03-Apr-17   | 27-Apr-17         | 05-Dec-17                | 27-Dec-17                 | -160              | 25-May-17                | 14-Jun-17                 | -39               | 1           | 0%                  |      |     |     |     |
| 01112.36507  | S3 - Install new seating area  | 28-Apr-17   | 27-May-17         | 28-Dec-17                | 25-Jan-18                 | -145              | 15-Jun-17                | 14-Jul-17                 | -39               | 16          | 0%                  |      |     |     |     |
| 01112.36508  | S3 - Building services works (by 1173)   | 29-May-17   | 22-Aug-17         | 26-Jan-18                | 02-May-18                 | -145              | 15-Jul-17                | 09-Oct-17                 | -39               | 16          | 0%                  |      |     |     |     |
| 01112.36510  | S3 - Installation of new escalators (by 1172)  | 03-Apr-17   | 04-Jul-17         | 05-Dec-17                | 08-Mar-18                 | -178              | 25-May-17                | 18-Aug-17                 | -39               | -17         | 0%                  |      |     |     |     |
| 01112.36520  | S3 - Associated ABWF works   | 22-May-17   | 01-Aug-17         | 19-Jan-18                | 10-Apr-18                 | -178              | 08-Jul-17                | 15-Sep-17                 | -39               | -17         | 0%                  |      |     |     |     |
| <b>Civil and ABWF works for Lift U2-LT-01 at G.L.29-30/K1-M1</b>   |  | 19-Jun-17   | 28-Sep-17         | 28-Dec-17                | 19-Apr-18                 |                   | 25-May-17                | 04-Sep-17                 | 21                | 44          |                     |      |     |     |     |
| 01112.36550  | S3 - Construction of lift shaft Enclosure  | 19-Jun-17   | 25-Jul-17         | 28-Dec-17                | 01-Feb-18                 | -135              | 25-May-17                | 28-Jun-17                 | 21                | 44          | 0%                  |      |     |     |     |
| 01112.36560  | S3 - Installation of lift (by 1159) [UT-LT-01]   | 26-Jul-17   | 28-Sep-17         | 02-Feb-18                | 19-Apr-18                 | -135              | 29-Jun-17                | 04-Sep-17                 | 21                | 44          | 0%                  |      |     |     |     |
| <b>Area M28</b>  |  | 22-May-17   | 03-Oct-17         | 05-Dec-17                | 30-Apr-18                 |                   | 25-May-17                | 07-Oct-17                 | -3                | 17          |                     |      |     |     |     |
| <b>Extension of new F&amp;B M/F &amp; civil provision for escalator U2-ESC-20 &amp; 21 at G.L. 37-39/J1-L1</b> |  | 22-May-17   | 03-Oct-17         | 05-Dec-17                | 30-Apr-18                 |                   | 25-May-17                | 07-Oct-17                 | -3                | 17          |                     |      |     |     |     |
| 01112.36370  | S3 - Construction of new decking and associated ABWF works   | 22-May-17   | 01-Aug-17         | 05-Dec-17                | 15-Feb-18                 | -144              | 25-May-17                | 04-Aug-17                 | -3                | 17          | 50%                 |      |     |     |     |
| 01112.36380  | S3 - Building services work (by 1173)  | 26-Jun-17   | 03-Oct-17         | 15-Dec-17                | 04-Apr-18                 | -123              | 25-May-17                | 31-Aug-17                 | 27                | 47          | 0%                  |      |     |     |     |
| 01112.36390  | S3 - Forming slab opening for new escalation and associated ABWF works                                   | 22-May-17   | 08-Jul-17         | 05-Dec-17                | 23-Jan-18                 | -124              | 25-May-17                | 12-Jul-17                 | -3                | 37          | 70%                 |      |     |     |     |
| 01112.36400  | S3 - Installation of new escalators (by 1172)  | 02-Aug-17   | 03-Oct-17         | 23-Feb-18                | 30-Apr-18                 | -144              | 05-Aug-17                | 07-Oct-17                 | -3                | 17          | 0%                  |      |     |     |     |
| <b>Area M29</b>  |  | 20-Mar-17   | 06-Sep-17         | 05-Dec-17                | 29-May-18                 |                   | 25-May-17                | 04-Nov-17                 | -48               | -6          |                     |      |     |     |     |
| <b>Construction of Staircase U2-ST-69 (SEE) and MOE U2-ST-59 at G.L. 38-39/K1-M1</b>                           |  | 20-Mar-17   | 06-Sep-17         | 05-Dec-17                | 29-May-18                 |                   | 25-May-17                | 04-Nov-17                 | -48               | -6          |                     |      |     |     |     |
| 01112.36410  | S3 - Structural modification works at G.L. 38-39/K1-M1   | 20-Mar-17   | 20-Apr-17         | 05-Dec-17                | 04-Jan-18                 | -204              | 25-May-17                | 21-Jun-17                 | -51               | -43         | 70%                 |      |     |     |     |
| 01112.36420  | S3 - Erect structural steelwork for the staircase  | 23-Mar-17   | 24-Apr-17         | 05-Dec-17                | 04-Jan-18                 | -204              | 25-May-17                | 21-Jun-17                 | -48               | -43         | 20%                 |      |     |     |     |
| 01112.36430  | S3 - Forming slab openings and construct the staircase structure   | 25-Apr-17   | 12-Jun-17         | 05-Jan-18                | 27-Feb-18                 | -204              | 22-Jun-17                | 09-Aug-17                 | -48               | -43         | 60%                 |      |     |     |     |
| 01112.36440  | S3 - Finishes and associated ABWF works  | 13-Jun-17   | 30-Aug-17         | 28-Feb-18                | 21-May-18                 | -161              | 10-Aug-17                | 27-Oct-17                 | -48               | 0           | 0%                  |      |     |     |     |
| 01112.36450  | S3 - Building services work (by 1173)  | 13-Jun-17   | 06-Sep-17         | 28-Feb-18                | 29-May-18                 | -167              | 10-Aug-17                | 04-Nov-17                 | -48               | -6          | 5%                  |      |     |     |     |
| <b>Building Services</b>   |  | 20-Mar-17   | 04-Oct-17         | 05-Dec-17                | 29-Jun-18                 |                   | 25-May-17                | 20-Sep-17                 | 11                | 34          |                     |      |     |     |     |
| 01112.36610  | BS - S3 Diversion and Modification after Possession  | 20-Mar-17   | 15-Jun-17         | 05-Dec-17                | 06-Mar-18                 | -189              | 25-May-17                | 16-Aug-17                 | -51               | 34          | 70%                 |      |     |     |     |
| 01112.36620  | BS - S3 Testing and Commissioning  | 30-Aug-17   | 04-Oct-17         | 25-May-18                | 29-Jun-18                 | -189              | 17-Aug-17                | 20-Sep-17                 | 11                | 34          | 0%                  |      |     |     |     |
| <b>Area M19-M25</b>  |  | 04-May-17   | 14-Jul-17         | 12-Jan-18                | 29-Mar-18                 |                   | 22-Jun-17                | 01-Sep-17                 | -42               | 46          |                     |      |     |     |     |
| <b>Upgrading wall Finishes at G.L. C-E/26-28</b>   |  | 04-May-17   | 14-Jul-17         | 12-Jan-18                | 29-Mar-18                 |                   | 22-Jun-17                | 01-Sep-17                 | -42               | 46          |                     |      |     |     |     |
| 01112.36580  | S3 - ABWF works (Install cladding)   | 04-May-17   | 31-May-17         | 12-Jan-18                | 08-Feb-18                 | -121              | 22-Jun-17                | 21-Jul-17                 | -42               | 46          | 0%                  |      |     |     |     |

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

**Three Month Rolling Programme (25-May-17)**

Project ID : 01112-3M51A  
 Layout : May 2017 MPR  
 Page 5 of 6

| Date      | Revision              | Checked | Approved |
|-----------|-----------------------|---------|----------|
| 13-May-13 | Revision 1 - Recalled |         |          |
| 25-Jun-13 | Revision 1            |         |          |
| 10-Oct-13 | Revision 2            |         |          |



| Data Date : 25-May-17<br>Print Date : 02-Jun-17                            |  | MTR Shatin to Central Link - Contract 1112<br>Hung Hom Station and Stabling Sidings |                   |                          |                           |                   |                          |                           |                   |             |                     | 2017 |     |     |     |
|--|--|---|-------------------|--------------------------|---------------------------|-------------------|--------------------------|---------------------------|-------------------|-------------|---------------------|------|-----|-----|-----|
| Activity ID  | Activity Name  | TCP1 Early Start  | TCP1 Early Finish | Apr/2017 3MR Early Start | Apr/2017 3MR Early Finish | Apr/2017 Variance | May/2017 3MR Early Start | May/2017 3MR Early Finish | May/2017 Variance | Total Float | Activity % Complete | May  | Jun | Jul | Aug |
| 01112.36590  | S3 - Installation of Advertising panel and associated BS works   | 01-Jun-17   | 14-Jul-17         | 09-Feb-18                | 29-Mar-18                 | -121              | 22-Jul-17                | 01-Sep-17                 | -42               | 46          | 0%                  |      |     |     |     |
| <b>Area M33, M34</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>Modification Walkway Level (Mid Level)</b>                              |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.99970  | ENT E - Demolish wall at mid-level walkway (GLB/24-26 & B/34-36) (I&P)   | 07-Sep-16   | 07-Oct-16         | 26-Apr-17                | 26-May-17                 | -58               | 26-May-17                | 21-Jun-17                 | -100              | -69         | 85%                 |      |     |     |     |
| 01112.99972  | ENT E - Installation of strengthening beams & hanger post underneath the concourse slab (GL 26-29 & 31-34)               | 31-Aug-15   | 30-Dec-15         | 26-Apr-17                | 28-Apr-17                 | -58               | 26-May-17                | 29-May-17                 | -203              | -69         | 95%                 |      |     |     |     |
| 01112.99974  | ENT E-Setup the temp frame (1172) & install lifting beams for escalators installation at concourse slab (GL 26-28,32-34) | 31-Dec-15   | 30-Jan-16         | 29-Apr-17                | 24-May-17                 | -76               | 30-May-17                | 21-Jun-17                 | -403              | -100        | 0%                  |      |     |     |     |
| 01112.99978  | ENT E - Demolish the designated podium slab and beams (NTH)  | 03-Mar-16   | 04-May-16         | 26-Apr-17                | 09-May-17                 | -118              | 26-May-17                | 06-Jun-17                 | -320              | -142        | 95%                 |      |     |     |     |
| 01112.99980  | ENT E - Remove the debris shield for the podium opening (I&P)  | 04-May-16   | 04-Jul-16         | 26-Apr-17                | 02-Jun-17                 | -58               | 26-May-17                | 28-Jun-17                 | -142              | -69         | 0%                  |      |     |     |     |
| 01112.99982  | ENT E - Install escalator & remove temporary lifting frame (by 1172) - Up to 4K Degree 3 Completion                      | 10-Jan-17   | 24-Jan-17         | 15-Jul-17                | 29-Jul-17                 | -118              | 12-Aug-17                | 26-Aug-17                 | -170              | -142        | 0%                  |      |     |     |     |
| 01112.99986  | ENT E - Floor finish (NTH)   | 06-Sep-16   | 06-Oct-16         | 26-Apr-17                | 26-May-17                 | -118              | 26-May-17                | 23-Jun-17                 | -207              | -142        | 0%                  |      |     |     |     |
| 01112.99988  | ENT E - Wall finish & ceiling (NTH) up to 4K Degree 1 Completion   | 08-Oct-16   | 09-Nov-16         | 27-May-17                | 27-Jun-17                 | -118              | 24-Jun-17                | 27-Jul-17                 | -206              | -142        | 0%                  |      |     |     |     |
| 01112.99990  | ENT E - Escalator enclosure (NTH) - up to 4K Degree 2 Completion   | 10-Nov-16   | 09-Jan-17         | 27-May-17                | 14-Jul-17                 | -118              | 24-Jun-17                | 11-Aug-17                 | -170              | -142        | 0%                  |      |     |     |     |
| <b>HUNG HOM STABLING SIDINGS (HHS)</b>                                     |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>Transformer Rooms and Accommodation - Piling (Block 1A, 1B &amp; 2)</b> |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>Store Rooms - Block 1A</b>  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.99815  | Bk1A - ABWF  | 17-Jan-15   | 13-Mar-15         | 25-Apr-17                | 02-May-17                 | 279               | 25-May-17                | 31-May-17                 | -648              | 255         | 95%                 |      |     |     |     |
| <b>Office Rooms - Block 2</b>  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.99875  | Bk2 - E&M Installation   | 14-Mar-15   | 07-May-15         | 25-Apr-17                | 08-May-17                 | 275               | 25-May-17                | 05-Jun-17                 | -610              | 251         | 96%                 |      |     |     |     |
| <b>Package 2</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>Abandon Subway Works (Grid A11 to A12)-1</b>                            |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>Demolition Works</b>  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.97196  | HHS - Install smoke barriers   | 28-Oct-14   | 08-Jan-15         | 25-Apr-17                | 13-May-17                 | 285               | 25-May-17                | 10-Jun-17                 | -706              | 261         | 88%                 |      |     |     |     |
| <b>Package 3</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>New Underpass Works (A16 - A17)</b>                                     |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.97312  | HHS - UDP BD Inspection  | 10-Feb-15   | 16-Mar-15         | 25-Apr-17                | 18-May-17                 | 306               | 25-May-17                | 15-Jun-17                 | -659              | 282         | 0%                  |      |     |     |     |
| <b>Package 4a</b>  |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| <b>Reprovisioning Underpass Grid A-22 / A-23A</b>                          |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.97405  | HHS - UDP Backfilling & Zone u/g utilities installation  | 13-Aug-15   | 23-Sep-15         | 25-Apr-17                | 28-Apr-17                 | 281               | 25-May-17                | 29-May-17                 | -488              | 257         | 98%                 |      |     |     |     |
| <b>Trackform</b>   |  |   |                   |                          |                           |                   |                          |                           |                   |             |                     |      |     |     |     |
| 01112.97298  | HHS - Trackform for Launching & Retrieval Tracks (Ch.450 to 800)   | 07-Dec-15   | 10-Mar-16         | 25-Apr-17                | 15-May-17                 | 269               | 25-May-17                | 12-Jun-17                 | -367              | 245         | 98%                 |      |     |     |     |

■ Remaining Level of Effort    ◆ Milestone  
■ Actual Level of Effort  
■ Actual Work  
■ Remaining Work  
■ Critical Remaining Work

**Three Month Rolling Programme (25-May-17)**

Project ID : 01112-3M51A  
 Layout : May 2017 MPR  
 Page 6 of 6

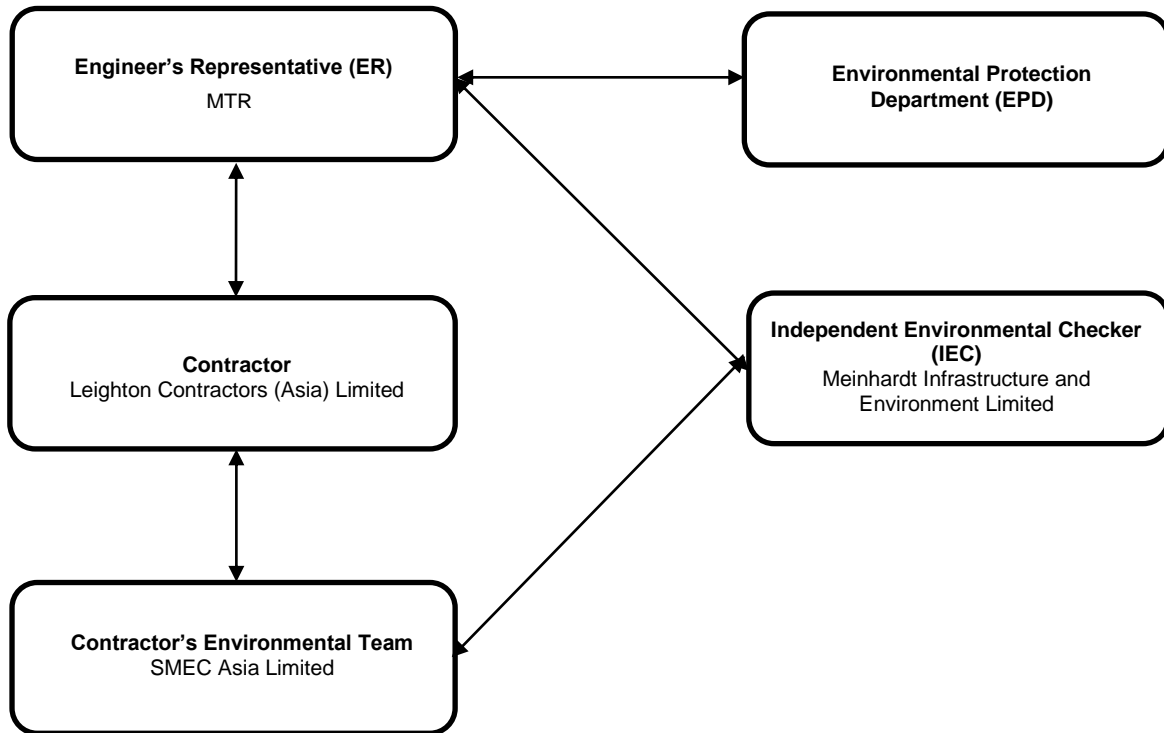
| Date      | Revision              | Checked | Approved |
|-----------|-----------------------|---------|----------|
| 13-May-13 | Revision 1 - Recalled |         |          |
| 25-Jun-13 | Revision 1            |         |          |
| 10-Oct-13 | Revision 2            |         |          |

---

## APPENDIX C

---

### Project Organisation for Environmental Works

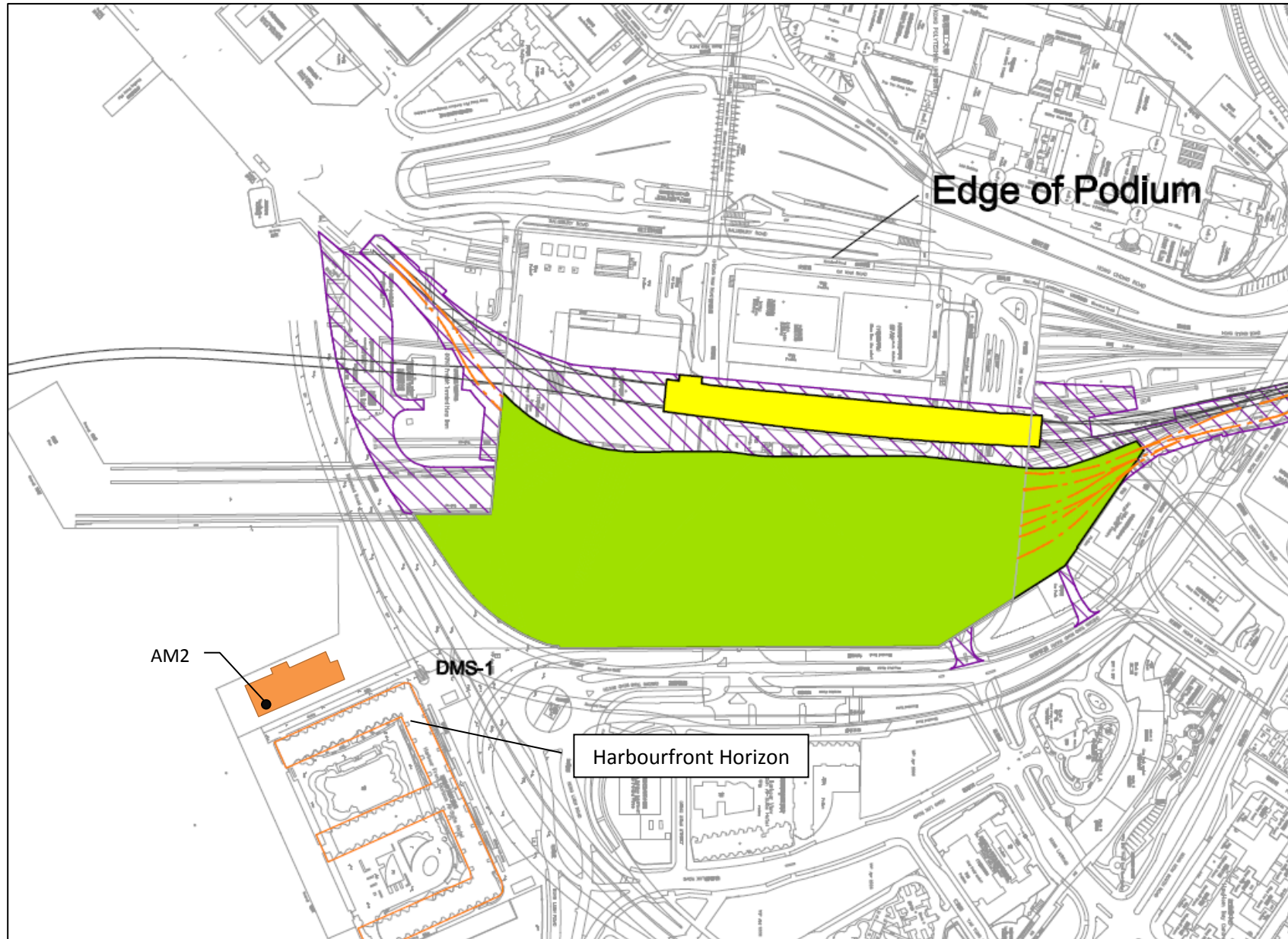


---

## APPENDIX D

---

### Location of Air Quality Monitoring Station





## APPENDIX E

---

### Calibration Certificates for Monitoring Equipment

**TSP Sampler Calibration**

**SITE**

Location: Hung Hom  
 Sampler: Hunghom MTR TSP  
 Serial No 694-0665  
 Calibration Date: March 9, 2017  
 Next Calibration Date: May 9, 2017  
 Tech: Sam Wong

**CONDITIONS**

Barometric Pressure (in Hg): 40.00  
 Temperature (deg F): 68  
 Average Press. (in Hg): 40.00  
 Average Temp. (deg F): 68  
 Corrected Pressure (mm Hg): 1016  
 Temperature (deg K): 293  
 Corrected Average (mm Hg): 1016  
 Average Temp. (deg K): 293

**CALIBRATION ORIFICE**

Make: Tisch  
 Model: TE-5025A  
 Serial#: 1612  
 Qstd Slope: 2.00411  
 Qstd Intercept: -0.03059  
 Date Certified: March 14, 2016

**CALIBRATIONS**

| Plate or Test # | H2O (in) | Qstd (m3/min) | I (chart) | IC (corrected) | LINEAR REGRESSION  |         |
|-----------------|----------|---------------|-----------|----------------|--------------------|---------|
| 1               | 12.00    | 2.031         | 58.0      | 67.63          | Slope =            | 33.0024 |
| 2               | 10.00    | 1.855         | 54.0      | 62.97          | Intercept =        | 1.2560  |
| 3               | 7.80     | 1.640         | 48.0      | 55.97          | Corr. coeff.=      | 0.9992  |
| 4               | 5.00     | 1.316         | 38.0      | 44.31          |                    |         |
| 5               | 3.00     | 1.023         | 30.0      | 34.98          | # of Observations: | 5       |

Calculations

$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta)) - b]$   
 $IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$

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)  
 Tstd = 298 deg K  
 Pstd = 760 mm Hg  
 For subsequent calculation of sampler flow:  
 $1/m(I[\text{Sqrt}(298/Tav)(Pav/760)] - b)$

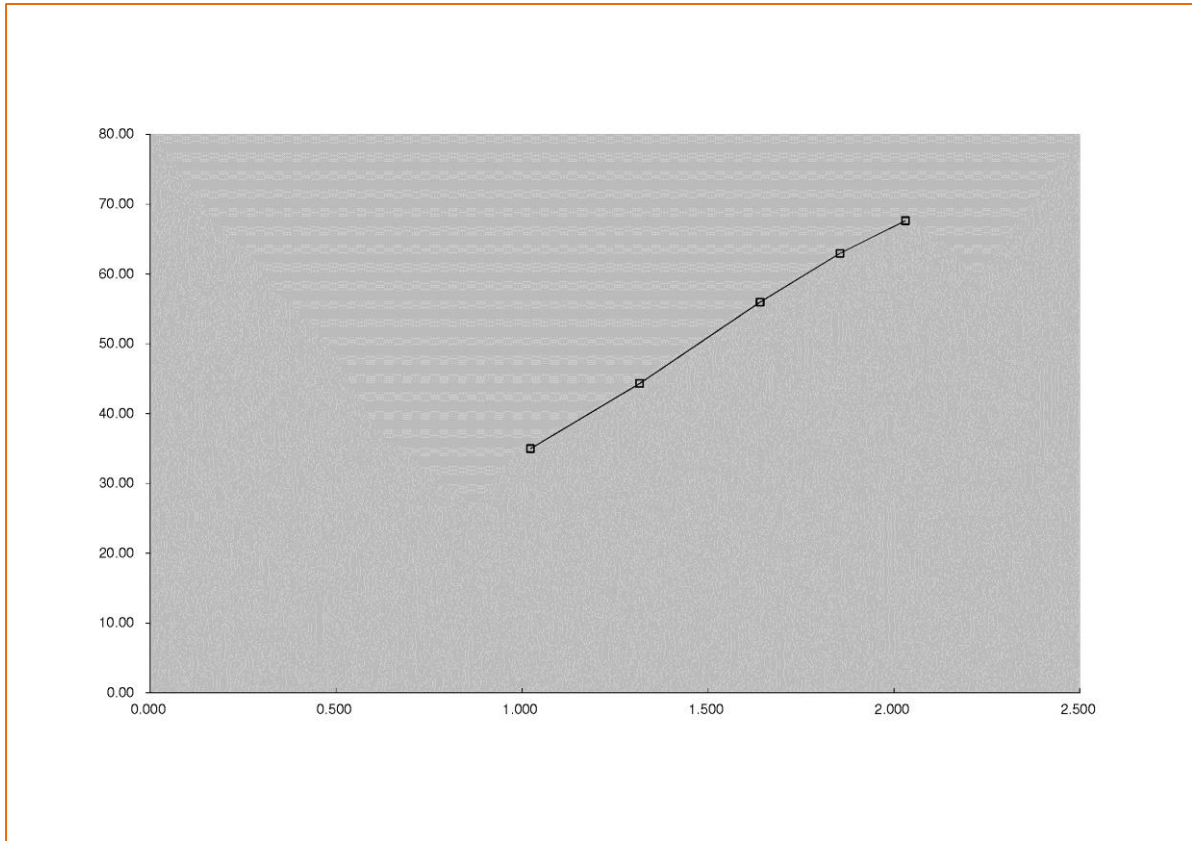
m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure

Reviewer: Sam Wong

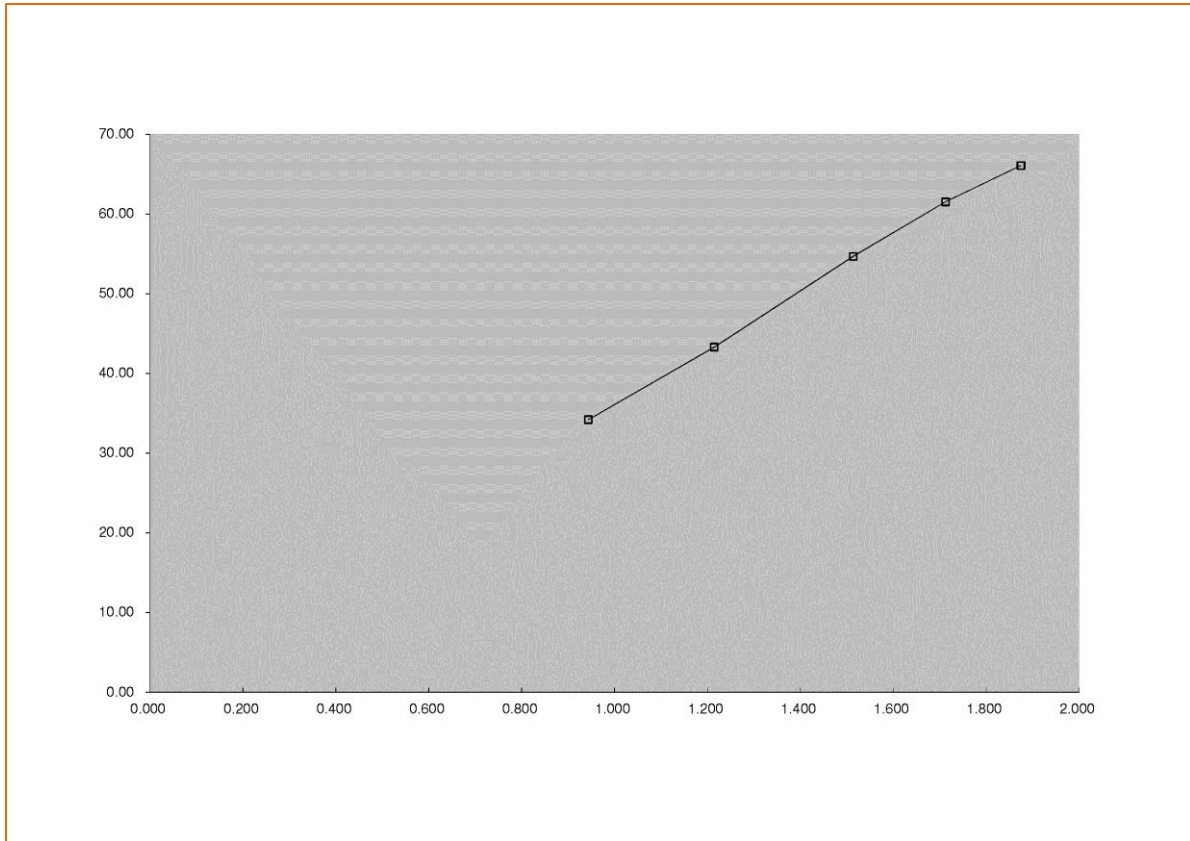
Signature: \_\_\_\_\_



Date: March 9, 2017









TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE  
 VILLAGE OF CLEVELAND, OH  
 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 14, 2016 Rootsmeter S/N 0438320 Ta (K) - 295  
 Operator Tisch Orifice I.D. - 1612 Pa (mm) - 745.49

| PLATE OR Run # | VOLUME START (m3) | VOLUME STOP (m3) | DIFF VOLUME (m3) | DIFF TIME (min) | METER DIFF Hg (mm) | ORFICE DIFF H2O (in.) |
|----------------|-------------------|------------------|------------------|-----------------|--------------------|-----------------------|
| 1              | NA                | NA               | 1.00             | 1.3770          | 3.2                | 2.00                  |
| 2              | NA                | NA               | 1.00             | 0.9710          | 6.4                | 4.00                  |
| 3              | NA                | NA               | 1.00             | 0.8710          | 7.8                | 5.00                  |
| 4              | NA                | NA               | 1.00             | 0.8310          | 8.7                | 5.50                  |
| 5              | NA                | NA               | 1.00             | 0.6860          | 12.6               | 8.00                  |

DATA TABULATION

| Vstd   | (x axis) Qstd | (y axis) | Va     | (x axis) Qa | (y axis) |
|--------|---------------|----------|--------|-------------|----------|
| 0.9866 | 0.7165        | 1.4078   | 0.9957 | 0.7231      | 0.8896   |
| 0.9824 | 1.0117        | 1.9909   | 0.9914 | 1.0210      | 1.2581   |
| 0.9804 | 1.1256        | 2.2259   | 0.9894 | 1.1360      | 1.4066   |
| 0.9793 | 1.1785        | 2.3345   | 0.9883 | 1.1893      | 1.4753   |
| 0.9741 | 1.4200        | 2.8155   | 0.9830 | 1.4330      | 1.7792   |

Qstd slope (m) = 2.00411  
 intercept (b) = -0.03059  
 coefficient (r) = 0.99995

Qa slope (m) = 1.25494  
 intercept (b) = -0.01933  
 coefficient (r) = 0.99995

y axis = SQRT [H2O (Pa/760) (298/Ta)]

y axis = SQRT [H2O (Ta/Pa)]

CALCULATIONS

Vstd = Diff. Vol [(Pa-Diff. Hg)/760] (298/Ta)  
 Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]  
 Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{ [SQRT (H2O (Pa/760) (298/Ta))] - b}  
 Qa = 1/m{ [SQRT H2O (Ta/Pa)] - b}



TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE  
 VILLAGE OF CLEVELAND, OH  
 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Feb 28, 2017 Rootmeter S/N 0438320 Ta (K) - 294  
 Operator Tisch Orifice I.D. - 1941 Pa (mm) - 750.57

| PLATE OR Run # | VOLUME START (m3) | VOLUME STOP (m3) | DIFF VOLUME (m3) | DIFF TIME (min) | METER DIFF Hg (mm) | ORFICE DIFF H2O (in.) |
|----------------|-------------------|------------------|------------------|-----------------|--------------------|-----------------------|
| 1              | NA                | NA               | 1.00             | 1.4600          | 3.2                | 2.00                  |
| 2              | NA                | NA               | 1.00             | 1.0410          | 6.4                | 4.00                  |
| 3              | NA                | NA               | 1.00             | 0.9280          | 7.9                | 5.00                  |
| 4              | NA                | NA               | 1.00             | 0.8840          | 8.7                | 5.50                  |
| 5              | NA                | NA               | 1.00             | 0.7290          | 12.7               | 8.00                  |

DATA TABULATION

| Vstd                                | (x axis) Qstd | (y axis) | Va                        | (x axis) Qa | (y axis) |
|-------------------------------------|---------------|----------|---------------------------|-------------|----------|
| 0.9967                              | 0.6827        | 1.4149   | 0.9957                    | 0.6820      | 0.8851   |
| 0.9925                              | 0.9534        | 2.0010   | 0.9915                    | 0.9524      | 1.2517   |
| 0.9904                              | 1.0672        | 2.2372   | 0.9894                    | 1.0661      | 1.3995   |
| 0.9894                              | 1.1192        | 2.3464   | 0.9884                    | 1.1181      | 1.4678   |
| 0.9840                              | 1.3499        | 2.8299   | 0.9830                    | 1.3485      | 1.7702   |
| Qstd slope (m) = 2.11965            |               |          | Qa slope (m) = 1.32729    |             |          |
| intercept (b) = -0.02696            |               |          | intercept (b) = -0.01686  |             |          |
| coefficient (r) = 0.99991           |               |          | coefficient (r) = 0.99991 |             |          |
| y axis = SQRT[H2O(Pa/760) (298/Ta)] |               |          | y axis = SQRT[H2O(Ta/Pa)] |             |          |

CALCULATIONS

$$Vstd = \text{Diff. Vol} [(Pa - \text{Diff. Hg}) / 760] (298 / Ta)$$

$$Qstd = Vstd / \text{Time}$$

$$Va = \text{Diff Vol} [(Pa - \text{Diff Hg}) / Pa]$$

$$Qa = Va / \text{Time}$$

For subsequent flow rate calculations:

$$Qstd = 1/m \{ [\text{SQRT}(\text{H2O}(\text{Pa}/760) (298/\text{Ta}))] - b \}$$

$$Qa = 1/m \{ [\text{SQRT} \text{H2O}(\text{Ta}/\text{Pa})] - b \}$$

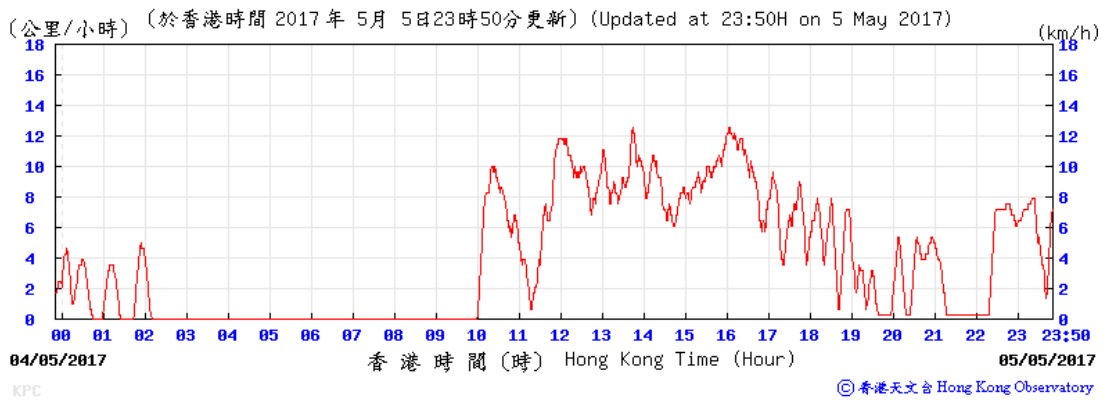
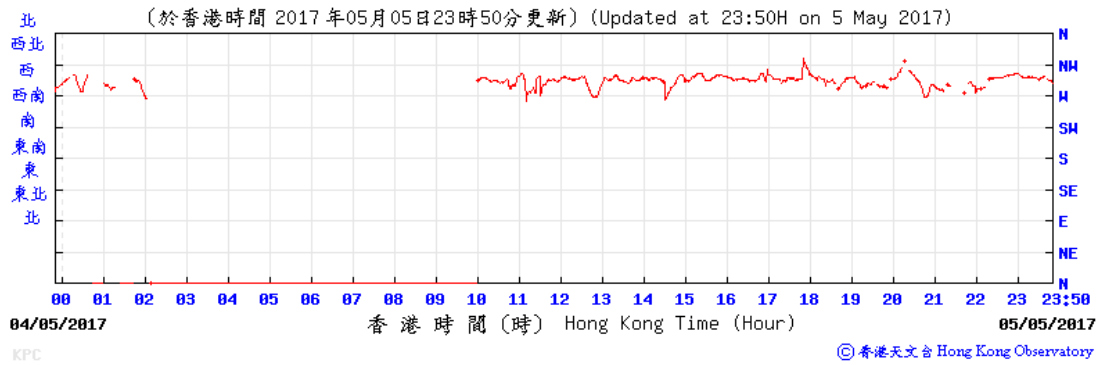
---

## Appendix F

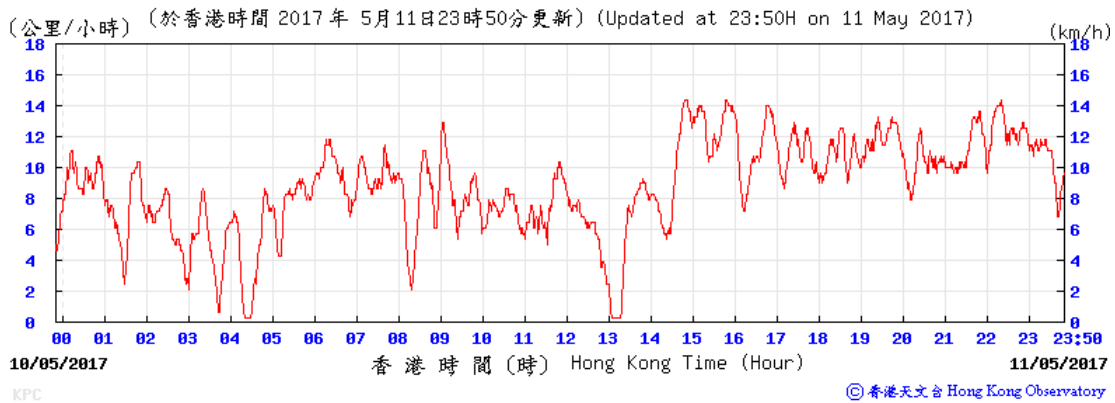
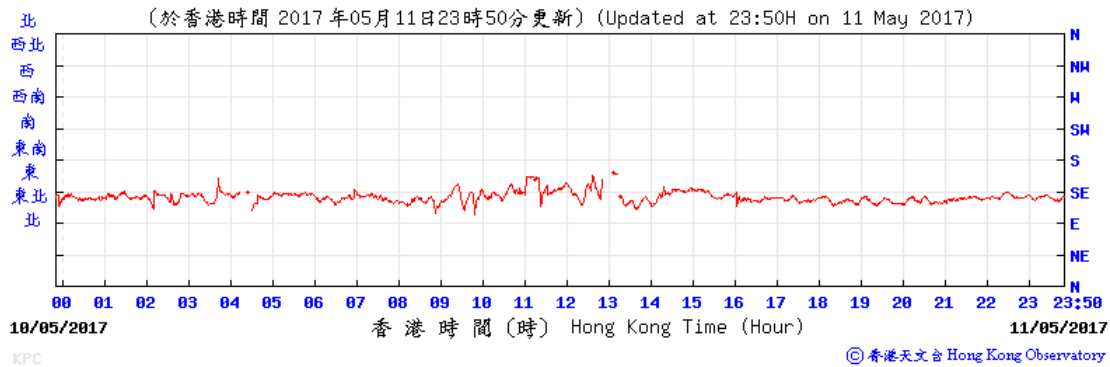
### Wind Data



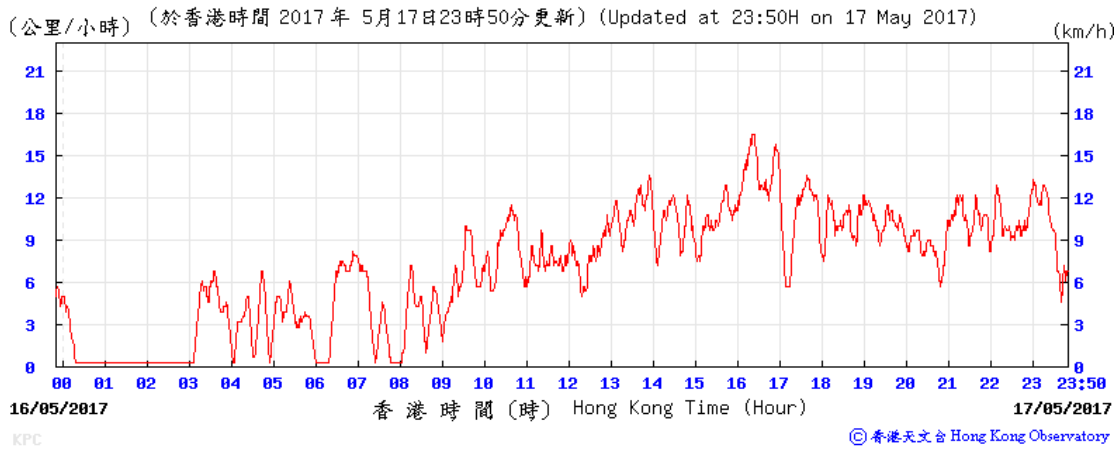
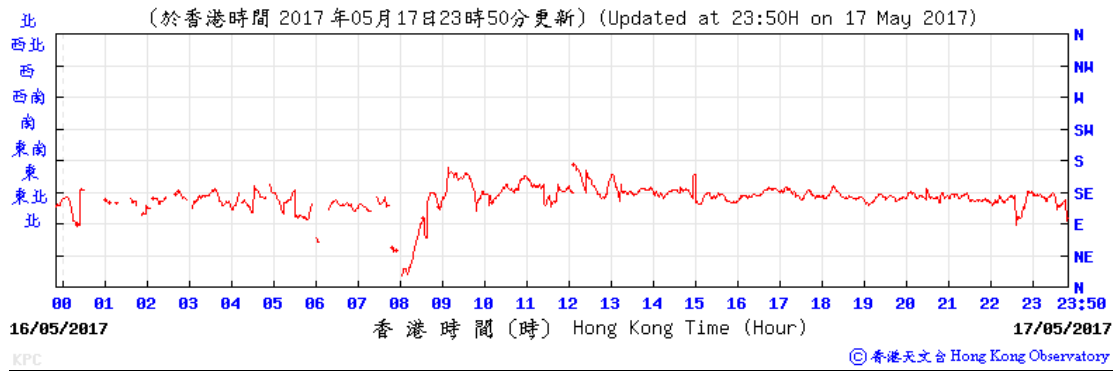
**5 May 2017**



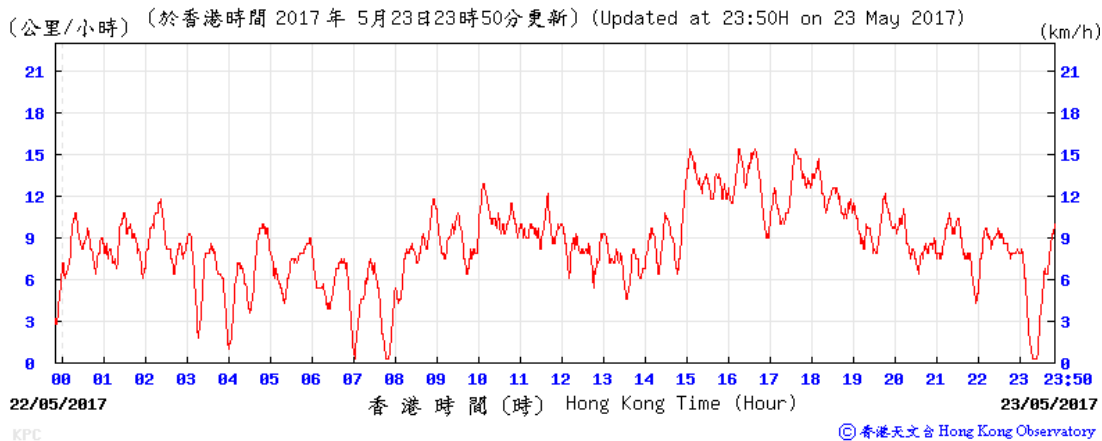
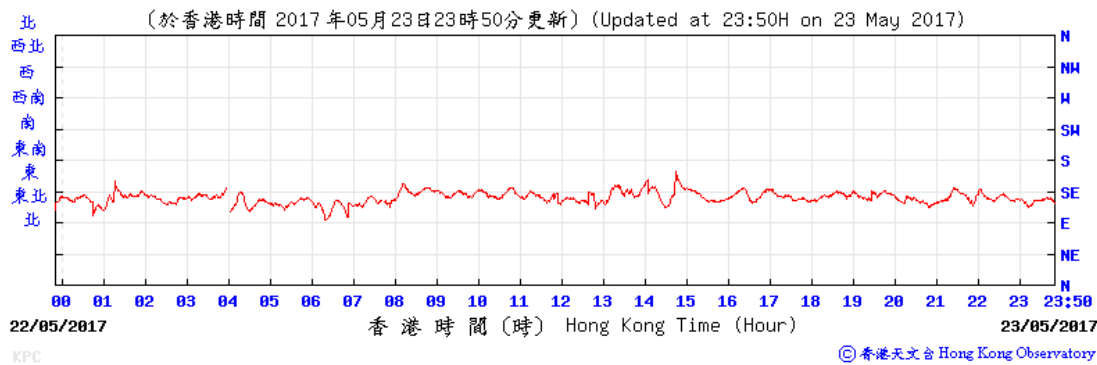
**11 May 2017**



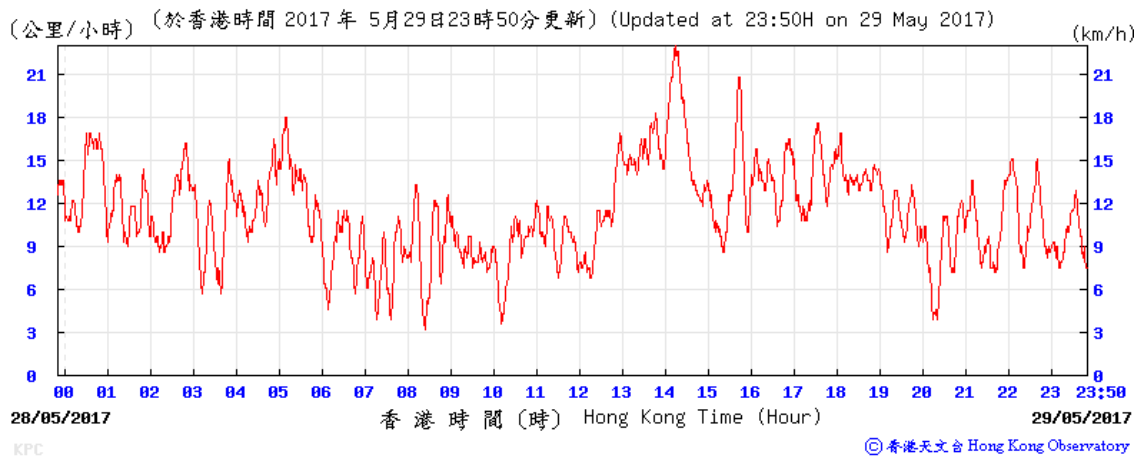
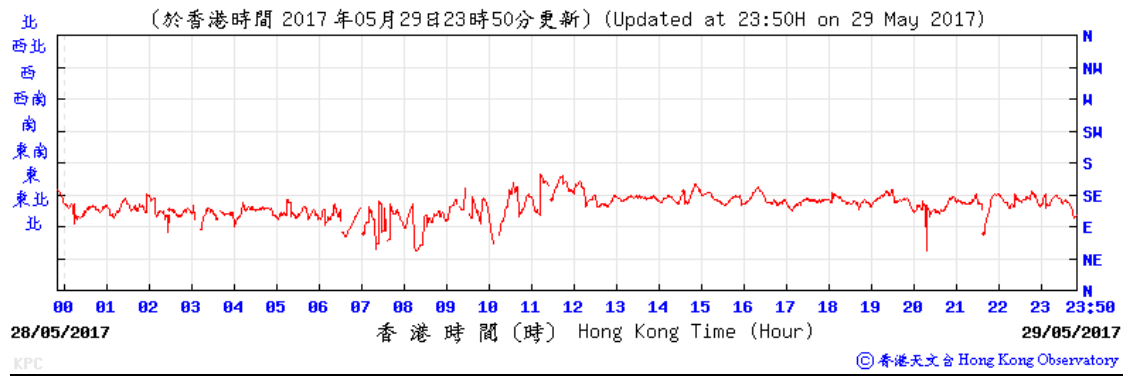
**17 May 2017**



**23 May 2017**



**29 May 2017**



---

## Appendix G

### Environmental Monitoring Programme

### Environmental Monitoring Schedule for SCL1112 in May 2017

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

### Environmental Monitoring Schedule for SCL1112 in June 2017

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

## APPENDIX H

---

### Implementation Schedule of Environmental Mitigation Measures



| EIA Ref.                                    | Recommended mitigation measures for Works Contract 1112   | Objectives of the recommended measures & main concerns to address           | Who to implement the measures? | Location of the measures               | When to implement the measures? | What requirements or standards for measures to achieve?               | Status         |
|---|---|---|--------------------------------|--|---------------------------------|---|----------------|
|   | practicable. Tree transplanting proposal including final location for transplanted trees will be submitted separately to seek relevant government department's approval, in accordance with ETWB TCW No 3/2006.   |   |                                |  |                                 |   |                |
| <b>Air Quality (Construction Phase)</b>     |   |   |                                |  |                                 |   |                |
| N.A.  | Emission from Vehicles and Plants: <ul style="list-style-type: none"> <li>All vehicles shall be shut down in intermittent use.</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.</li> <li>All diesel fuelled construction plant within the works areas shall be powered by ultra-low sulphur diesel fuel (ULSD).</li> </ul>   | Reduce air pollution emission from construction vehicles and plants         | Contractor                     | All constructions sites                | Construction stage              | Air Pollution Control Ordinance (APCO)                                | ^<br>*<br>^    |
| <b>Construction Dust Impact</b>             |   |   |                                |  |                                 |   |                |
| S7.6.5 of Ref. 1; S7.6.6 of Ref. 3          | The contractor will follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation.   | Minimise dust impact at the nearby sensitive receivers                      | Contractor                     | All construction sites                 | Construction stage              | APCO<br>To control the dust impact to meet HKAQO and EIAO-TM criteria | ^              |
| S5.20, S5.21, S5.50 and Table 5.4 of Ref. 2 | Barging Facility: <ul style="list-style-type: none"> <li>Unloading of spoils to barge – the unloading process should be undertaken within a 3-sided screen with top tipping hall. Water spraying and flexible dust curtains should be provided at the discharge point for dust suppression.</li> <li>Transportation of the spoil from the construction sites to the Barging Point – watering once along all paved haul roads to reduce dust emission by 91.7%. This dust suppression efficiency is derived based on the average haul road traffic, average evaporation rate and an assumed application intensity of 1.7 L/m<sup>2</sup> once every working hour. Any potential dust impact and watering mitigation would be subject to the actual site condition. For example, a construction activity that produces inherently wet conditions or in cases under rainy weather, the above water application intensity may not be unreservedly applied. While the above watering frequency is to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.7L/m<sup>2</sup> to achieve the removal efficiency. The dust levels would be monitored and managed under an EM&amp;A programme as specified in the</li> </ul> | To minimize the construction dust impacts to the nearby sensitive receivers | Contractor                     | Barging point at Hung Hom Freight Pier | Construction stage              | APCO  | N/A<br><br>N/A |



| EIA Ref.  | Recommended mitigation measures for Works Contract 1112   | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location of the measures                               | When to implement the measures? | What requirements or standards for measures to achieve?   | Status                              |
|---|---|---|--------------------------------|--|---------------------------------|---|-------------------------------------|
|   | EM&A Manual. <ul style="list-style-type: none"> <li>Vehicles leaving the barging facilities – vehicles would be required to pass through the wheel washing facilities to be provided at site exit.</li> </ul>   |   |                                |  |                                 |   | N/A                                 |
| S7.6.5 of Ref. 1; S5.50 of Ref. 2; S7.6.6 of Ref. 3 | Mitigation measures in form of regular watering under a good site practice will be adopted. Watering once per hour on exposed worksites and haul road will 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 will be sufficient to maintain an equivalent intensity of no less than 1.8 L/m <sup>2</sup> to achieve the dust removal efficiency.   | Minimise dust impact at the nearby sensitive receivers            | Contractor                     | Active works areas, exposed areas and paved haul roads | Construction stage              | APCO<br>To control the dust impact to meet HKAQO and EIAO-TM criteria   | ^                                   |
| S7.6.5 of Ref. 1; S5.51 of Ref. 2; S7.6.6 of Ref. 3 | <ul style="list-style-type: none"> <li>Any excavated or stockpile of dusty material will be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading.</li> <li>Any dusty materials remaining after stockpiles are removed will be wetted and cleared from the surface of roads.</li> <li>A stockpile of dusty material will not be extended beyond the pedestrian barriers, fencing or traffic cones.</li> <li>The load of dusty materials on a vehicle leaving a construction site will be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle.</li> <li>Where practicable, vehicle washing facilities with high pressure water jet will 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 will be paved with concrete, bituminous materials or hardcore.</li> <li>When there are open excavation and reinstatement works, hoarding of not less than 2.4m high will be provided and properly maintained as far as practicable along the site boundary with provision for public crossing; Good site practice will also be adopted by the contractor to ensure the conditions of the hoardings are properly maintained in construction period.</li> <li>The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit will be kept clear of dusty materials.</li> <li>Surfaces where any pneumatic or power-driven drilling,</li> </ul> | Minimise dust impact at the nearby sensitive receivers            | Contractor                     | All construction sites                                 | Construction stage              | APCO<br>Air Pollution Control (Construction Dust) Regulation<br>To control the dust impact to meet HKAQO and EIAO-TM criteria | *<br><br>^<br>^<br>^<br>^<br>^<br>^ |

| EIA Ref.  | Recommended mitigation measures for Works Contract 1112  | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | What requirements or standards for measures to achieve? | Status  |
|---|--|---|--------------------------------|--------------------------|---------------------------------|---|---|
|   | <p>cutting, polishing or other mechanical breaking operation takes place will be sprayed with water or a dust suppression chemical continuously.</p> <ul style="list-style-type: none"> <li>Any area that involves demolition activities will be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet.</li> <li>Where scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting will be provided to enclose the scaffolding from the ground floor level of the building, or a canopy will be provided from the first floor level up to the highest level of the scaffolding.</li> <li>Any skip hoist for material transport will be totally enclosed by impervious sheeting.</li> <li>Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) will be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.</li> <li>Cement or dry PFA delivered in bulk will 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.</li> <li>Loading, unloading, transfer, handling or storage of bulk cement or dry PFA will be carried out in a totally enclosed system or facility, and any vent or exhaust will be fitted with an effective fabric filter or equivalent air pollution control system.</li> <li>Exposed earth will 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.</li> </ul> |   |                                |                          |                                 |   | <p>^</p> <p>^</p> <p>N/A</p> <p>^</p> <p>*</p> <p>^</p> <p>^</p> <p>^</p> |
| S7.6.5 of Ref. 1; S5.57 of Ref. 2; S7.6.6 of Ref. 3 | Implement regular dust monitoring under EM&A programme during the construction stage.  | Monitoring of dust impact   | Contractor                     | Harbourfront Horizon     | Construction stage              | EIAO-TM<br>APCO   | ^   |

| EIA Ref.  | Recommended mitigation measures for Works Contract 1112   | Objectives of the recommended measures & main concerns to address                         | Who to implement the measures? | Location of the measures                 | When to implement the measures? | What requirements or standards for measures to achieve? | Status                     |
|---|---|---|--------------------------------|--|---------------------------------|---|----------------------------|
| <b>Construction Airborne Noise</b>  |   |   |                                |  |                                 |   |                            |
| S8.3.6 of Ref. 1; S6.61 of Ref. 2; S8.5.6 of Ref. 3                       | Implement the following good site practices: <ul style="list-style-type: none"> <li>Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction programme.</li> <li>Machines and plant (such as trucks, cranes) that may be in intermittent use will be shut down between work periods or will be throttled down to a minimum.</li> <li>Plant known to emit noise strongly in one direction, where possible; be orientated so that the noise is directed away from nearby NSRs.</li> <li>Silencers or mufflers on construction equipment will be properly fitted and maintained during the construction works.</li> <li>Mobile plant will be sited as far away from NSRs as possible and practicable.</li> <li>Material stockpiles, mobile container site office and other structures will be effectively utilised, where practicable, to screen noise from onsite construction activities.</li> </ul> | Control construction airborne noise   | Contractor                     | All construction sites where practicable | Construction stage              | Annex 5, EIAO-TM  | ^<br>*<br>^<br>^<br>^<br>^ |
| S8.3.6 of Ref. 1; S6.68 of Ref. 2; S8.5.6 of Ref. 3                       | Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings will be properly maintained throughout the construction period.   | Reduce the construction noise levels at low-level zone of NSRs through partial screening. | Contractor                     | All construction sites where practicable | Construction stage              | Annex 5, EIAO-TM  | ^                          |
| S8.3.6 of Ref. 1; S6.64 – 6.67 and Table 6.20 of Ref. 2; S8.5.6 of Ref. 3 | 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              | Annex 5, EIAO-TM  | ^                          |
| S8.3.6 of Ref. 1; S6.62 – 6.63 and Table 6.19 of Ref. 2; S8.5.6 of Ref. 3 | The following quiet PME should be used: <ul style="list-style-type: none"> <li>Asphalt Paver (SWL=101dB(A))</li> <li>Backhoe (SWL=106dB(A))</li> <li>Backhoe with Hydraulic Breaker (SWL=110dB(A))</li> <li>Concrete lorry mixer (SWL=96dB(A))</li> <li>Concrete mixer truck (SWL=96dB(A))</li> <li>Concrete Pump (SWL=106dB(A))</li> <li>Concrete Pump Truck (SWL=106dB(A))</li> <li>Crane, mobile (SWL=94dB(A))</li> <li>Crawler Crane (SWL=102dB(A))</li> </ul>  | Reduce the noise levels of plant items  | Contractor                     | All construction sites where practicable | Construction stage              | Annex 5, EIAO-TM  | ^                          |

| EIA Ref.                           | Recommended mitigation measures for Works Contract 1112   | Objectives of the recommended measures & main concerns to address                        | Who to implement the measures? | Location of the measures                 | When to implement the measures?       | What requirements or standards for measures to achieve? | Status |
|------------------------------------|---|--|--------------------------------|--|---------------------------------------|---|--------|
|                                    | <ul style="list-style-type: none"> <li>• Drill, hand-held (SWL=98dB(A))</li> <li>• Dump truck (SWL=104dB(A))</li> <li>• Excavator (SWL=106dB(A))</li> <li>• Flat Bed Lorry (SWL=102dB(A))</li> <li>• Generator (SWL=95dB(A))</li> <li>• Giken Piler and Power-pack (SWL=94dB(A))</li> <li>• Hydraulic breaker (SWL=110dB(A))</li> <li>• Hydraulic excavator (SWL=106dB(A))</li> <li>• Lorry (SWL=102dB(A))</li> <li>• Lorry with crane/ grab (SWL=94dB(A))</li> <li>• Mini Piling Rig (SWL=112dB(A))</li> <li>• Piling Rig (SWL=112dB(A))</li> <li>• Poker, vibrator, hand-held (SWL=98dB(A))</li> <li>• Road Roller (SWL=101dB(A))</li> <li>• Rock Drill (SWL = 108dB(A))</li> <li>• Roller (SWL = 101dB(A))</li> <li>• Truck (SWL=103dB(A))</li> <li>• Vibratory Hammer (SWL=118dB(A))</li> </ul> |  |                                |  |                                       |   |        |
| S8.3.6 of Ref. 1; S8.5.6 of Ref. 3 | Sequencing operation of construction plants where practicable.  | Operate sequentially within the same work site to reduce the construction airborne noise | Contractor                     | All construction sites where practicable | Construction stage                    | Annex 5, EIAO-TM  | ^      |
| S8.3.6 of Ref. 1; S8.5.6 of Ref. 3 | Implement noise monitoring under EM&A programme.  | Monitoring of construction noise impact  | Contractor                     | Wing Fung Building                       | Construction stage as required by IEC | TM-EIA  | ^      |

| EIA Ref.   | Recommended mitigation measures for Works Contract 1112  | Objectives of the recommended measures & main concerns to address                                  | Who to implement the measures? | Location of the measures                 | When to implement the measures? | What requirements or standards for measures to achieve?  | Status   |
|--|--|--|--------------------------------|--|---------------------------------|--|--|
| <b>Water Quality (Construction Phase)</b>                              |  |  |                                |  |                                 |  |  |
| S10.7.1 of Ref. 1; S8.41 – 8.39 and S8.50 of Ref. 2; S10.7.1 of Ref. 3 | <p>In accordance with the Practice Noise for Professional Persons on Construction Site Drainage, EPD, 1994 (ProPECC PN1/94), construction phase mitigation measures will include the following:</p> <p><u>Construction runoff and site drainage</u></p> <ul style="list-style-type: none"> <li>At the start of site establishment, perimeter cut-off drains to direct off-site water around the site will 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 will be provided onsite to direct stormwater to silt removal facilities. The design of the temporary onsite drainage system will be undertaken by the contractor prior to commencement of construction.</li> <li>The dikes or embankments for flood protection will be implemented around the boundaries of earthwork areas. Temporary ditches will be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap. The sediment/silt traps will be incorporated in the permanent drainage channels to enhance deposition rates.</li> <li>The design of silt removal facilities will be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps will be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1m<sup>3</sup>/s a sedimentation basin of 30m<sup>3</sup> would be required and for a flow rate of 0.5m<sup>3</sup>/s the basin would be 150m<sup>3</sup>. Detailed design of the sand/silt traps will be undertaken by the contractor prior to the commencement of works.</li> <li>All exposed earth areas will be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces will be covered by tarpaulin or other means.</li> <li>All drainage facilities and erosion and sediment control structures will be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit will be removed regularly and disposed of by spreading evenly over stable,</li> </ul> | To minimize water quality impact from construction site runoff and general construction activities | Contractor                     | All construction sites where practicable | Construction stage              | Water Pollution Control Ordinance (WPCO)<br>ProPECC PN1/94<br>EIAO-TM<br>TM-Water Technical Memorandum on Effluent Discharge Standard (TM-DSS) | ^<br><br><br><br><br><br><br><br><br><br><br># |

| EIA Ref. | Recommended mitigation measures for Works Contract 1112  | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | What requirements or standards for measures to achieve? | Status   |
|----------|--|---|--------------------------------|--------------------------|---------------------------------|---|--|
|          | <p>vegetated areas.</p> <ul style="list-style-type: none"> <li>Measures will be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they will be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations will be discharged into storm drains via silt removal facilities.</li> <li>Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m<sup>3</sup> will be covered with tarpaulin or similar fabric during rainstorms.</li> <li>Measures will be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.</li> <li>Manholes (including newly constructed ones) will 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.</li> <li>Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention will be paid to the control of silty surface runoff during storms, especially areas near steep slopes.</li> <li>All vehicles and plant will be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities will be provided at every construction site exit where practicable. Wash-water will 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 will be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.</li> <li>Oil interceptors will be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors will be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass will be provided for</li> </ul> |   |                                |                          |                                 |   | <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> |

| EIA Ref.                             | Recommended mitigation measures for Works Contract 1112  | Objectives of the recommended measures & main concerns to address   | Who to implement the measures? | Location of the measures | When to implement the measures? | What requirements or standards for measures to achieve? | Status                              |
|--------------------------------------|--|---|--------------------------------|--------------------------|---------------------------------|---|-------------------------------------|
|                                      | <p>the oil interceptors to prevent flushing during heavy rain.</p> <ul style="list-style-type: none"> <li>Construction solid waste, debris and rubbish on site will be collected, handled and disposed of properly to avoid water quality impacts.</li> <li>All fuel tanks and storage areas will be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby.</li> <li>All the earth works involving will be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.</li> <li>Adopt Best Management Practices.</li> </ul>   |   |                                |                          |                                 |   | <p>^</p> <p>^</p> <p>^</p> <p>^</p> |
| S10.7.1 of Ref. 1; S10.7.1 of Ref. 3 | <p><u>Tunnelling works</u></p> <ul style="list-style-type: none"> <li>Cut-and-cover/ open-cut tunnelling work will be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.</li> <li>Uncontaminated discharge will pass through sedimentation tanks prior to off-site discharge.</li> <li>The wastewater with a high concentration of SS will be treated (eg, by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater.</li> <li>Direct discharge of the bentonite slurry (as a result of D-wall and bored tunnelling construction) is not allowed. It will be reconditioned and reused wherever practicable. Temporary storage locations (typically a properly closed warehouse) will be provided on site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC PN 1/94 will be adhered to in the handling and disposal of bentonite slurries.</li> </ul> | To minimize construction water quality impact from tunnelling works | Contractor                     | All tunnelling portion   | Construction stage              | WPCO<br>ProPECC PN1/94<br>EIAO-TM<br>TM-Water           | <p>^</p> <p>^</p> <p>^</p> <p>^</p> |

| EIA Ref.                           | Recommended mitigation measures for Works Contract 1112  | Objectives of the recommended measures & main concerns to address   | Who to implement the measures? | Location of the measures                 | When to implement the measures? | What requirements or standards for measures to achieve? | Status  |
|------------------------------------|--|---|--------------------------------|--|---------------------------------|---|---|
| S8.68 of Ref. 2; S10.7.1 of Ref. 1 | <p><u>Operation of Barging Facilities</u><br/>                     The following good practice shall apply for the barging facilities operations:</p> <ul style="list-style-type: none"> <li>All barges should be fitted with tight bottom seals to prevent leakage of materials during transport;</li> <li>Barges or hoppers should not be filled to a level that will cause overflow of materials or polluted water during loading or transportation;</li> <li>All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; and</li> <li>Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water.</li> <li>Mitigation measures as outlined for control of <i>construction runoff and site drainage</i> provide above should be applied to minimise water quality impacts from site runoff and open stockpile spoils at the proposed barging facilities where appropriate.</li> </ul> | To minimize water quality impact from operation of barging facility | Contractor                     | All barging facilities                   | Construction stage              | WPCO<br>TM-EIA  | N/A<br><br>N/A<br><br>N/A<br><br>N/A<br><br>N/A |
| S8.51 – 8.52 of Ref. 2             | <p><u>Bentonite Slurries:</u></p> <ul style="list-style-type: none"> <li>Bentonite slurries used in diaphragm wall construction should be reconditioned and used again wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the used slurry should either be dewatered or mixed with inert fill material for disposal to a public filling area.</li> <li>If the used bentonite slurry is intended to be disposed of through the public drainage system, it should be treated to the respective effluent standards applicable to foul sewer, storm drains or the receiving waters as set out in the TM-DSS.</li> </ul>   | To minimize water quality impact from bentonite slurries            | Contractor                     | All works area                           | Construction stage              | WPCO<br>TM-EIA  | ^<br><br>^                                      |
| S8.53 – 8.54 of Ref. 2             | <p><u>Wastewater from Building Construction:</u></p> <ul style="list-style-type: none"> <li>Before commencing any demolition works, all sewer and drainage connections should be sealed to prevent building debris, soil, sand etc. from entering public sewers/drains</li> <li>Wastewater generated from building construction activities including concreting, plastering, internal decoration, cleaning of works and similar activities should not be discharged into the stormwater drainage system. If the wastewater is to be discharged into foul sewers, it should undergo the removal of settleable solids in a silt removal facility, and pH adjustment as washing and general cleaning etc., can minimise water</li> </ul>  | To minimize water quality impact from building construction         | Contractor                     | All construction sites where practicable | Construction stage              | WPCO<br>EIAO-TM   | ^<br><br>N/A                                    |



| EIA Ref.                                  | Recommended mitigation measures for Works Contract 1112  | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location of the measures                       | When to implement the measures? | What requirements or standards for measures to achieve? | Status |
|---|--|---|--------------------------------|--|---------------------------------|---|--------|
|   | consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence which is under the ambit of regional office of EPD.   |   |                                |  |                                 |   |        |
| S8.62 of Ref. 2                           | <p><u>Excavation Activities:</u></p> <ul style="list-style-type: none"> <li>The construction programme should be properly planned to minimise soil excavation, if any, in rainy seasons. This prevents soil erosion from exposed soil surfaces. Any exposed soil surfaces should also be properly protected to minimise the potential for dust emission, increased siltation and contamination of runoff. In areas where a large amount of exposed soils exist, earth bunds or sand bags should be provided. Exposed stockpiles should be covered with tarpaulin or impervious sheets at all times. The stockpiles of materials should be placed at locations away from water environment so as to avoid releasing materials into the water bodies. Final surfaces of earthworks should be compacted and protected by permanent work.</li> </ul> | To minimize water quality impact from excavation activities       | Contractor                     | All excavation works areas                     | Construction stage              | WPCO<br>EIAO-TM   | ^      |
| S8.63 of Ref. 2                           | <p><u>Diaphragm Wall</u></p> <ul style="list-style-type: none"> <li>The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be implemented to control site run-off and drainage as well as any site effluents generated from the works areas, and to prevent run-off and construction wastes from entering nearby water environment. Proper handling of bentonite slurries used in diaphragm wall construction should be adopted.</li> </ul>  | To minimize water quality impact from diaphragm walling           | Contractor                     | All diaphragm walling works areas              | Construction stage              | WPCO<br>EIAO-TM   | ^      |
| S8.60 – 8.61 of Ref. 2; S10.7.1 of Ref. 3 | <p><u>Sewage effluent</u></p> <p>Portable chemical toilets are recommended for handling the construction sewage generated by the workforce. A licensed contractor will be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p>   | To minimize water quality from sewage effluent                    | Contractor                     | All construction sites where practicable       | Construction stage              | WPCO<br>TM-Water  | ^      |
| S8.64 of Ref. 2; S10.7.1 of Ref. 3        | <p><u>Groundwater seepage</u></p> <p>As some proposed works areas at Hung Hom are near Victoria Harbour, high ground water level regime due to both tidal effects and rainwater infiltration is anticipated. Appropriate measures will be deployed to minimise the intrusion of groundwater into excavation works areas. In case seepage of groundwater occurs, groundwater will be pumped out from the works areas and discharged into the storm system via silt</p>  | To minimize groundwater quality impact from contaminated area     | Contractor                     | Excavation areas where contamination is found. | Construction stage              | WPCO<br>TM-Water<br>EIAO-TM                             | ^      |

| EIA Ref.   | Recommended mitigation measures for Works Contract 1112   | Objectives of the recommended measures & main concerns to address                    | Who to implement the measures? | Location of the measures                 | When to implement the measures? | What requirements or standards for measures to achieve? | Status                   |
|--|---|--|--------------------------------|--|---------------------------------|---|--------------------------|
|  | removal facilities. Groundwater from dewatering process will also be discharged into the storm system via silt traps.   |  |                                |  |                                 |   |                          |
| S10.7.1 of Ref. 1; S8.57 – 8.59 of Ref. 2; S10.7.1 of Ref. 3 | <p><u>Accidental spillage</u><br/>                     To prevent accidental spillage of chemicals, the following is recommended:</p> <ul style="list-style-type: none"> <li>• Proper storage and handling facilities will be provided.</li> <li>• All the tanks, containers, storage area will be bunded and the locations will be locked as far as possible from the sensitive watercourse and stormwater drains.</li> <li>• The contractor will register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities will be stored with suitable labels and warnings.</li> <li>• Disposal of chemical wastes will be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation.</li> </ul> | To minimize water quality impact from accidental spillage                            | Contractor                     | All construction sites where practicable | Construction stage              | WPCO<br>ProPECC PN1/94<br>EIAO-TM<br>TM-Water           | #<br>^<br><br>*<br><br>* |
| S8.72 of Ref.2   | Regular site inspections should be undertaken to inspect the construction activities and works areas  | To ensure the recommended water quality mitigation measures are properly implemented | Contractor                     | All construction sites                   | Construction stage              | EIAO-TM<br>WPCO<br>ProPECC PN 1/94<br>TM-DSS<br>WDO     | ^                        |

| EIA Ref.  | Recommended mitigation measures for Works Contract 1112  | Objectives of the recommended measures & main concerns to address   | Who to implement the measures? | Location of the measures | When to implement the measures? | What requirements or standards for measures to achieve?                                       | Status                          |
|---|--|---|--------------------------------|--------------------------|---------------------------------|---|---------------------------------|
| <b>Waste Management (Construction Phase)</b>                    |  |   |                                |                          |                                 |   |                                 |
| S11.4.1.1 of Ref. 1; S9.80 – 9.83 of Ref. 2; S11.4.1.1 of Ref.3 | <p><u>Onsite sorting of C&amp;D material</u></p> <p>Geological assessment will be carried out by competent persons onsite during excavation to identify materials which are not suitable to use as aggregate in structural concrete (eg, volcanic rock, Aplite dyke rock, etc). Volcanic rock and Aplite dyke rock will be separated at the source sites as far as practicable and stored at designated stockpile areas preventing them from delivering to crushing facilities. The crushing plant operator will also be reminded to set up measures to prevent unsuitable rock from ended up at concrete batching plants and be turned into concrete for structural use. Details regarding control measures at source site and crushing facilities will be submitted by the Contractors for the Engineer to review and agree. In addition, site records will also be kept for the types of rock materials excavated and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced by site supervisory staff as stipulated under DEVB TC(W) ref: 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 will also be explored.</p> | 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              | DEVB TC(W) ref. 6/2010  | ^                               |
| S11.5.1 of Ref.1; S9.72 – 9.74 of Ref. 2; S11.5.1 of Ref.3      | <p><u>Construction and demolition material</u></p> <ul style="list-style-type: none"> <li>Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement.</li> <li>Carry out onsite sorting.</li> <li>Make provisions in the Contract documents to allow and promote</li> <li>The use of recycled aggregates where appropriate.</li> <li>Adopt ‘selective demolition’ technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible.</li> <li>Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified.</li> <li>Implement an enhanced Waste Management Plan similar to ETWBTC (Works) ref 19/2005 – “Environmental Management on Construction Sites” to encourage on-site sorting of C&amp;D materials and to minimize their generation during the course of construction.</li> <li>In addition, disposal of the C&amp;D materials onto any sensitive locations such as agricultural lands, etc. will be avoided. The contractor will propose the final disposal sites to the Project</li> </ul>  | Good site practice to minimise the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal | Contractor                     | All construction sites   | Construction stage              | Land (Miscellaneous Provisions) Ordinance<br>Waste Disposal Ordinance<br>ETWB TCW Ref 19/2005 | ^<br>^<br>^<br>^<br>^<br>^<br>^ |

| EIA Ref.   | Recommended mitigation measures for Works Contract 1112   | Objectives of the recommended measures & main concerns to address   | Who to implement the measures? | Location of the measures | When to implement the measures? | What requirements or standards for measures to achieve?                                       | Status                       |
|--|---|---|--------------------------------|--------------------------|---------------------------------|---|------------------------------|
|  | Proponent and EPD and get their approval before implementation.   |   |                                |                          |                                 |   |                              |
| S11.5.1 of Ref.1; S9.73 of Ref. 2; S11.5.1 of Ref.3        | <p><u>C&amp;D waste</u></p> <ul style="list-style-type: none"> <li>Standard formwork or pre-fabrication will be used as far as practicable in order to minimise the arising of C&amp;D materials. The use of more durable formwork or plastic facing for the construction works will be considered. Use of wooden hoardings will not be used, as in other projects. Metal hoarding will be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage.</li> <li>The contractor will recycle as much of the C&amp;D materials as possible onsite. Public fill and C&amp;D waste will 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 will be considered for such segregation and storage.</li> </ul> | Good site practice to minimise the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal | Contractor                     | All construction sites   | Construction stage              | Land (Miscellaneous Provisions) Ordinance<br>Waste Disposal Ordinance<br>ETWB TCW Ref 19/2005 | ^<br><br>#                   |
| S11.5.1 of Ref.1; S9.100-9.102 of Ref.2; S11.5.1 of Ref. 3 | <p><u>General refuse</u></p> <ul style="list-style-type: none"> <li>General refuse generated onsite will be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>A reputable waste collector will be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law.</li> <li>Aluminium cans will be often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit will be provided if feasible.</li> <li>Office wastes will be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme will be considered by the contractor.</li> </ul>  | Minimize production of the general refuse and avoid odour, pest and litter impacts  | Contractor                     | All construction sites   | Construction stage              | Waste Disposal Ordinance  | #<br><br>^<br><br>^<br><br>^ |

| EIA Ref.                                 | Recommended mitigation measures for Works Contract 1112   | Objectives of the recommended measures & main concerns to address  | Who to implement the measures? | Location of the measures | When to implement the measures? | What requirements or standards for measures to achieve?                   | Status                                      |
|--|---|--|--------------------------------|--------------------------|---------------------------------|---|---|
| S11.5.1 of Ref.1; S9.84 – 9.93 of Ref. 2 | <p><u>Land-based sediment</u></p> <ul style="list-style-type: none"> <li>The basic requirements and procedures for excavated sediment disposal specified under ETWB TC(W) No. 34/2002 shall be followed.</li> <li>The Project Proponent should agree in advance with MFC of CEDD on the site allocation. Subject to the final decision by MFC, Type 1 sediments are typically disposed to South Cheung Chau and/or East of Ninepin as open sea disposal while Type 2 sediments are disposed to East Sha Chau as confined marine disposal.</li> <li>Sampling and Testing Plan(s) should be prepared in accordance with ETWB TC(W) No. 34/2002. Site investigation, based on the Sediment Sampling and Testing Plan(s), should be carried out in order to confirm the disposal arrangements for the proposed excavated sediments. A Sediment Quality Report (SQR) should then be submitted to EPD for agreement prior to the tendering of the construction contract, discussing in details the site investigation, testing results as well as the delineation of each of the categories of excavated materials and the corresponding types of disposal.</li> <li>The excavated sediments is expected to be loaded onto the dumping trucks and transferred to the barging point where the sediments would be transported via barge to the existing designated disposal sites allocated by the MFC. The excavated sediment would be disposed of according to its determined disposal options and ETWB TC(W) No. 34/2002.</li> <li>Requirements of the Air Pollution Ordinance (Construction Dust) Regulation, where relevant, shall be adhered to during excavation, transportation and disposal of sediments.</li> <li>Stockpiling of contaminated sediments should be avoided as far as possible. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment should be covered by tarpaulin and the area should be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and/or surrounding water bodies. The stockpiling areas should be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas should be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, should be collected and discharged</li> </ul> | To ensure the sediment is handled and disposed of in a least impacted way and in accordance to the statutory | Contractor                     | All construction sites   | Construction stage              | ETWB TC(W) NO. 34/2002<br>Dumping at Sea Ordinance (DASO)<br>APCO<br>WPCO | N/A<br>N/A<br><br>N/A<br><br>N/A<br><br>N/A |

| EIA Ref.   | Recommended mitigation measures for Works Contract 1112  | Objectives of the recommended measures & main concerns to address                   | Who to implement the measures? | Location of the measures      | When to implement the measures? | What requirements or standards for measures to achieve?   | Status                           |
|--|--|---|--------------------------------|-------------------------------|---------------------------------|---|----------------------------------|
|  | <p>according to the Water Pollution Control Ordinance (WPCO).</p> <ul style="list-style-type: none"> <li>In order to minimize the potential odour / dust emissions during excavation and transportation of the sediment, the excavated sediments should be wetted during excavation / material handling and should be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge should be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.</li> <li>The barge transporting the sediments to the designated disposal sites should be equipped with tight fitting seals to prevent leakage and should not be filled to a level that would cause overflow of materials or laden water during loading or transportation.</li> <li>In order to minimize the exposure to contaminated materials, workers should, when necessary, wear appropriate personal protective equipment (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities should also be provided on site.</li> </ul>  |   |                                |                               |                                 |   | <p>N/A</p> <p>N/A</p> <p>N/A</p> |
| <p>S11.5.1 of Ref.1; S8.94 – 9.97 of Ref. 2; S11.5.1 of Ref. 3</p> | <p><u>Chemical waste</u></p> <ul style="list-style-type: none"> <li>Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, will be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</li> <li>Containers used for the storage of chemical wastes will be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450L unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation.</li> <li>The storage area for chemical wastes will be clearly labelled and used solely for the storage of chemical waste; be enclosed on at least 3 sides; 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; have adequate ventilation; be covered to prevent rainfall entering; and be arranged so that incompatible materials are adequately separated.</li> </ul> | <p>Control the chemical waste and ensure proper storage, handling and disposal.</p> | <p>Contractor</p>              | <p>All construction sites</p> | <p>Construction stage</p>       | <p>Waste Disposal (Chemical Waste) (General) Regulation</p> <p>Code of Practice on the Packaging, Labelling and Storage of Chemical Waste</p> | <p>^</p> <p>^</p> <p>^</p>       |

| EIA Ref.              | Recommended mitigation measures for Works Contract 1112   | Objectives of the recommended measures & main concerns to address                                       | Who to implement the measures? | Location of the measures | When to implement the measures? | What requirements or standards for measures to achieve?                         | Status       |
|-----------------------|---|---|--------------------------------|--------------------------|---------------------------------|---|--------------|
|                       | <ul style="list-style-type: none"> <li>Disposal of chemical waste will be via a licensed waste collector; and be 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 be to a reuser of the waste, under approval from the EPD.</li> </ul>   |   |                                |                          |                                 |   | ^            |
| S9.98 – 9.99 of Ref 2 | <p><u>Asbestos wastes</u></p> <ul style="list-style-type: none"> <li>All storage of asbestos waste should be carried out properly in a secure place isolated from other substances so as to prevent any possible release of asbestos fibres into the atmosphere and contamination of other substances. The storage area should bear warning panels to alert people of the presence of asbestos waste. Collection, transportation and disposal of asbestos waste will follow the trip-ticket system.</li> <li>Licensed asbestos waste collectors will be appointed to collect the asbestos waste and deliver to the designated landfill for disposal. The Project Proponent should notify to EPD in advance for disposal of asbestos waste. After processing the notification, EPD will issue specific instructions and directions for disposal. The waste producer must strictly follow these directions</li> </ul> | To ensure the asbestos wastes are handled and disposed of in accordance with the statutory requirements | Contractor                     | All construction sites   | Construction stage              | Code of practice on the Handling, Transportation and Disposal of Asbestos Waste | ^<br><br>N/A |





| EIA Ref.  | Recommended mitigation measures for Works Contract 1112   | Objectives of the recommended measures & main concerns to address   | Who to implement the measures? | Location of the measures | When to implement the measures?                  | What requirements or standards for measures to achieve?   | Status |
|---|---|---|--------------------------------|--------------------------|--|---|--------|
|   | <p>sources of ignition or oxidisable items. Handling will be undertaken by personnel with appropriate training and Personal Protective Equipment</p> <ul style="list-style-type: none"> <li>• Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet conditions;</li> <li>• Speed control for the trucks carrying coVehicle wheel and body washing facilities at the site's exit points should be established and used; and contaminated materials should be enforced;</li> <li>• Pollution control measures for air emissions e.g. from biopile blower, noise emissions e.g. from blower, and water discharges e.g. runoff control should be implemented and complied with relevant regulations and guidelines.</li> </ul> |   |                                |                          |  |   | N/A    |
|   |   |   |                                |                          |  |   | N/A    |
|   |   |   |                                |                          |  |   | N/A    |
|   |   |   |                                |                          |  |   | N/A    |
| S10.36 of Ref 2   | <p>The Occupation Safety and Health Ordinance (OSHO) (Chapter 509) and its subsidiary Regulations should be followed by all site personnel working on the site at all times. In addition, the following basic health and safety measures should be implemented as far as possible:</p> <p>Set up a list of safety measures for site workers.</p> <p>Provide written information and training on safety for site workers.</p> <p>Keep a log-book and plan showing the contaminated zones and clean zones.</p> <p>Maintain a hygienic working environment.</p> <p>Avoid dust generation.</p> <p>Provide face and respiratory protection gear to site workers.</p> <p>Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight gloves) to site workers.</p> <p>Provide first aid training and materials to site workers.</p>   | To minimise the potentially adverse effects on health and safety of construction workers during the course of site remediation. | Contractor                     | All construction sites   | Site remediation and prior to construction phase | <p>"Guidance Note for Contaminated Land Assessment and Remediation"</p> <p>"Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management"</p> <p>"Occupation Safety and Health Ordinance (Chapter 509)"</p> | N/A    |
| <b>EM&amp;A Project</b>                                 |   |   |                                |                          |  |   |        |
| S14.2 – 14.4 of Ref. 1;<br>S13.2 – 13.4 of Ref. 3<br>1. | <ul style="list-style-type: none"> <li>• An Environmental Team needs to be employed as per this EM&amp;A Manual.</li> <li>• Prepare a systematic EMP to ensure effective implementation of the mitigation measures.</li> <li>• An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in this</li> </ul>  | Perform environmental monitoring & auditing   | Contractor                     | All construction sites   | Construction stage                               | EIAO Guidance Note Ref4/2010<br>EIAO-TM   | ^      |

| EIA Ref. | Recommended mitigation measures for Works Contract 1112 | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | What requirements or standards for measures to achieve? | Status |
|----------|---|---|--------------------------------|--------------------------|---------------------------------|---|--------|
|          | EM&A Manual are fully complied with.                    |   |                                |                          |                                 |   |        |

**Remark for Status:**

^ Compliance of mitigation measure  
 + Non-compliance but rectified by the contractor  
 N/A Not Applicable

X Non-compliance of mitigation measure  
 \* Recommendation was made during site audit but improved/rectified by the contractor  
 # Recommendation was made during site audit and improvement/rectification not yet completed by the contractor

**Notes:**

Ref. 1 – EIA Report for SCL (TAW-HUH)  
 Ref. 2 – EIA Report for SCL (MKK-HUH)  
 Ref. 3 – EIA Report for SCL (HHS)

This EMIS contains only those requirements that are relevant to Works Contract 1112 in terms of:

- EM&A required under Works Contract 1112
- Who to implement the measures – the Contractor (Leighton)
- The location of the measures – within and in the vicinity of the Works Contract 1112 Site Boundary
- When to implement the measures – during the design and construction

---

## APPENDIX I

### Event and Action Plan

**Event and Action Plan for Landscape and Visual Impact Monitoring**

| Event                          | ET   | IEC   | ER   | Contractor   |
|--------------------------------|--|---|--|--|
| <b>Action level</b>            |  |   |  |  |
| Non-conformity on one occasion | <ol style="list-style-type: none"> <li>1. Inform the contractor, the IEC and the ER</li> <li>2. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>3. Monitor remedial actions until rectification has been completed</li> </ol>  | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the contractor's working method</li> <li>3. Discuss with the ET, ER and the contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of non-conformity in writing</li> <li>2. Review and agree on the remedial measures proposed by the contractor</li> <li>3. Supervise implementation of remedial measures</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement</li> </ol>   |
| Repeated Non-conformity        | <ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform the contractor, the IEC and the ER</li> <li>3. Increase inspection frequency</li> <li>4. Discuss remedial actions with the IEC, the ER and the contractor</li> <li>5. Monitor remedial actions until rectification has been completed</li> <li>6. If non-conformity stops, cease additional monitoring</li> </ol> | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the contractor's working method</li> <li>3. Discuss with the ET and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> </ol>      | <ol style="list-style-type: none"> <li>1. Notify the contractor</li> <li>2. In consultation with the ET and IEC, agree with the contractor on the remedial measures to be implemented</li> <li>3. Supervise implementation of remedial measures.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Identify source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by the ER until the non-conformity is abated.</li> </ol> |

**Event and Action Plan for Air Quality**

| Event   | ET  | IEC   | ER   | Contractor  |
|---|---|---|--|---|
| <b>Action level</b>                               |   |   |  |   |
| 1. Exceedance for one sample                      | 1. Inform the IEC, Contractor and ER<br>2. Discuss with the Contractor, IEC and ER on the remedial measures required<br>3. Repeat measurement to confirm findings<br>4. Increase monitoring frequency   | 1. Check monitoring data submitted by the ET<br>2. Check Contractor's working method<br>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  | 1. Identify source(s), investigate the causes of exceedance and propose remedial measures;<br>2. Implement remedial measures;<br>3. Amend working methods agreed with the ER as appropriate   |
| 2. Exceedance for two or more consecutive samples | 1. Inform the IEC, Contractor and ER<br>2. Discuss with the ER, IEC and Contractor on the remedial measures required<br>3. Repeat measurements to confirm findings<br>4. Increase monitoring frequency to daily<br>5. If exceedance continues, arrange meeting with the IEC, ER and Contractor<br>6. If exceedance stops, cease additional monitoring | 2. Check monitoring data submitted by the ET<br>3. Check Contractor's working method<br>4. Review and advise the ET and ER on the effectiveness of the proposed remedial measures | 1. Confirm receipt of notification of exceedance in writing<br>2. Review and agree on the remedial measures proposed by the Contractor<br>3. Supervise Implementation of remedial measures | 1. Identify source and investigate the causes of exceedance<br>2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification<br>3. Implement the agreed proposals<br>4. Amend proposal as appropriate |

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

### **Event and Action Plan for Construction Noise**

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

**Note:**

ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative

## APPENDIX J

---

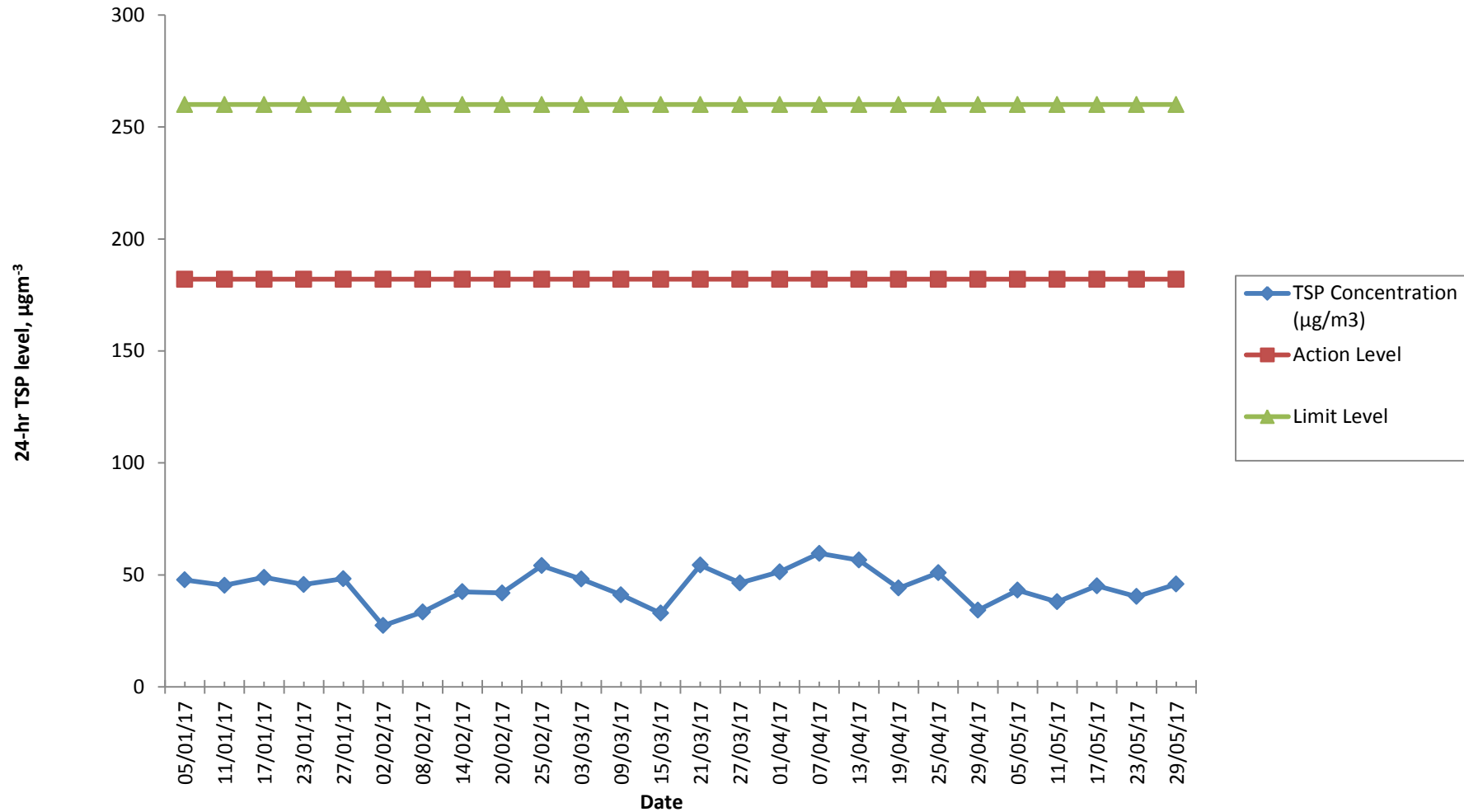
### Monitoring Results and their Graphical Presentations



**Air Quality Monitoring Results for AM2**

| Sampling Date | Wt. of paper (g) |             |           |             | Elapse Time |          |               | Flow Rate (CFM) |       |               | Total Volume (m <sup>3</sup> ) | TSP Concentration (µg/m <sup>3</sup> ) | Weather      | Remark |
|---------------|------------------|-------------|-----------|-------------|-------------|----------|---------------|-----------------|-------|---------------|--------------------------------|--|--------------|--------|
|               | Paper No.        | Initial Wt. | Final Wt. | Wt. of dust | Initial     | Final    | Sampling Hour | Initial         | Final | Avg Flow Rate |                                |  |              |        |
| 05/05/17      | C316             | 2.8253      | 2.8957    | 0.0704      | 15681.30    | 15705.30 | 24.00         | 40              | 40    | 40.0          | 1631.05                        | 43.1624                                | Fine         | -      |
| 11/05/17      | C317             | 2.8271      | 2.8890    | 0.0619      | 15705.30    | 15729.30 | 24.00         | 40              | 40    | 40.0          | 1631.05                        | 37.9510                                | Sunny        | -      |
| 17/05/17      | C315             | 2.8730      | 2.9466    | 0.0736      | 15729.30    | 15753.30 | 24.00         | 40              | 40    | 40.0          | 1631.05                        | 45.1243                                | Sunny        | -      |
| 23/05/17      | C314             | 2.8662      | 2.9320    | 0.0658      | 15753.30    | 15777.30 | 24.00         | 40              | 40    | 40.0          | 1631.05                        | 40.3421                                | Partly Rainy | -      |
| 29/05/17      | C313             | 2.8459      | 2.9207    | 0.0748      | 15777.30    | 15801.30 | 24.00         | 40              | 40    | 40.0          | 1631.05                        | 45.8600                                | Sunny        | -      |

### Construction Dust Monitoring Results for AM2 (Harbourfront Horizon)



---

## APPENDIX K

### Waste Flow Table

| Waste Flow Table |  |                       |                          |                               |                        |                           |  |                                    |                                  |   |                            |          |          |                |                |             |
|------------------|--|-----------------------|--------------------------|-------------------------------|------------------------|---------------------------|--|------------------------------------|----------------------------------|---|----------------------------|----------|----------|----------------|----------------|-------------|
| Month            | Actual Quantities of Inert C&D Materials Generated Monthly |                       |                          |                               |                        |                           |  |                                    |                                  | Actual Quantities of non-inert C&D Wastes Generated Monthly |                            |          |          |                |                |             |
|                  | Generated  |                       |                          |                               | Disposed               |                           |  |                                    |                                  | Recycled  |                            |          |          | Disposed       |                |             |
|                  | Imported from SCL1111                                      | Imported from SCL1121 | Total Quantity Generated | Hard Rock and Broken Concrete | Reused in the Contract | Reused in Other Projects  | Disposed as Public Fills at HH Barging Point | Disposed as Public Fills at TKO137 | Disposed as Public Fills at TM38 | Metals  | Paper/ Cardboard Packaging | Asphalt  | Plastics | Chemical Waste | General Refuse |             |
| Unit             | (in '000m <sup>3</sup> )                                   |                       |                          |                               |                        |                           |  |                                    |                                  | (in '000Kg)   |                            |          |          | (in '000Kg)    | (in '000L)     | (in '000Kg) |
| Jun-13           | 0  | -                     | 0                        | 0                             | 0                      | 0                         | 0  | 0                                  | 0                                | 137.3   | 0                          | 0        | 0        | 0              | -              | 6.55        |
| Jul-13           | 0  | -                     | 0.36                     | 0                             | 0                      | 0                         | 0  | 0                                  | 0.36                             | 365.34  | 0                          | 0        | 0        | 0              | -              | 16.87       |
| Aug-13           | 0  | -                     | 1.68                     | 0                             | 0                      | 0                         | 0.05   | 0                                  | 1.63                             | 69.98   | 0.25                       | 0        | 0        | 0              | -              | 12.67       |
| Sep-13           | 0  | -                     | 3.39                     | 0                             | 0                      | 0                         | 0.20   | 0                                  | 3.19                             | 131.18  | 0.22                       | 0        | 0.46     | 0              | -              | 16.25       |
| Oct-13           | 0  | -                     | 4.04                     | 0                             | 0                      | 0                         | 0.78   | 0                                  | 3.26                             | 179.97  | 0.63                       | 8.28     | 2.04     | 0              | -              | 39.87       |
| Nov-13           | 0  | -                     | 6.09                     | 0                             | 0                      | 0                         | 2.09   | 0.18                               | 3.82                             | 125.70  | 0.45                       | 160.35   | 0        | 0              | -              | 28.69       |
| Dec-13           | 0  | -                     | 5.69                     | 0                             | 0                      | 0                         | 1.74   | 0.01                               | 3.94                             | 72.15   | 0.39                       | 4.13     | 0        | 0              | -              | 18.04       |
| Jan-14           | 0  | -                     | 4.58                     | 0                             | 0                      | 0                         | 0  | 0.27                               | 4.31                             | 117.57  | 0.26                       | 147.67   | 0.26     | 0              | -              | 30.09       |
| Feb-14           | 0  | -                     | 3.80                     | 0                             | 0                      | 0.14 <sup>[Note1]</sup>   | 0  | 0.19                               | 3.46                             | 28.32   | 0.29                       | 414.67   | 0        | 0              | -              | 15.73       |
| Mar-14           | 0  | -                     | 10.10                    | 0                             | 0                      | 6.18 <sup>[Note2]</sup>   | 0  | 0.29                               | 3.63                             | 96.26   | 0.25                       | 0        | 0        | 0              | -              | 47.76       |
| Apr-14           | 0  | -                     | 6.67                     | 0                             | 0                      | 4.82 <sup>[Note3]</sup>   | 0  | 0.0053                             | 1.85                             | 75.43   | 0.23                       | 1,322.39 | 0        | 0.2            | -              | 78.63       |
| May-14           | 0.52   | -                     | 5.77                     | 0                             | 0.43                   | 2.00 <sup>[Note4]</sup>   | 0  | 0.12                               | 3.65                             | 48.86   | 0.28                       | 501.45   | 0        | 0              | -              | 66.03       |
| Jun-14           | 0.47   | -                     | 4.56                     | 0                             | 0                      | 1.73 <sup>[Note5]</sup>   | 0  | 0.29                               | 2.54                             | 42.95   | 0.25                       | 0        | 0        | 0.4            | -              | 45.97       |
| Jul-14           | 0.34   | -                     | 8.61                     | 0                             | 0                      | 2.89 <sup>[Note6]</sup>   | 0  | 0.87                               | 4.84                             | 70.99   | 0                          | 0        | 0        | 0              | -              | 40.50       |
| Aug-14           | 0.20   | -                     | 8.57                     | 0                             | 0                      | 3.56 <sup>[Note7]</sup>   | 0  | 0.44                               | 4.57                             | 227.86  | 0                          | 0        | 0        | 0              | -              | 76.93       |
| Sep-14           | 0.23   | -                     | 11.11                    | 0                             | 0                      | 5.82 <sup>[Note8]</sup>   | 0  | 0.23                               | 5.06                             | 220.85  | 0.29                       | 0        | 0        | 0              | -              | 43.01       |
| Oct-14           | 0.54   | -                     | 12.79                    | 0                             | 0                      | 6.04 <sup>[Note9]</sup>   | 0  | 0.06                               | 6.69                             | 174.82  | 0.71                       | 329.16   | 0        | 0              | -              | 97.92       |
| Nov-14           | 0.93   | -                     | 10.63                    | 0                             | 0                      | 3.78 <sup>[Note10]</sup>  | 0  | 0.15                               | 6.70                             | 163.72  | 0.56                       | 376.40   | 0        | 0              | -              | 81.91       |
| Dec-14           | 3.72   | -                     | 8.59                     | 0                             | 0                      | 2.97 <sup>[Note11]</sup>  | 0  | 0                                  | 5.62                             | 385.80  | 0.53                       | 166.98   | 0        | 5.4            | -              | 130.83      |
| Jan-15           | 3.72   | -                     | 19.29                    | 0                             | 0                      | 10.03 <sup>[Note12]</sup> | 0  | 0                                  | 9.26                             | 543.40  | 0.80                       | 179.01   | 0        | 0              | 1.60           | 318.66      |

| Waste Flow Table |  |                       |                          |                               |                        |                           |  |                                    |                                  |   |                            |         |          |                |            |                |
|------------------|--|-----------------------|--------------------------|-------------------------------|------------------------|---------------------------|--|------------------------------------|----------------------------------|---|----------------------------|---------|----------|----------------|------------|----------------|
| Month            | Actual Quantities of Inert C&D Materials Generated Monthly |                       |                          |                               |                        |                           |  |                                    |                                  | Actual Quantities of non-inert C&D Wastes Generated Monthly |                            |         |          |                |            |                |
|                  | Generated  |                       |                          |                               | Disposed               |                           |  |                                    |                                  | Recycled  |                            |         |          | Disposed       |            |                |
|                  | Imported from SCL1111                                      | Imported from SCL1121 | Total Quantity Generated | Hard Rock and Broken Concrete | Reused in the Contract | Reused in Other Projects  | Disposed as Public Fills at HH Barging Point | Disposed as Public Fills at TKO137 | Disposed as Public Fills at TM38 | Metals  | Paper/ Cardboard Packaging | Asphalt | Plastics | Chemical Waste |            | General Refuse |
| Unit             | (in '000m <sup>3</sup> )                                   |                       |                          |                               |                        |                           |  |                                    |                                  | (in '000Kg)   |                            |         |          | (in '000Kg)    | (in '000L) | (in '000Kg)    |
| Feb-15           | 3.03   | -                     | 13.96                    | 0                             | 0                      | 8.41 <sup>[Note13]</sup>  | 0  | 0                                  | 5.54                             | 263.10  | 0.46                       | 168.82  | 0        | 0              | 0          | 180.27         |
| Mar-15           | 5.68   | -                     | 22.28                    | 0                             | 0                      | 12.45 <sup>[Note14]</sup> | 0  | 0                                  | 9.82                             | 346.70  | 0.61                       | 11.45   | 0        | 0              | 0          | 429.13         |
| Apr-15           | 4.71   | -                     | 18.51                    | 0                             | 0                      | 11.25 <sup>[Note15]</sup> | 0  | 0.23                               | 7.26                             | 275.99  | 0.32                       | 0       | 0        | 0              | 0          | 376.98         |
| May-15           | 4.62   | -                     | 20.64                    | 0                             | 0                      | 11.53 <sup>[Note16]</sup> | 0  | 0                                  | 9.10                             | 353.88  | 0.67                       | 0       | 0        | 0              | 0          | 266.43         |
| Jun-15           | 5.04   | -                     | 13.49                    | 0                             | 0                      | 6.29 <sup>[Note17]</sup>  | 0  | 0                                  | 7.20                             | 317.14  | 0.43                       | 0       | 0        | 0.20           | 1.00       | 258.01         |
| Jul-15           | 6.21   | 0.09                  | 21.64                    | 0                             | 0                      | 16.15 <sup>[Note18]</sup> | 0  | 0                                  | 5.50                             | 706.38  | 0.69                       | 0       | 0        | 0              | 0          | 270.73         |
| Aug-15           | 0.40   | 0                     | 26.43                    | 0                             | 0                      | 19.29 <sup>[Note19]</sup> | 0  | 0                                  | 7.14                             | 45.53   | 0.57                       | 0       | 0        | 0              | 0          | 261.04         |
| Sep-15           | -  | -                     | 20.91                    | 0                             | 0                      | 13.16 <sup>[Note20]</sup> | 0  | 0                                  | 7.75                             | 317.36  | 0.58                       | 0       | 0        | 0.45           | 0          | 240.74         |
| Oct-15           | -  | -                     | 26.22                    | 0                             | 0                      | 14.19 <sup>[Note21]</sup> | 0  | 0                                  | 12.03                            | 251.95  | 0.48                       | 0       | 0        | 0              | 0          | 422.80         |
| Nov-15           | -  | -                     | 18.66                    | 0                             | 0                      | 7.03 <sup>[Note22]</sup>  | 0  | 0                                  | 11.64                            | 446.80  | 0.53                       | 0       | 0        | 0              | 0          | 283.46         |
| Dec-15           | -  | -                     | 17.02                    | 0                             | 0                      | 9.81 <sup>[Note23]</sup>  | 0  | 0                                  | 7.21                             | 198.11  | 0.50                       | 0       | 0        | 0              | 0          | 355.24         |
| Jan-16           | -  | -                     | 24.58                    | 0                             | 0                      | 13.22 <sup>[Note24]</sup> | 0  | 0                                  | 11.37                            | 273.64  | 0.62                       | 0       | 0        | 0              | 0          | 347.67         |
| Feb-16           | -  | -                     | 9.34                     | 0                             | 0                      | 4.31 <sup>[Note25]</sup>  | 0  | 0                                  | 5.04                             | 269.58  | 0.46                       | 0       | 0        | 0              | 0          | 251.30         |
| Mar-16           | -  | -                     | 9.75                     | 0                             | 0                      | 3.48 <sup>[Note26]</sup>  | 0  | 0                                  | 6.27                             | 750.85  | 0                          | 0       | 0        | 0              | 0          | 288.35         |
| Apr-16           | -  | -                     | 12.83                    | 0                             | 0                      | 5.68 <sup>[Note27]</sup>  | 0  | 0                                  | 7.15                             | 549.43  | 0.65                       | 0       | 0        | 0.09           | 1.30       | 282.05         |
| May-16           | -  | -                     | 7.22                     | 0                             | 0                      | 2.08 <sup>[Note28]</sup>  | 0  | 0                                  | 5.14                             | 356.66  | 0.55                       | 0       | 0        | 0              | 0          | 318.75         |
| Jun-16           | -  | -                     | 2.83                     | 0                             | 0                      | 2.38 <sup>[Note29]</sup>  | 0  | 0                                  | 0.45                             | 228.10  | 0.40                       | 0       | 0        | 0              | 4.21       | 410.03         |
| Jul-16           | -  | -                     | 8.67                     | 0                             | 0                      | 8.50 <sup>[Note30]</sup>  | 0  | 0.01                               | 0.16                             | 172.90  | 0.16                       | 0       | 0        | 0              | 0          | 418.44         |
| Aug-16           | -  | -                     | 2.08                     | 0                             | 0                      | 1.95 <sup>[Note31]</sup>  | 0  | 0                                  | 0.12                             | 334.40  | 0.30                       | 0       | 0        | 0              | 0          | 542.00         |
| Sep-16           | -  | -                     | 1.44                     | 0                             | 0                      | 1.44 <sup>[Note32]</sup>  | 0  | 0                                  | 0                                | 47.10   | 0.37                       | 0       | 0        | 0              | 0          | 542.44         |

| Waste Flow Table |  |                       |                          |                               |                        |                          |  |                                    |                                  |   |                            |         |          |                |            |                |
|------------------|--|-----------------------|--------------------------|-------------------------------|------------------------|--------------------------|--|------------------------------------|----------------------------------|---|----------------------------|---------|----------|----------------|------------|----------------|
| Month            | Actual Quantities of Inert C&D Materials Generated Monthly |                       |                          |                               |                        |                          |  |                                    |                                  | Actual Quantities of non-inert C&D Wastes Generated Monthly |                            |         |          |                |            |                |
|                  | Generated  |                       |                          |                               | Disposed               |                          |  |                                    |                                  | Recycled  |                            |         |          | Disposed       |            |                |
|                  | Imported from SCL1111                                      | Imported from SCL1121 | Total Quantity Generated | Hard Rock and Broken Concrete | Reused in the Contract | Reused in Other Projects | Disposed as Public Fills at HH Barging Point | Disposed as Public Fills at TKO137 | Disposed as Public Fills at TM38 | Metals  | Paper/ Cardboard Packaging | Asphalt | Plastics | Chemical Waste |            | General Refuse |
| Unit             | (in '000m <sup>3</sup> )                                   |                       |                          |                               |                        |                          |  |                                    |                                  | (in '000Kg)   |                            |         |          | (in '000Kg)    | (in '000L) | (in '000Kg)    |
| Oct-16           | -  | -                     | 3.00                     | 0                             | 0                      | 3.00 <sup>[Note33]</sup> | 0  | 0                                  | 0                                | 99.79   | 0.44                       | 0       | 0        | 0              | 0          | 633.27         |
| Nov-16           | -  | -                     | 1.29                     | 0                             | 0                      | 1.29 <sup>[Note34]</sup> | 0  | 0                                  | 0                                | 29.71   | 0.45                       | 0       | 0        | 0              | 0          | 866.16         |
| Dec-16           | -  | -                     | 1.10                     | 0                             | 0                      | 1.10 <sup>[Note35]</sup> | 0  | 0                                  | 0                                | 45.80   | 0.48                       | 0       | 0        | 0              | 0          | 978.39         |
| Jan-17           | -  | -                     | 2.19                     | 0                             | 0                      | 2.19 <sup>[Note36]</sup> | 0  | 0                                  | 0                                | 26.10   | 0.25                       | 0       | 0        | 0              | 0          | 730.48         |
| Feb-17           | -  | -                     | 1.04                     | 0                             | 0                      | 1.04 <sup>[Note37]</sup> | 0  | 0                                  | 0                                | 0   | 0.45                       | 0       | 0        | 0              | 0          | 564.62         |
| Mar-17           | -  | -                     | 0.89                     | 0                             | 0                      | 0.89 <sup>[Note38]</sup> | 0  | 0                                  | 0                                | 0   | 0.49                       | 0       | 0.31     | 0              | 0          | 688.72         |
| Apr-17           | -  | -                     | 0.83                     | 0                             | 0                      | 0.83 <sup>[Note39]</sup> | 0  | 0                                  | 0                                | 0   | 0.36                       | 0       | 0        | 0              | 0          | 567.73         |
| May-17           | -  | -                     | 1.23                     | 0                             | 0                      | 1.23 <sup>[Note40]</sup> | 0  | 0                                  | 0                                | 0   | 0.16                       | 0       | 0        | 0              | 0          | 597.93         |
| <b>TOTAL</b>     | 40.35  | 0.09                  | 447.38                   | 0.00                          | 0.42                   | 234.11                   | 4.86   | 3.36                               | 205.28                           | 9659.24   | 19.97                      | 3790.76 | 3.07     | 6.74           | 8.11       | 13596.71       |

**Note:**

- 137 m<sup>3</sup> of the Inert C&D materials were reused in South Island Line (SIL) Project Contract 904.
- 267 m<sup>3</sup> of the Inert C&D materials were reused in SIL Project Contract 904; 3,998 m<sup>3</sup> of the Inert C&D materials were reused in Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West Project Contract HK/2012/08; and 1,912 m<sup>3</sup> of the Inert C&D materials were reused in Tuen Mun – Chek Lap Kok Link (TM-CLKL) and Tuen Mun Western Bypass (TMWB) Project Contract HY/2012/08.
- 1,728 m<sup>3</sup> of the Inert C&D materials were reused in Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West Project Contract HK/2012/08; and 3,088 m<sup>3</sup> of the Inert C&D materials were reused in TM-CLKL and TMWB Project Contract HY/2012/08.
- 184 m<sup>3</sup> of the Inert C&D materials were reused in South Island Line (SIL) Project Contract 904; and 1814 m<sup>3</sup> of the Inert C&D materials were reused in TM-CLKL and TMWB Project Contract HY/2012/08.
- 1,021 m<sup>3</sup> of the Inert C&D materials were reused in Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West Project Contract HK/2012/08; and 707 m<sup>3</sup> of the Inert C&D materials were reused in TM-CLKL and TMWB Project Contract HY/2012/08.
- 2,894 m<sup>3</sup> of the Inert C&D materials were reused in TM-CLKL and TMWB Project Contract HY/2012/08.
- 575.5m<sup>3</sup> of the Inert C&D materials were reused in Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West Project Contract HK/2012/08; and

- 2907.6 m<sup>3</sup> of the Inert C&D materials were reused in TM-CLKL and TMWB Project Contract HY/2012/08; and 76.0 m<sup>3</sup> of the Inert C&D materials were reused in Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai West Project Contract HK/2009/08.
8. 4,905.4 m<sup>3</sup> of the Inert C&D materials were reused in TM-CLKL and 912.3 m<sup>3</sup> of the Inert C&D materials were reused in SIL Project Contract 904.
  9. 5,522.9 m<sup>3</sup> of the Inert C&D materials were reused in TM-CLKL and 515.9 m<sup>3</sup> of the Inert C&D materials were reused in SIL Project Contract 904.
  10. 3,774.6 m<sup>3</sup> of the Inert C&D materials were reused in TM-CLKL.
  11. 2,968.9 m<sup>3</sup> of the Inert C&D materials were reused in TM-CLKL (HY/2012/08).
  12. 9,988.1 m<sup>3</sup> of the Inert C&D materials were reused in WENT (SITA) and 46.34 m<sup>3</sup> of the Inert C&D materials were reused in SIL Project Contract 904.
  13. 8,212.8 m<sup>3</sup> of the Inert C&D materials were reused in WENT (SITA) and 200.9 m<sup>3</sup> of the Inert C&D materials were reused in SIL Project Contract 904.
  14. 11,757 m<sup>3</sup> of the Inert C&D materials were reused in WENT (SITA), 23.41 m<sup>3</sup> of the Inert C&D materials were reused in SIL Project Contract 904 and 672.78 m<sup>3</sup> of the Inert C&D materials were reused in XRL822.
  15. 10,633 m<sup>3</sup> of the Inert C&D materials were reused in WENT (SITA) and 0.61176 m<sup>3</sup> of the Inert C&D materials were reused in XRL822.
  16. 11,533 m<sup>3</sup> of the Inert C&D materials were reused in WENT (SITA).
  17. 6,290 m<sup>3</sup> of the Inert C&D materials were reused in WENT (SITA).
  18. 16,145 m<sup>3</sup> of the Inert C&D materials were reused in WENT (SITA).
  19. 878 m<sup>3</sup> of the Inert C&D materials were reused in WENT (SITA) and 18,415 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  20. 13,163 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  21. 14,189 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  22. 7,030 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  23. 9,811 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  24. 13,218 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  25. 4,306 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  26. 3,478 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  27. 5,680 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  28. 2,080 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  29. 2,380 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  30. 8,500 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  31. 1,950 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  32. 1,440 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  33. 3,004 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  34. 1,290 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  35. 1,100 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  36. 2,190 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  37. 1,040 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  38. 890 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  39. 830 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.
  40. 1,230 m<sup>3</sup> of the Inert C&D materials were reused in SCL1121.

| Marine Sediment Flow Table |   |                                |          |                                |                                |          |
|----------------------------|---|--------------------------------|----------|--------------------------------|--------------------------------|----------|
| Month                      | Actual Quantities of Marine Dumping Monthly |                                |          |                                |                                |          |
|                            | Type 1                                      |                                |          | Type 2                         |                                |          |
|                            | Generated from SCL1111 [Note1]              | Generated from SCL1112 [Note3] | Disposed | Generated from SCL1111 [Note2] | Generated from SCL1112 [Note4] | Disposed |
| Unit                       | (in '000m <sup>3</sup> )                    |                                |          | (in '000m <sup>3</sup> )       |                                |          |
| Jan-15                     | 0   | 0                              | 0        | 2.22                           | 0.06                           | 2.28     |
| Feb-15                     | 1.29  | 0                              | 0.82     | 0                              | 0                              | 0        |
| Mar-15                     | 2.43  | 0                              | 2.48     | 0                              | 0                              | 0        |
| Apr-15                     | 3.97  | 0.14                           | 5.27     | 0                              | 0                              | 0        |
| May-15                     | 8.26  | 0.09                           | 8.35     | 0                              | 0                              | 0        |
| Jun-15                     | 9.71  | 0.12                           | 9.83     | 0                              | 0                              | 0        |
| Jul-15                     | 5.29  | 0                              | 5.18     | 0                              | 0                              | 0        |
| Aug-15                     | 0   | 0                              | 0        | 0                              | 0                              | 0        |
| Sep-15                     | -   | 0                              | 0        | -                              | 1.94                           | 1.94     |
| Oct-15                     | -   | 0.53                           | 0.53     | -                              | 0                              | 0        |
| Nov-15                     | -   | 5.67                           | 5.67     | 0                              | 2.32                           | 2.32     |
| Dec-15                     | -   | 14.44                          | -        | -                              | 1.02                           | -        |
| Jan-16                     | -   | 16.59                          | -        | -                              | 0.02                           | -        |
| Feb-16                     | -   | 1.25                           | -        | -                              | 4.04                           | -        |
| Mar-16                     | -   | 3.85                           | -        | -                              | 2.30                           | -        |
| Apr-16                     | -   | 0                              | -        | -                              | 0.36                           | -        |
| May-16                     | -   | 0                              | -        | -                              | 4.06                           | -        |
| Jun-16                     | -   | 0                              | -        | -                              | 6.45                           | -        |
| Jul-16                     | -   | 0                              | -        | -                              | 0                              | -        |
| Aug-16                     | -   | 0                              | -        | -                              | 0                              | -        |
| Sep-16                     | -   | 0                              | -        | -                              | 0                              | -        |
| Oct-16                     | -   | 0                              | -        | -                              | 0                              | -        |



| Marine Sediment Flow Table |   |   |              |   |   |             |
|----------------------------|---|---|--------------|---|---|-------------|
| Month                      | Actual Quantities of Marine Dumping Monthly |   |              |   |   |             |
|                            | Type 1                                      |   |              | Type 2                                    |   |             |
|                            | Generated from SCL1111 <sup>[Note1]</sup>   | Generated from SCL1112 <sup>[Note3]</sup> | Disposed     | Generated from SCL1111 <sup>[Note2]</sup> | Generated from SCL1112 <sup>[Note4]</sup> | Disposed    |
| Unit                       | (in '000m <sup>3</sup> )                    |   |              | (in '000m <sup>3</sup> )                  |   |             |
| Nov-16                     | -   | 0   | -            | -   | 0   | -           |
| Dec-16                     | -   | 0   | -            | -   | 0   | -           |
| Jan-17                     | -   | 0   | -            | -   | 0   | -           |
| Feb-17                     | -   | 0   | -            | -   | 0   | -           |
| Mar-17                     | -   | 0   | -            | -   | 0   | -           |
| Apr-17                     | -   | 0   | -            | -   | 0   | -           |
| May-17                     | -   | 0   | -            | -   | 0   | -           |
| <b>TOTAL</b>               | <b>31.69</b>                                | <b>42.67</b>                              | <b>38.11</b> | <b>2.22</b>                               | <b>22.57</b>                              | <b>6.54</b> |

**Note:**

1. Type 1 Marine Sediment generated from SCL1111 was delivered to the Barging Point at SCL1121 for disposal.
2. Type 2 Marine Sediment generated from SCL1111 was delivered to the Barging Point at SCL1121 for disposal.
3. Type 1 Marine Sediment generated from SCL1112 was delivered to the Barging Point at SCL1121 for disposal.
4. Type 2 Marine Sediment generated from SCL1112 was delivered to the Barging Point at SCL1121 for disposal.

---

## APPENDIX L

### Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

### Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

|                                 | Date Received | Reference No.   | Subject  | Location of Concern                                      | Status  |
|---------------------------------|---------------|---|--|--|---|
| <b>Environmental Complaints</b> | 10 April 2017 | Public comment received by EPD, EPD's Ref. No. K01/RE/00010598-17 | General construction noise except renovation (within Restricted Hours) | The Metropolis, No. 7-10 Metropolis Drive, Tsim Sha Tsui | <ul style="list-style-type: none"> <li>• ET conducted inspection to examine the environmental performance of the site on 13 April 2017.</li> <li>• The Contractor confirmed bulkhead wall demolition work using coring machine at SAT was carried out on 7 &amp; 8 April 2017 during 1 am – 5 am behind the door leaves and no machinery that would generate beeping sound was involved.</li> <li>• On the two nights from 6 to 8 April 2017, installation of smoke barrier was conducted under podium which required the use of a cherry picker. During cherry picker platform mobilization, safety warning signal, i.e. “beeping” sound, would be emitted. Since the cherry picker was located under the podium with no direct line of sight from the Metropolis Residence, safety warning signal should not be audible from above the podium or at the Metropolis Residence.</li> <li>• There was works involving the use of scissor lifts inside the concourse during April 2017 from 1 am – 5 am. However, such works were carried out with the main door closed.</li> <li>• On 6 &amp; 7 April 2017, there were loading and unloading works using a crane lorry at the north side outside the Concourse from 1 am – 5 am. Backwards movement of the crane lorry would also emit a “beeping” sound as the safety warning signal to alert nearby worker of the movement of the vehicle.</li> <li>• All works carried out by SCL Contract 1112 in early April 2017 are covered by valid CNPs.</li> <li>• Investigation report submitted to EPD on 2 May 2017.</li> </ul> |

|                                 | Date Received | Reference No.  | Subject  | Location of Concern  | Status  |
|---------------------------------|---------------|--|--|--|---|
| <b>Environmental Complaints</b> | 13 March 2017 | Public comment received by EPD, EPD's Ref. No. EP3/K01/RE/0000 7049-17 | General construction noise except renovation (within Restricted Hours) | Hong Kong Coliseum at No. 9 Cheong Wan Road, Tsim Sha Tsui | <ul style="list-style-type: none"> <li>• ET conducted inspection to examine the environmental performance of the site on 16 March 2017.</li> <li>• The Contractor confirmed no construction works was carried out at the uncovered site area to the south of the Hong Kong Coliseum podium on 12 March 2017.</li> <li>• It is confirmed that general housekeeping works were carried out under the Hong Kong Coliseum podium to prepare site hand over. No noisy operation with PME or hammering works was carried out that could lead to generation of noise nuisance.</li> <li>• A valid Construction Noise Permit (CNP No. GW-RE0124-17) valid from 28 February 2017 to 27 August 2017 was granted for construction works, including the housekeeping works, carried out under the podium during all restricted hours.</li> <li>• Given the fact that only housekeeping works were carried out under the podium of the Hong Kong Coliseum on 12 March 2017, noise nuisance reported by the complainant shall not be generated from the site managed under SCL Contract 1112.</li> <li>• Investigation report submitted to EPD on 21 March 2017.</li> </ul> |

|                                 | Date Received | Reference No.   | Subject  | Location of Concern             | Status  |
|---------------------------------|---------------|---|--|---------------------------------|---|
| <b>Environmental Complaints</b> | 8 April 2016  | Public comment received by EPD, EPD's Ref. No. K01/RE/00008018-16 | Air nuisance, other than dark smoke, from construction machine     | Hung Hom Station, Tsim Sha Tsui | <ul style="list-style-type: none"> <li>• ET conducted inspection to examine the environmental performance of the site on 14 April 2016.</li> <li>• Both the site and machineries were in normal operation during the site inspection. No air nuisance or smell of diesel exhaust was noticed at the concourse by any of the attending personnel.</li> <li>• No diesel powered equipment was found at the concourse, as all of the powered mechanical equipment was powered by electricity.</li> <li>• It is confirmed that the fresh air intake location of the air conditioning system serving the concourse level is located above the podium at the southern façade of the concourse, away from the construction work under the podium.</li> <li>• It is also confirmed that the sealed system is totally separated from the construction site under the podium. No air from the construction area under the podium will be drawn into the air conditioning system for distribution within the station.</li> <li>• The source of strong diesel exhaust smell at the concourse, as mentioned by the complainant, could not be identified.</li> <li>• Investigation report submitted to EPD on 26 April 2016.</li> </ul> |
| <b>Environmental Complaints</b> | 11 April 2016 | Public comment received by EPD, EPD's Ref. No. K01/RE/00008149-16 | Complaint of other air nuisance at Hung Hom Station, Tsim Sha Tsui | Hung Hom Station, Tsim Sha Tsui | <ul style="list-style-type: none"> <li>• Complaint confirmed to be irrelevant to the construction works of the Project, no follow up required.</li> </ul>   |

|                                 | Date Received | Reference No.   | Subject   | Location of Concern             | Status  |
|---------------------------------|---------------|---|---|---------------------------------|---|
| <b>Environmental Complaints</b> | 24 March 2016 | Public comment received by EPD, EPD's Ref. No. K01/RE/00006851-16 | "General construction noise except renovation (within Restricted Hours) from Hung Hom Station, Tsim Sha Tsui" | Hung Hom Station, Tsim Sha Tsui | <ul style="list-style-type: none"> <li>• The Contractor confirmed that only mobilization, i.e. transportation of the equipment itself, of the scissor lift platforms were carried out during night time. During scissor lift platforms mobilization, safety warning signal (the "beeping" noise) would be emitted. The audible warning signal device cannot be switched off so as to alert nearby workers of the movement of the equipment. Silencing the device could induce safety concern and not advisable.</li> <li>• At night time of 22 and 23 March 2015, a forklift was deployed for the transportation of concrete blocks to be used as the footings for hoarding construction outside the concourse area (Photo 2). Backward movement of the forklift would also generate safety warning signal.</li> <li>• There is another valid CNP (CNP No. GW-RE0176-16) for construction works to be carried out inside the concourse during night time. However, this is not applicable to the works of concern, located outside the concourse area. Whereas CNP No. GW-RE0207-16, effective from 10 March 2016 to 28 April 2016, allows mobilization of scissor lift platforms and use of forklift for transportation of construction material outside the MTR Hung Hom Station.</li> <li>• Investigation report submitted to EPD on 20 April 2016.</li> </ul> |

|                                 | Date Received     | Reference No.                                      | Subject  | Location of Concern                     | Status  |
|---------------------------------|-------------------|--|--|---|---|
| <b>Environmental Complaints</b> | 28 September 2015 | Public comment received by EPD, K01/RE/00024658-15 | Complaint of general construction noise except renovation (within Restricted Hours) from construction site at Hung Hom | Harbour Plaza Metropolis, Tsim Sha Tsui | <ul style="list-style-type: none"> <li>• A valid construction noise permit (CNP) (CNP no. GW-RN0969-15) was granted for such works from 25 September 2015 to 24 March 2016.</li> <li>• Noise mitigation measures were implemented at the site.</li> <li>• Due to the limited construction works being carried out during the evening period and most of the active construction works being carried out under the podium which had no direct line of sight from the nearest sensitive receiver, Harbour Plaza Metropolis, construction noise nuisance from Shatin to Central Link (SCL) Contract 1112 should not be anticipated.</li> <li>• Investigation report submitted to EPD on 3 November 2015.</li> </ul>  |
| <b>Environmental Complaints</b> | 10 March 2015     | Public comment received by EPD, K01/RE/00005632-15 | Complaint of malodour from Hung Hom Station (near Exit B1)   | Hung Hom Station, Tsim Sha Tsui         | <ul style="list-style-type: none"> <li>• ET conducted inspection to examine the environmental performance of the site on 12 Mar 2015</li> <li>• No odour was noticed by all attending parties. It was observed that excavation, predrilling, welding, box culvert construction and installation of TAM grout pipeworks were carried out at the NAT works area, located to the west and east of the footbridge</li> <li>• The source of malodour could not be identified</li> <li>• A barrier was erected on the eastern side of footbridge, with the barrier already in place on the western side of the footbridge since November 2014, so now both sides of the footbridge contain barriers to shield off any dust or odour from the site</li> <li>• No noticeable malodour was observed and the air quality control was found to be satisfactory according to conversation between EPD and the Contractor</li> <li>• Investigation Report submitted to EPD on 26 Mar 2015</li> </ul> |

|                                 | Date Received | Reference No.   | Subject   | Location of Concern  | Status  |
|---------------------------------|---------------|---|---|--|---|
| <b>Environmental Complaints</b> | 7 Feb 2015    | Public comment received by EPD, EPD's Ref. No. K01/RE/00003309-15 | Complaint of construction dust from the construction site at MTR Hung Hom Building, 8-8 Cheong Wan Road, Tsim Sha Tsui            | MTR Hung Hom Station Building, 8-8 Cheong Wan Road                               | <ul style="list-style-type: none"> <li>• ET conducted inspection to examine the environmental performance of the site on 10 Feb 2015</li> <li>• No demolition works carried out inside Hung Hom Station and Freight Operation Building during the complaint period</li> <li>• Watering and dust screen (site enclosed with bamboo scaffold and tarpaulin sheet) were provided for the demolition work at International Mail Centre</li> <li>• Renovation works on-going inside the Hung Hom Station with dust mitigation measures implemented</li> <li>• A joint inspection was then conducted by the Contractor and EPD on 13 Feb 2015 and no adverse comment was provided by EPD</li> <li>• Investigation Report submitted to EPD on 23 Feb 2015</li> </ul> |
| <b>Environmental Complaints</b> | 11 Nov 2014   | Public comment received by EPD, EPD's Ref. No. K01/RE/00028087-14 | Complaint of welding smell and air nuisance other than dark smoke, from construction machine from Hung Hom Station, Tsim Sha Tsui | At footbridge between Hung Hom Station and Hung Hom Region, near Royal Peninsula | <ul style="list-style-type: none"> <li>• Barrier was erected on the side of footbridge facing the construction site</li> <li>• ET conducted followed-up inspection of the implemented mitigation measures on 20 Nov 2014 and air quality control was found to be satisfactory</li> <li>• Investigation Report submitted to EPD on 3 Dec 2014</li> </ul>   |
| <b>Environmental Complaints</b> | 11 Nov 2014   | Public comment received by EPD, EPD's Ref. No. K01/RE/00028181-14 | Complaint of construction dust from Hung Hom Station, Tsim Sha Tsui   | At footbridge between Hung Hom Station and Hung Hom Region, near Royal Peninsula | <ul style="list-style-type: none"> <li>• Barrier was erected on the side of footbridge facing the construction site</li> <li>• ET conducted followed-up inspection of the implemented mitigation measures on 20 Nov 2014 and air quality control was found to be satisfactory</li> <li>• Investigation Report submitted to EPD on 3 Dec 2014</li> </ul>   |



|                                | Date Received | Reference No.  | Subject  | Location of Concern             | Status   |
|--------------------------------|---------------|--|--|---------------------------------|--|
| <b>Notification of Summons</b> | 3 Oct 2016    | Summon received by Mr. MAK Wong-Chuen, Case No.: KTS16747/2016 | On 1 April 2016, Mr. MAK Wong-Chuen operated a hand-held electric breaker at around 0053hr outside the Concourse, in violation of Section 6 (1) (a) and 6 (5) of the Noise Control Ordinance (Cap. 400). Mr. Mak Wong-Chuen was employed by Palgo Company Limited, which is a sub-contractor for SCL Contract 1112's main contractor, Leighton Contractors (Asia) Limited. | Entrance C2 of Hung Hom Station | <ul style="list-style-type: none"> <li>The hearing took place on 3 Nov 2016 at Kwun Tong Magistrates' Courts.</li> </ul> Remarks: The summon was only sent to the individual. Neither Palgo Company Limited nor Leighton Contractors (Asia) Limited received the summons.  |
| <b>Successful Prosecution</b>  | 3 Nov 2016    | Summon received by Mr. MAK Wong-Chuen, Case No.: KTS16747/2016 | On 1 April 2016, Mr. MAK Wong-Chuen operated a hand-held electric breaker at around 0053hr outside the Concourse, in violation of Section 6 (1) (a) and 6 (5) of the Noise Control Ordinance (Cap. 400). Mr. Mak Wong-Chuen was employed by Palgo Company Limited, which is a sub-contractor for SCL Contract 1112's main contractor, Leighton Contractors (Asia) Limited. | Entrance C2 of Hung Hom Station | <ul style="list-style-type: none"> <li>The hearing took place on 3 Nov 2016 at Kwun Tong Magistrates' Courts.</li> <li>The worker pleaded guilty and paid a HKD 15,000 fine.</li> <li>After the incident, Leighton has reviewed their internal procedures/ working methods to identify the cause of non-compliance and potential improvements.</li> <li>Upon review, Leighton's current system is found to be adequate to ensure proper implementation of their construction work undertaken at night and they will continue to implement the environmental management systems with the objective of ensuring environmental compliance.</li> </ul> |

---

**Appendix G**

**48<sup>th</sup> Monthly EM&A Report for Works Contract 1108 –  
Kai Tak Station and Associated Tunnels**

---

MTR Corporation Limited

**Shatin to Central Link –  
Tai Wai to Hung Hom Section**

Monthly EM&A Report No. 48

[Period from 1 to 31 May 2017]

Works Contract 1108 – Kai Tak Station and Associated

Tunnels

(May 2017)

Certified by: Goldie Fung 

Position: Environmental Team Leader

Date: 8 June 2017

**Kaden – Chun Wo Joint Venture (KCJV)**

**Shatin to Central Link –**

**Contract 1108**

**Kai Tak Station and Associated Tunnels**

**Monthly Environmental Monitoring & Auditing Report for**

**May 2017**

The Contents of this report have been certified by:



---

Ms. Goldie Fung  
(Environmental Team Leader)

**Environmental Pioneers & Solutions Limited**

Flat A, 19/F, Chaiwan Industrial Centre,  
20 Lee Chung Street, Chai Wan, Hong Kong

Tel: 2556 9172

Fax: 2856 2010

**TABLE OF CONTENT**

|   |    |
|---|----|
| <b>Executive Summary</b> .....  | 3  |
| <b>1 Introduction</b> .....   | 6  |
| <b>1.1 Purpose of the Report</b> .....  | 6  |
| <b>1.2 Structure of the Report</b> .....                                      | 6  |
| <b>2 Project Information</b> .....  | 8  |
| <b>2.1 Background</b> .....   | 8  |
| <b>2.2 General Site Description</b> .....                                     | 8  |
| <b>2.3 Construction Programme and Activities</b> .....                        | 8  |
| <b>2.4 Project Organization</b> .....   | 9  |
| <b>2.5 Status of Environmental Licences, Notification and Permits</b> .....   | 9  |
| <b>2.6 Summary of EM&amp;A Requirements</b> .....                             | 9  |
| <b>3 Environmental Monitoring Requirements</b> .....                          | 10 |
| <b>3.1 Culture Heritage</b> .....   | 10 |
| <b>3.2 Landscape and Visual</b> .....   | 10 |
| <b>4 Implementation Status on Environmental Protection Requirements</b> ..... | 11 |
| <b>5 Monitoring Results</b> .....   | 12 |
| <b>5.1 Cultural Heritage</b> .....  | 12 |
| <b>5.2 Landscape and Visual</b> .....   | 12 |
| <b>5.3 Waste Management</b> .....   | 12 |
| <b>6 Environmental Site Inspection</b> .....                                  | 13 |
| <b>6.1 Site Audit</b> .....   | 13 |
| <b>6.2 Implementation Status of Environmental Mitigation Measures</b> .....   | 13 |
| <b>7 Environmental Non-Conformance</b> .....                                  | 15 |
| <b>7.1 Summary of Environmental Exceedances</b> .....                         | 15 |
| <b>7.2 Summary of Environmental Non-Compliance</b> .....                      | 15 |
| <b>7.3 Summary of Environmental Complaint</b> .....                           | 15 |
| <b>7.4 Summary of Environmental Summon and Successful Prosecution</b> .....   | 15 |
| <b>8 Future Key Issues</b> .....  | 16 |
| <b>9 Conclusions and Recommendations</b> .....                                | 17 |
| <b>9.1 Conclusions</b> .....  | 17 |
| <b>9.2 Recommendations</b> .....  | 17 |

## **LIST OF APPENDICES**

Appendix A: Site Location Plan

Appendix B: Construction Programme

Appendix C: Project Organization Chart & Contact Details

Appendix D: Buffer Zone for Lung Tsun Stone Bridge & Former Kowloon City Pier

Appendix E: Event/Action Plan for landscape & Visual During Construction Stage

Appendix F: Waste Flow Table

Appendix G: Updated Environmental Mitigation Implementation Schedule

Appendix H: Cumulative Log for Environmental Exceedance, Complaints, Notification of  
Summons and Successful Prosecutions

## **LIST OF TABLES**

Table 2.1: Summary of the Status of Environmental Licences, Notification and Permits

Table 4.1: Status of Required Submissions under EP

Table 5.1: Quantities of Waste Disposed from the Project

Table 6.1: Summary Results of Site Inspections Findings

## **Executive Summary**

This is the forty eighth Environmental Monitoring and Audit (EM&A) Report for **MTR Shatin to Central Link (SCL) Works Contract 1108 – Kai Tak Station and Associated Tunnels**. The project commenced on 17<sup>th</sup> June 2013. This report documents the finding of EM&A Works conducted from 1<sup>st</sup> May 2017 to 31<sup>st</sup> May 2017.

### **Summary of the Construction Works undertaken during the Reporting Month**

The major site activities in this reporting period were including:

- Open cut tunnel: DT and UT general cleaning and defect rectification, walkway top-up remedial works at Section A of DT and UT.
- Cut and cover tunnel: DT and UT general cleaning and defect rectification, walkway top-up remedial works at Section A & B of DT and UT, and access shaft closure at UT completed.
- Station: Drainage work at all area, leveling to F.F.L. in Area 3, installation of roof cladding at Entrance A, B & D, EVA construction for the first 2 portion, accessible ramp at DEE and Planter at Entrance A Cast and installation of glass canopy at DEE and SEE.

### **Variation in Construction Method**

Based on recent engineering information and having considered the high construction risk for tunnel excavation, the tunnel with mining method is required to be shortened and the associated at-grade construction works within the buffer zone above the Former Kowloon City Pier (FKCP) is therefore proposed to minimize the potential impact on FKCP. The application for variation of an Environmental Permit with Environmental Review Report has been submitted to EPD on 19<sup>th</sup> March 2014 and the amended Environmental Permit (EP-438/2012/E) was issued to MTRC on 4<sup>th</sup> April 2014.

### **Environmental Monitoring and Audit Progress**

#### *Culture Heritage*

Since the construction of the mined tunnel was completed, the works area near FKCP lies within the Project was handed-over to Land Department on 6<sup>th</sup> January 2017. No inspection of the Form Kowloon City Pier was conducted during this reporting period. Details of the inspection findings are presented in Section 6.

### *Landscape and Visual*

The implementation of landscape and visual mitigation measures was inspected during the weekly environmental site inspection. Most of the necessary mitigation measures have been implemented. Details of the audit findings and implementation status are presented in Section 6.

### *Waste Management*

According to Contractor's waste flow data, a total of 0m<sup>3</sup> of inert C&D materials were generated and received from other construction site, which 0m<sup>3</sup> were disposed to the receiving facility of Contract 1108A and 0m<sup>3</sup> were reused in the contract. 146m<sup>3</sup> of general refuse were generated and disposed at landfill site. 0kg of paper, 0kg of plastic, 0kg of metal and 0kg of chemical waste were sent to recyclers for recycling.

### *Environmental Site Inspection*

Joint weekly inspections were conducted by representatives of the Contractor, Engineer and ET on 2<sup>nd</sup>, 9<sup>th</sup>, 16<sup>th</sup> and 23<sup>rd</sup> May 2017. The representative of the IEC joined the site inspection on 9<sup>th</sup> May 2017. Details of the audit findings and implementation status are presented in Section 6.

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

A notification of summon received was issued on 20<sup>th</sup> February 2017, regarding an incident on 17<sup>th</sup> August 2016. Contractor has attended to the court on 24<sup>th</sup> May 2017. The next court days were scheduled on 14<sup>th</sup> to 16<sup>th</sup> August 2017.

No breaches of Action and Limits levels, non-compliance event, environmental complaint, notification of summons and successful prosecution against the Project were received in this reporting month.



### Future Key Issues

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

- Open cut tunnel: DT&UT general cleaning and defect rectification, walkway top-up remedial works.
- Cut and cover tunnel: Tunnel tracks defect rectification, access shaft closure at UT, walkway top-up remedial works.
- Station: Drainage works at all area, installation of roof cladding and reflected ceiling at Entrance A, B & D, leveling to F.F.L in Area 3, EVA construction, installation of glass canopy at DEE & SEE, formwork erection of planter at Entrance B and installation of aluminum fins at NVS and SVS.

## **1 Introduction**

The Environmental Team (ET), Environmental Pioneers & Solutions Limited (EPSL), was appointed by Kaden – Chun Wo Joint Venture (KCJV) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the MTR Shatin to Central Link (SCL) Works Contract 1108 – Kai Tak Station and Associated Tunnels (the Project). The project commenced on 17<sup>th</sup> June 2013.

### **1.1 Purpose of the Report**

This is the forty eighth monthly EM&A Report which summarises the audit findings for the EM&A programme during the reporting period from 1<sup>st</sup> May 2017 to 31<sup>st</sup> May 2017.

### **1.2 Structure of the Report**

The structure of the report is as follow:

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

Section 2: Project Information – summarises background and scope of the project, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting period.

Section 3: Environmental Monitoring Requirement – summarises the monitoring requirements and environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

Section 4: Implementation Status on Environmental Mitigation Measures – summarises the implementation of environmental protection measures during the reporting period.

Section 5: Monitoring Results – summarises the monitoring results obtained in the reporting period.

Section 6: Environmental Site Inspection – summarises the audit findings of the weekly site inspections undertaken within the reporting period.

Section 7: Environmental Non-conformance – summarises any monitoring exceedance, environmental complaints and environmental summons within the reporting period.

Section 8: Future Key Issues – summarises the impact forecast and monitoring schedule for the next three months.

Section 9: Conclusions and Recommendations

## 2 Project Information

### 2.1 Background

The Shatin to Central Link – Tai Wai to Hung Hom Section (SCL (TAW-HUH)) is an approximately 11 km long extension of the Ma On Shan Line and links 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).

The construction of the SCL (TAW-HUH) and SCL (HHS) have been divided into a series of civil construction works contracts. This Works Contract 1108 covers the construction of Kai Tak Station (KAT) and the section of tunnel between KAT and Sung Wong Toi Station (SUW) plus a short section of tunnel from KAT towards Diamond Hill Station (DIH). This construction contract was awarded to Kaden – Chun Wo Joint Venture (KCJV) in April 2013.

### 2.2 General Site Description

The works area includes work sites in the Kai Tak New Development Area. The construction of tunnel will employ cut & cover method. The alignment and works area for the Project is shown in **Appendix A**.

### 2.3 Construction Programme and Activities

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

- Open cut tunnel: DT and UT general cleaning and defect rectification, walkway top-up remedial works at Section A of DT and UT.
- Cut and cover tunnel: DT and UT general cleaning and defect rectification, walkway top-up remedial works at Section A & B of DT and UT, and access shaft closure at UT completed.
- Station: Drainage work at all area, leveling to F.F.L. in Area 3, installation of roof cladding at Entrance A, B & D, EVA construction for the first 2 portion, accessible ramp at DEE and Planter at Entrance A Cast and installation of glass canopy at DEE and SEE.

## 2.4 Project Organization

The project organization chart and contact details are shown in **Appendix C**.

## 2.5 Status of Environmental Licences, Notification and Permits

A summary of the relevant permits, licences, and notifications on environmental protection for this Project is presented in Table 2.1.

Table 2.1 Summary of the Status of Environmental Licences, Notification and Permits

| Permit / License No.   | Valid Period |            | Status | Remark |
|--|--------------|------------|--------|--------|
|  | From         | To         |        |        |
| <b>Environmental Permit (EP)</b>   |              |            |        |        |
| EP-438/2012/K  | 04/10/2016   | N/A        | Valid  | /      |
| <b>Notification pursuant to Air Pollution Control (Construction Dust) Regulation</b> |              |            |        |        |
| Ref. Number 359540   | 16/05/2013   | N/A        | Valid  | /      |
| <b>Construction Noise Permit for the Carrying Out of Percussive Piling</b>           |              |            |        |        |
| N/A  |              |            |        |        |
| <b>Construction Noise Permit for General Works</b>                                   |              |            |        |        |
| GW-RE0245-17   | 29/03/2017   | 19/09/2017 | Valid  | /      |
| <b>Effluent Discharge License</b>  |              |            |        |        |
| WT00025980-2016  | 14/11/2016   | 31/08/2018 | Valid  | /      |
| <b>Waste Disposal (Charges for Disposal of Construction Waste) Regulation</b>        |              |            |        |        |
| Billing Account No. 7017544  | 07/06/2013   | N/A        | Valid  | /      |
| <b>Registration of Chemical Waste Producer</b>                                       |              |            |        |        |
| WPN 5213-286-K3069-01  | 09/07/2013   | N/A        | Valid  | /      |

## 2.6 Summary of EM&A Requirements

The EM&A programme under Works Contract 1108 require regular environmental site audits. The EM&A requirements are described in the following sections, including:

- Weekly inspection for Cultural Heritage;
- Weekly inspection for Landscape and Visual;
- Environmental mitigation measures, as recommended in the Project EIA study final report; and
- Environmental requirements in contract documents.

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

### **3 Environmental Monitoring Requirements**

#### **3.1 Culture Heritage**

In accordance with the Environmental Permit and EM&A Manual, a buffer zone shall be maintained between both Lung Tsun Stone Bridge and Former Kowloon City Pier and SCL (TAW-HUH) works sites during the tunneling work. For Lung Tsun Stone Bridge, a horizontal distance of 25m between the bridge and the buffer boundary shall be maintained. For Former Kowloon City Pier, a vertical buffer distance of 1.8 – 2.2m from the top of the tunnel shall be maintained. The layout of the buffer zone was attached in **Appendix D**. No at-grade construction activities shall be allowed within the buffer zone. Audit shall be conducted on a weekly basis throughout the construction period for the mined tunnel section under Former Kowloon City Pier

#### **3.2 Landscape and Visual**

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

The event/action plan for Landscape and Visual during Construction Stage is attached in **Appendix E**.

#### 4 Implementation Status on Environmental Protection Requirements

The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status of the environmental mitigation measures of the reporting period is summarized in **Appendix G**. Status of required submissions under the Environmental Permit (EP) as of the reporting period is presented in Table 4.1.

Table 4.1 Status of Required Submissions under EP

| EP Condition  | Submission                        | Submission Date           |
|---------------|-----------------------------------|---------------------------|
| Condition 3.4 | Forty seventh Monthly EM&A Report | 12 <sup>th</sup> May 2017 |

## 5 Monitoring Results

### 5.1 Cultural Heritage

Since the construction of the mined tunnel was completed, the works area near FKCP lies within the Project was handed-over to Land Department on 6<sup>th</sup> January 2017. No inspection of the Form Kowloon City Pier was conducted during this reporting period. Details of the inspection findings are presented in Section 6.

### 5.2 Landscape and Visual

Inspections of the implementation of landscape and visual mitigation measures were conducted on weekly basis. The observations and recommendations made during the audit sessions are summarized in Table 6.1.

### 5.3 Waste Management

With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in Table 5.1. Inert C&D materials were disposed to the receiving facility of Contract 1108A or reused in the Contract. General refuse was disposed to designated landfill site. Plastics, paper and metal were sent to recycler for recycling. Chemical waste generated was collected by licensed collector. Detail of waste management data is presented in **Appendix F**.

Table 5.1 Quantities of Waste Disposed from the Project

| Reporting Month | Quantity                             |  |                |                    |          |        |
|-----------------|--------------------------------------|--|----------------|--------------------|----------|--------|
|                 | C&D Materials (inert) <sup>(a)</sup> | C&D Materials (non-inert) <sup>(b)</sup> |                |                    |          |        |
|                 |                                      | General Refuse                           | Chemical Waste | Recycled materials |          |        |
|                 |                                      |  |                | Paper/cardboard    | Plastics | Metals |
| May 2017        | 0 m <sup>3</sup>                     | 146m <sup>3</sup>                        | 0 kg           | 0 kg               | 0 kg     | 0 kg   |

Notes:

- (a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil.
- (b) Non-inert C&D materials include steel, paper/cardboard packaging waste, plastics and other wastes such as general refuse and vegetative wastes. Steel metal generated from the Project are grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials.



According to the approved Sediment Management Plan, a portion of the excavated marine sediment, which is classified as uncontaminated Type 1 sediment and suitable for Open Sea Disposal, should be reused on site for backfilling material. The uncontaminated sediment is mixed with cement and general materials to Cement Stabilized Marine Mud (CSMM). There are total 125.12m<sup>3</sup> of CSMM were cumulatively backfilled.

During this reporting period, no CSMM backfilling work was conducted.

## **6 Environmental Site Inspection**

### **6.1 Site Audit**

Site audit was carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

Joint weekly inspections were conducted by representatives of the Contractor, Engineer and ET on 2<sup>nd</sup>, 9<sup>th</sup>, 16<sup>th</sup> and 23<sup>rd</sup> May 2017. The representative of the IEC joined the site inspection on 9<sup>th</sup> May 2017. The details of observations during site audit can refer to Table 6.1.

### **6.2 Implementation Status of Environmental Mitigation Measures**

According to the EIA Study Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. Updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix G**.

During site inspections in the reporting month, no non-conformance was identified. The observations, reminders and recommendations made during the audit sessions are summarized in Table 6.1.

Table 6.1 Summary results of site inspections findings

| Parameters                        | Date                          | Findings  | Advice from ET  | Action taken   | Closing date | Remarks |
|-----------------------------------|-------------------------------|---|---|--|--------------|---------|
| Noise                             | N/A                           | N/A   | N/A   | N/A  | N/A          | /       |
| Air                               | 2 May 17                      | Although water tanker was assigned to implement water spraying on the haul road, exposed areas were observed dry and dusty at Area 1. | Contractor was reminded to enhance the watering frequencies on the haul road to prevent dust emission.                        | Follow-up action will be inspected during next reporting month.  | N/A          | /       |
|                                   | 9 May 17<br>16 & 23<br>May 17 | Open stockpiles were observed at Area 1 and Area 3.   | Contractor was advised to cover the open stockpile with tarpaulin sheets to prevent dust generation.                          | Although open stockpile at Area 3 was removed by contractor, open stockpile at Area 1 was still observed.<br><br>Follow-up action will be inspected during next reporting month. | N/A/         | /       |
| Water                             | 25 Apr 17<br>2 May 17         | Chemical materials without drip tray were observed at Area 3.   | Contractor was advised to store the chemical materials inside the drip tray to prevent chemical leakage.                      | Chemical materials at Area 3 were removed by contractor.   | 9 May 17     | /       |
|                                   | 2 May 17                      | Cumulated water with chemical residual was observed at Area 3.  | Contractor was advised to remove the cumulated water with chemical residual inside the drip tray to prevent chemical leakage. | Cumulated water with chemical residual was removed by contractor.  | 9 May 17     | /       |
|                                   | 9 May 17                      | Cumulated water was observed near the hoarding at Area 3.   | Contractor was reminded to provide water pump and treat the site water properly.  | Water pump was provided to remove the stagnant water at Area 3.  | 16 May 17    | /       |
|                                   | 16 & 23<br>May 17             | Insufficient capacity of sedimentation tank was observed at Area 3.   | Contractor was reminded to provide more sedimentation tank to enhance the efficiency of wastewater treatment system.          | Follow-up action will be inspected during next reporting month.  | N/A          | /       |
| Waste /<br>Chemical<br>Management | N/A                           | N/A   | N/A   | N/A  | N/A          | /       |
| Cultural<br>Heritage              | N/A                           | N/A   | N/A   | N/A  | N/A          | /       |
| Landscape<br>and Visual           | N/A                           | N/A   | N/A   | N/A  | N/A          | /       |
| Permits/<br>Licenses              | N/A                           | N/A   | N/A   | N/A  | N/A          | /       |

## **7 Environmental Non-Conformance**

### **7.1 Summary of Environmental Exceedances**

No breaches of Action and Limit levels were recorded in the reporting month.

### **7.2 Summary of Environmental Non-Compliance**

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

### **7.3 Summary of Environmental Complaint**

No environmental project-related complaint was received in the reporting month.

### **7.4 Summary of Environmental Summon and Successful Prosecution**

A notification of summon received was issued on 20<sup>th</sup> February 2017, regarding an incident on 17<sup>th</sup> August 2016. Contractor has attended to the court on 24<sup>th</sup> May 2017. The next court days were scheduled on 14<sup>th</sup> to 16<sup>th</sup> August 2017.

There was no successful environmental prosecution received since the Project commencement.

The cumulative log for environmental exceedance, non-compliance, complaint and summon and successful prosecution since the commencement of the Project is presented in **Appendix H**.

## 8 Future Key Issues

The major construction activities in the coming month will include:

- Open cut tunnel: DT&UT general cleaning and defect rectification, walkway top-up remedial works.
- Cut and cover tunnel: Tunnel tracks defect rectification, access shaft closure at UT, walkway top-up remedial works.
- Station: Drainage works at all area, installation of roof cladding and reflected ceiling at Entrance A, B & D, leveling to F.F.L in Area 3, EVA construction, installation of glass canopy at DEE & SEE, formwork erection of planter at Entrance B and installation of aluminum fins at NVS and SVS.

Potential environmental impacts arising from the above construction activities are mainly associated with dust, construction noise, water quality and waste management. The Contractor has been reminded to properly implement dust, construction noise and water quality control measures as well as proper waste management in order to minimize the potential environmental impacts due to the construction works of the Project.

## 9 Conclusions and Recommendations

### 9.1 Conclusions

This is the forty eighth monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works undertaken during 1<sup>st</sup> May 2017 to 31<sup>st</sup> May 2017 in accordance with the EM&A Manual and the requirement under EP-438/2012/K.

4 nos. of environmental site inspections were carried out in this reporting month. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audit.

A notification of summon received was issued on 20<sup>th</sup> February 2017, regarding an incident on 17<sup>th</sup> August 2016. Contractor has attended to the court on 24<sup>th</sup> May 2017. The next court days were scheduled on 14<sup>th</sup> to 16<sup>th</sup> August 2017.

No exceedances, non-compliance event, complaint, notification of summons and prosecution were received during the reporting period.

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

### 9.2 Recommendations

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

#### Noise Impact

- N/A

#### Air Quality Impact

- Enhance the watering frequencies on the haul road to prevent dust emission.
- Cover the open stockpiles with tarpaulin sheet to prevent dust generation.

#### Water Quality Impact

- Store the chemical materials inside the drip tray for prevention of chemical leakage.

- Remove the cumulated water with chemical residual inside the drip tray to prevent chemical leakage.
- Provide water pump and treat site water properly.
- Provide more sedimentation tanks to enhance the efficiency of wastewater treatment system.

#### Chemical Management

- N/A

#### Waste Management

- N/A

#### Cultural Heritage

- N/A

***Appendix A – Site Location Plan***



PLOT DRW: \\Site Layout Plan.dgn  
 MODELNAME: E:\1008\Kai Tak Station and Associated Tunnels Site Layout Plan.dgn  
 DATE: 11/08/2014 11:08:14 AM  
 USER: Kaden

|          |             |
|----------|-------------|
| DRAWN    | CC          |
| DESIGNED | KW          |
| CHECKED  | ET          |
| APPROVED | BW          |
| DATE     | 11/AUG/2014 |


  
**SHATIN TO CENTRAL LINK**
  

  
 Kaden - Chun Wo Joint Venture

TITLE  
**CONTRACT 1108**  
**KAI TAK STATION AND ASSOCIATED TUNNELS**  
 SITE LAYOUT PLAN

SCALE  
 1 : 1500 (A1)

DRAWING NO.  
**SITE LAYOUT PLAN**

REV. A

| REV | DESCRIPTION      | BY | DATE     | APPROVED | REV | DESCRIPTION | BY | DATE | APPROVED |
|-----|------------------|----|----------|----------|-----|-------------|----|------|----------|
| A   | FIRST SUBMISSION | KW | 11/08/14 | BW       |     |             |    |      |          |

DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE  
 VERIFIED ON SITE.  
 IN THE EVENT OF A DISCREPANCY BETWEEN THE  
 DIMENSIONS SHOWN ON THIS DRAWING AND THE  
 DIMENSIONS SHOWN ON ANY OTHER DRAWING,  
 THE DIMENSIONS SHOWN ON THIS DRAWING SHALL  
 PREVAIL. THIS DRAWING IS THE PROPERTY OF  
 THE MTR CORPORATION LIMITED. NO PART OF  
 THIS DRAWING IS TO BE REPRODUCED OR  
 TRANSMITTED IN ANY FORM OR BY ANY  
 MEANS, WITHOUT THE WRITTEN CONSENT OF  
 THE MTR CORPORATION LIMITED.

CADD REF. Site Layout Plan.dgn



***Appendix B – Construction Programme***

| Activity ID  | Activity Name  | Activity % Complete | Start       | Finish    | May |    |    |    |    | June |    |    |    |    | July |    |    |    |    | August |    |    |    |    | September |  |
|--|--|---------------------|-------------|-----------|-----|----|----|----|----|------|----|----|----|----|------|----|----|----|----|--------|----|----|----|----|-----------|--|
|  |  |                     |             |           | 50  |    |    |    |    | 51   |    |    |    |    | 52   |    |    |    |    | 53     |    |    |    |    | 54        |  |
|  |  |                     |             |           | 30  | 07 | 14 | 21 | 28 | 04   | 11 | 18 | 25 | 02 | 09   | 16 | 23 | 30 | 06 | 13     | 20 | 27 | 03 | 10 |           |  |
| <b>Contract 1108 Kai Tak Station and Associated Tunnels</b>                                    |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Contractual Dates and Project Key Dates</b>   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Critical Dates</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Schedule of Options</b>   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Latest Exercising Date</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CDO1a-ED   | Option 1a - Temporary passenger access roads within KTD & EVA above KAT- Latest Exercising Date (31-Dec-15)              | 0%                  | 31-May-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CDO1b-ED   | Option 1b - Temporary passenger access road to connect Entrance D - Latest Exercising Date (31-Dec-15)                   | 0%                  | 31-May-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CDO2a-ED   | Option 2a - Roads L9 & L16 & Associated Works, except the works in Options 2b & 2c - Latest Exercising Date (31-Mar-15)  | 0%                  | 31-May-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CDO2b-ED   | Option 2b - Landscape hardwork, irrigation facilities, softworks & pavers - Latest Exercising Date (31-Mar-15)           | 0%                  | 31-May-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CDO2c-ED   | Option 2c - Establishment works of the landscape softworks in Option 2b - Latest Exercising Date (31-Mar-15)             | 0%                  | 31-May-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Specified Parts Completion of the Works (General Damages Applicable)</b>                    |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD3C   | 3C - Complete backfill of KAT station (Grid 12-19)&ready for EMSD/ DCScontractor for laying DCS pipe(Wk.09/15,01-Mar-15) | 0%                  | 31-May-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD3D   | 3D - Complete backfill to ex.ground level of necessary station area for CLP cable lead-in (Wk.33/15,16-Aug-15)           | 0%                  | 31-May-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Specified Degrees of Completion (General Damages / * Liquidated Damages Applicable)</b>     |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Structures</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4A3  | 4A3 - Deg3, KAT Platform level (Week No. 48/15, 29-Nov-15)   | 0%                  | 20-Jun-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4F2  | 4F2 - Deg2, Sung Wong Toi Emergency Egress Point (Week No. 39/15, 27-Sep15)  | 0%                  | 05-Jul-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4C1  | 4C1 - Deg1, KAT Entrances & Supplementary Emergency Entrance (Week No. 44/15, 01-Nov-15)                                 | 0%                  | 11-Jul-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Trackwork Accesses</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4J1  | 4J1 - Deg1, Trackwork Access - Down Track Tunnel- CH.D99275.225~D99175.225 (Wk.No.08/16, 28-Feb-16)                      | 0%                  | 27-Jun-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4K1  | 4K1 - Deg1, Trackwork Access - Up Track Tunnel- CH.D99257.140~U99157.140 (Wk.No.08/16, 28-Feb-16)                        | 0%                  | 27-Jun-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>IPS Milestone Dates</b>   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Cost Centre D - Associated Works</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.MSD020   | D2 - Complete External Drainage (Week No. 52/15, 27-Dec-15)  | 0%                  | 18-Jul-17   |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Cost Centre F - Option 2 - CEDD Works for Roads L9 &amp; L16 and Associated Works</b>       |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.MSF01  | F1 - Contractor's dwgs submission schedule & All permanent works Material Control Schedule approved (WN.33/15,16-Aug-15) | 0%                  | 05-Jul-17   |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.MSF02  | F2 - Shop drawings & material submissions approved (Week No. 50/15, 13-Dec-15)   | 0%                  | 09-Aug-17   |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Schedule of Access &amp; Vacate Dates for Works Areas</b>                                   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Vacation Dates</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Works Areas</b>   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.VAWA1  | Works Area 1108.A1 (31-Dec-16)   | 0%                  | 31-May-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.VAWA2  | Works Area 1108.A2 (31-Dec-16)   | 0%                  | 31-May-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.VAWA3  | Works Area 1108.A3 (31-Dec-14)   | 0%                  | 01-Jun-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.VAW13  | Works Area 1108.W13 (25-Aug-17)  | 0%                  | 25-Aug-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Schedule of Access Dates for Designated Contractors</b>                                     |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Various Systems - DC1152, DC1153, DC1154, DC1155, DC1166, DC1169A, DC1162A &amp; DC1163</b> |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.IF1155.2   | DC1155 PSS&TA - KAT Station - All lift shafts (platform to concours) (Week No. 08/16, 29-Feb-16)                         | 0%                  | 21-Jun-17*  |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>A - Preliminaries</b>   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B - Kai Tak Station, Entrances and Adits</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B1 KAT Station</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B1.3 Station - U/G C&amp;S Works (Below Concourse Level Soffit)</b>                         |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Metalworks, BWIC with Services and BS Works</b>   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.BW12-24  | GL 12~24 BWIC and BS works   | 95%                 | 28-Feb-15 A | 03-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.BW00-04  | GL 00-04 BWIC and BS works   | 90%                 | 28-Feb-15 A | 05-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.BW04-12  | GL 04~12 BWIC and BS works   | 95%                 | 28-Feb-15 A | 02-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B1.4 Station U/G C&amp;S Works (Concourse Level and Above)</b>                              |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Backfilling</b>   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Backfilling to Finish Ground Level</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.MSB07bP  | Completion of Station backfill and compaction for outside works - Programmed   | 0%                  |             | 31-May-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD3DP  | Completion of Station backfill to ex. ground level of necessary station for CLP cable lead-in - Programmed               | 0%                  |             | 31-May-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Water Tanks &amp; CLP Transformer Rooms</b>   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>CLP Transformer Rooms</b>   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CP215  | CLP Transformer Rooms Dedicated Access 2 - AWBF Works  | 90%                 | 23-Feb-16 A | 02-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CP115  | CLP Transformer Rooms Dedicated Access 2 - BS Works  | 0%                  | 31-May-17   | 05-Jul-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>CLP Interface Works</b>   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |

▲ Milestone  
 ▲ Critical Milestone  
 ■ Critical Remaining Work  
 ■ Remaining Work  
 ■ Remaining Level of Effort  
 — RMP Rev F  
 — Last Report  
 ■ Actual Work

**Contract 1108**  
**Kai Tak Station and Associated Tunnels**  
**3-months Rolling Programme (May 2017)**



| Activity ID  | Activity Name  | Activity % Complete | Start       | Finish    | May |    |    |    |    | June |    |    |    |    | July |    |    |    |    | August |    |    |    |    | September |  |
|--|--|---------------------|-------------|-----------|-----|----|----|----|----|------|----|----|----|----|------|----|----|----|----|--------|----|----|----|----|-----------|--|
|  |  |                     |             |           | 50  |    |    |    |    | 51   |    |    |    |    | 52   |    |    |    |    | 53     |    |    |    |    | 54        |  |
|  |  |                     |             |           | 30  | 07 | 14 | 21 | 28 | 04   | 11 | 18 | 25 | 02 | 09   | 16 | 23 | 30 | 06 | 13     | 20 | 27 | 03 | 10 |           |  |
| 01108.STN.CP620  | CLP Transformer Rooms 1~2 - Installation Works (By CLP)  | 0%                  | 14-Mar-16 A | 09-Aug-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Metalworks, BWIC with Services and BS Works</b>                       |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.BW120  | KAT Concourse level - BWIC with services   | 85%                 | 15-Jul-15 A | 08-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.BW130  | KAT Concourse level - BS works   | 85%                 | 15-Jul-15 A | 08-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.BW220  | KAT Concourse level - BWIC with services   | 85%                 | 15-Jul-15 A | 06-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.BW230  | KAT Concourse level - BS works   | 85%                 | 15-Jul-15 A | 06-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B1.5 Station - A/G C&amp;S Works (Vent Shaft)</b>                     |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Souther Vent Shaft</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.SS030  | Drainage   | 75%                 | 04-Dec-15 A | 06-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B1.6 Station - Station - A/G C&amp;S Works (Entrance D &amp; DEE)</b> |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Entrance D</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.ED040  | Metal works  | 0%                  | 01-Jun-17   | 11-Aug-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Designated Emergency Entrance (DEE)</b>                               |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.DE030  | Drainage   | 0%                  | 31-May-17   | 20-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B1.7 Station - ABWF Works (Below Concourse Level Soffit)</b>          |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>ABWF Works - Degree 1 of Completion</b>                               |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4A1P3a   | KAT Platform level - GL 4~1 Degree 1 of completion - Blockwork, partition wall, plastering, finish, staircase, etc.          | 95%                 | 28-Feb-15 A | 02-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>ABWF Works - Degree 2 of Completion</b>                               |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4A2P3a   | KAT Platform level - GL 4~1 Degree 2 of completion - Door, wall & ceiling frame/support, strut, steel, finish, fixture, etc. | 95%                 | 02-Jun-15 A | 03-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4A2P2a   | KAT Platform level - GL 12~4 Degree 2 of completion - Door frame, m. staircase, strut, steel, fixture, etc.                  | 95%                 | 03-Aug-15 A | 02-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4A2P1a   | KAT Platform level - GL 24~12 Degree 2 of completion - Door frame, m. staircase, strut, steel, fixture, etc.                 | 95%                 | 03-Aug-15 A | 02-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4A2P   | KAT Platform level - Degree 2 of completion (Week No. 33/15, 16-Aug-15) - Programmed   | 0%                  |             | 05-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>ABWF Works - Degree 3 of Completion</b>                               |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4A3P1a   | KAT Platform level GL 24~12 Degree 3 of completion - Int.&ext. to ceiling/wall/floor finish, incl.lift lobby, etc.           | 80%                 | 03-Oct-15 A | 10-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4A3P2a   | KAT Platform level GL 12~4 Degree 3 of completion - Int.&ext. to ceiling/wall/floor finish, incl.lift lobby, etc.            | 80%                 | 07-Oct-15 A | 10-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4A3P3a   | KAT Platform level GL 4~1 Degree 3 of completion - Int.&ext. to ceiling/wall/floor finish, incl.lift lobby, etc.             | 75%                 | 11-Nov-15 A | 20-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4A3P1b   | KAT Platform level GL 24~12 Degree 3 of completion - Glazing, permanent door, ironmongery, etc.                              | 70%                 | 29-Aug-16 A | 16-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4A3P2b   | KAT Platform level GL 12~4 Degree 3 of completion - Glazing, permanent doors, ironmongery, etc.                              | 70%                 | 29-Aug-16 A | 16-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4A3P   | KAT Platform level - Degree 3 of completion (Week No. 48/15, 29-Nov-15) - Programmed   | 0%                  |             | 20-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B1.8 Station - ABWF Works (Concourse Level and Above)</b>             |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>ABWF Works - Degree 1 of Completion</b>                               |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B1P1a   | KAT Concourse level, exclude 4G - GL 24~12 Degree 1 of completion - Blockwork, partition wall, plastering, etc.              | 95%                 | 10-Feb-15 A | 02-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B1P2a   | KAT Concourse level, exclude 4G - GL 12~4 Degree 1 of completion - Blockwork, partition wall, plastering, etc.               | 95%                 | 10-Feb-15 A | 02-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B1P3a   | KAT Concourse level, exclude 4G - GL 4~1 Degree 1 of completion - Blockwork, part.wall, plastering, finish, staircase, etc.  | 95%                 | 03-Oct-15 A | 02-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B1P2b   | KAT Concourse level, exclude 4G - GL 12~4 Degree 1 of completion - E&M opening, finish, staircase, shaft&pit, etc.           | 95%                 | 17-May-16 A | 02-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B1P1b   | KAT Concourse level, exclude 4G - GL 24~12 Degree 1 of completion - E&M opening, finish, staircase, shaft&pit, etc.          | 95%                 | 17-May-16 A | 02-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4B1P   | KAT Concourse level, exclude 4G - Degree 1 of completion (Week No. 36/15, 06-Sep-15) - Programmed                            | 0%                  |             | 08-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>ABWF Works - Degree 2 of Completion</b>                               |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B2P2a   | KAT Concourse level, exclude 4G - GL 12~4 Degree 2 of completion - Blockwall, partition wall, plastering, etc.               | 80%                 | 22-Sep-15 A | 13-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B2P1a   | KAT Concourse level, exclude 4G - GL 24~12 Degree 2 of completion - Blockwork, partition wall, plastering, etc.              | 80%                 | 22-Sep-15 A | 13-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B2P3a   | KAT Concourse level, exclude 4G - GL 4~1 Degree 2 of completion - Blockwork, p.wall, plastering, finish, staircase, etc.     | 80%                 | 20-Oct-15 A | 13-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B2P3b   | KAT Concourse level, exclude 4G - GL 4~1 Degree 2 of completion - E&M opening, finish, staircase, shaft&pit, etc.            | 75%                 | 20-Jun-16 A | 16-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B2P1b   | KAT Concourse level, exclude 4G - GL 24~12 Degree 2 of completion - E&M opening, finish, staircase, shaft&pit, etc.          | 75%                 | 20-Jun-16 A | 16-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B2P2b   | KAT Concourse level, exclude 4G - GL 12~4 Degree 2 of completion - E&M opening, finish, staircase, shaft&pit, etc.           | 75%                 | 20-Jun-16 A | 16-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4B2P   | KAT Concourse level, exclude 4G - Degree 2 of completion (Week No. 52/15, 27-Dec-15) - Programmed                            | 0%                  |             | 16-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>ABWF Works - Degree 3 of Completion</b>                               |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B3P2a   | KAT Concourse level, exclude 4G - GL 12~4 Degree 3 of completion - Int.&ext. to ceiling/wall/floor finish, lobby, etc.       | 90%                 | 20-Oct-15 A | 06-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B3P3a   | KAT Concourse level, exclude 4G - GL 4~1 Degree 3 of completion - Int.&ext. to ceiling/wall/floor finish, lobby, etc.        | 85%                 | 20-Oct-15 A | 09-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B3P1a   | KAT Concourse level, exclude 4G - GL 24~12 Degree 3 of completion - Int.&ext. to ceiling/wall/floor finish, lobby, etc.      | 90%                 | 20-Oct-15 A | 06-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B3P1b   | KAT Concourse level, exclude 4G - GL 24~12 Degree 3 of completion - Glazing, permanent door, ironmongery, etc.               | 65%                 | 18-Apr-16 A | 21-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B3P2b   | KAT Concourse level, exclude 4G - GL 12~4 Degree 3 of completion - Glazing, permanent door, ironmongery, etc.                | 65%                 | 18-Apr-16 A | 21-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4B3P3b   | KAT Concourse level, exclude 4G - GL 4~1 Degree 3 of completion - Glazing, permanent door, ironmongery, etc.                 | 65%                 | 18-Apr-16 A | 21-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B1.9 Station- ABWF Works (A/G Vent Shaft)</b>                         |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.VS120  | Wall finishes  | 50%                 | 25-Apr-16 A | 11-Jul-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.VS140  | External wall finishes   | 90%                 | 13-Jun-16 A | 06-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.VS110  | Floor finishes   | 30%                 | 28-Mar-17 A | 27-Jul-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |

- Milestone
- Critical Milestone
- Critical Remaining Work
- Remaining Work
- Remaining Level of Effort
- RMP Rev F
- Last Report
- Actual Work

**Contract 1108**  
**Kai Tak Station and Associated Tunnels**  
**3-months Rolling Programme (May 2017)**



| Activity ID  | Activity Name  | Activity % Complete | Start       | Finish    | May |    |    |    |    | June |    |    |    |    | July |    |    |    |    | August |    |    |    |    | September |  |
|--|--|---------------------|-------------|-----------|-----|----|----|----|----|------|----|----|----|----|------|----|----|----|----|--------|----|----|----|----|-----------|--|
|  |  |                     |             |           | 50  |    |    |    |    | 51   |    |    |    |    | 52   |    |    |    |    | 53     |    |    |    |    | 54        |  |
|  |  |                     |             |           | 30  | 07 | 14 | 21 | 28 | 04   | 11 | 18 | 25 | 02 | 09   | 16 | 23 | 30 | 06 | 13     | 20 | 27 | 03 | 10 |           |  |
| 01108.STN.VS160  | Metal works and architectural elements   | 25%                 | 13-Apr-17 A | 01-Aug-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.VS130  | Ceiling finishes   | 0%                  | 31-May-17   | 21-Aug-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.VS150  | External roof finishes   | 0%                  | 07-Jun-17   | 16-Aug-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B1.10 Station - ABWF (AG Entrance D &amp; DEE)</b>  |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.DE060  | Lift - ABWF Works  | 0%                  | 31-May-17   | 09-Aug-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.ED060  | Escalators - ABWF Works  | 0%                  | 08-Jun-17   | 18-Aug-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.DE070  | E&M Works for Lift installation  | 0%                  | 28-Jun-17   | 06-Sep-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.ED070  | E&M Works for Escalators installation  | 0%                  | 14-Jul-17   | 22-Sep-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B2 Entrance A, Adit &amp; SEE</b>                   |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B2.2 Entrance A, Adit &amp; SEE - C&amp;S Works</b> |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Entrance A, Adit and SEE</b>                        |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.PF610  | Backfill and compaction, 3165 m3 for Adit & See  | 97%                 | 01-Apr-16 A | 01-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.PF600  | Backfill and compaction, 3165 m3 for Entrance A  | 97%                 | 01-Apr-16 A | 31-May-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.EA100  | Drainage for Adit & See  | 45%                 | 07-Apr-17 A | 22-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.EA90   | Metal works and finishes for Adit & See  | 0%                  | 31-May-17   | 21-Aug-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.EA030  | Drainage for Entrance A  | 0%                  | 31-May-17   | 11-Jul-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.EA040  | Metal works and finishes for Entrance A  | 0%                  | 31-May-17   | 28-Jul-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B2.3 Entrance A, Adit &amp; SEE - ABWF Works</b>    |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Entrance A, Adit and SEE</b>                        |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.EA050  | ABWF Works   | 65%                 | 31-May-16 A | 29-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.EA070  | E&M Works for Escalators installation  | 0%                  | 22-Aug-17   | 15-Nov-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>KAT Entrances &amp; SEE ABWF</b>                    |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4C1  | KAT Entrances & SEE - Works for Degree 1 of completion                                   | 65%                 | 14-Sep-16 A | 28-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4C2  | KAT Entrances & SEE - Works for Degree 2 of completion                                   | 30%                 | 04-May-17 A | 27-Jul-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4C1P   | KAT Entrances & SEE - Degree 1 of Completion (01-Nov-15) - Programmed                    | 0%                  |             | 11-Jul-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CD4C2P   | KAT Entrances & SEE - Degree 2 of Completion (28-Feb-16) - Programmed                    | 0%                  |             | 27-Jul-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.CD4C3  | KAT Entrances & SEE - Works for Degree 3 of completion                                   | 0%                  | 28-Jul-17   | 19-Oct-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B3 Entrance B and Adit</b>                          |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B3.1 Entrance B and Adit - C&amp;S Works</b>        |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Entrance B and Adit</b>                             |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.EB050  | Drainage   | 45%                 | 10-Apr-17 A | 19-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.EB060  | Metal works and finishes   | 0%                  | 19-Jun-17   | 12-Sep-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>B3.2 Entrance B and Adit - ABWF Works</b>           |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Entrance B and Adit</b>                             |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.EB110  | ABWF Works   | 85%                 | 04-Jan-16 A | 09-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.STN.EB120  | E&M Works for Escalators installation  | 0%                  | 12-Jul-17   | 19-Sep-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>C - South Approach Tunnel</b>                       |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>D - Associated Works</b>                            |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>D2 Drainage</b>                                     |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Sewerage and Stormwater</b>                         |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.AWD.S010   | Storm sewer, S1.2~S1.3~S1.6, S1.4~S1.3, S2.1~S2.4~S1.6; DP-7~S2.4: 633m, 10 nr. MH       | 78%                 | 15-Dec-15 A | 27-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.AWD.F010   | Foul sewer, F1.3~F1.4~MH10, F1.7~F.14: 180m, 6 nr. MH                                    | 78%                 | 15-Dec-15 A | 12-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.AWD.S020   | Storm sewer, S1.1~S1.2: 35m, 1 nr. MH  | 56%                 | 15-Nov-16 A | 06-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.AWD.C010   | U-channels, 197 m straight, 24 m curved  | 0%                  | 12-Jun-17   | 18-Jul-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>D3 Instrumentation and Monitoring</b>               |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Instrumentation Installation and Monitoring</b>     |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.AWM.0030   | Regular Monitorings and Submit Monitoring Reports (weekly for 50 months)                 | 92%                 | 01-Aug-13 A | 21-Sep-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>D4 Landscape</b>                                    |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>External Road and Paving</b>                        |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.AWR.0010   | Filling to road formation level, 5430 m3   | 0%                  | 12-Jul-17   | 20-Sep-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.AWR.0020   | Kerb foundation, concrete kerbs & edgings, 830 m   | 0%                  | 02-Aug-17   | 13-Oct-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.AWR.0030   | Type 1 granular sub-base, road base, sand base, geotextile soil & copping layer, 2537 m2 | 0%                  | 23-Aug-17   | 03-Nov-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>D5 Utilities Diversion</b>                          |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Diversion of Existing Nullah</b>                    |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Temporary Works &amp; Hydraulic Assessment</b>      |  |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |

|  |                           |  |             |
|--|---------------------------|--|-------------|
|  | Milestone                 |  | RMP Rev F   |
|  | Critical Milestone        |  | Last Report |
|  | Critical Remaining Work   |  | Actual Work |
|  | Remaining Work            |  |             |
|  | Remaining Level of Effort |  |             |

**Contract 1108**  
**Kai Tak Station and Associated Tunnels**  
**3-months Rolling Programme (May 2017)**



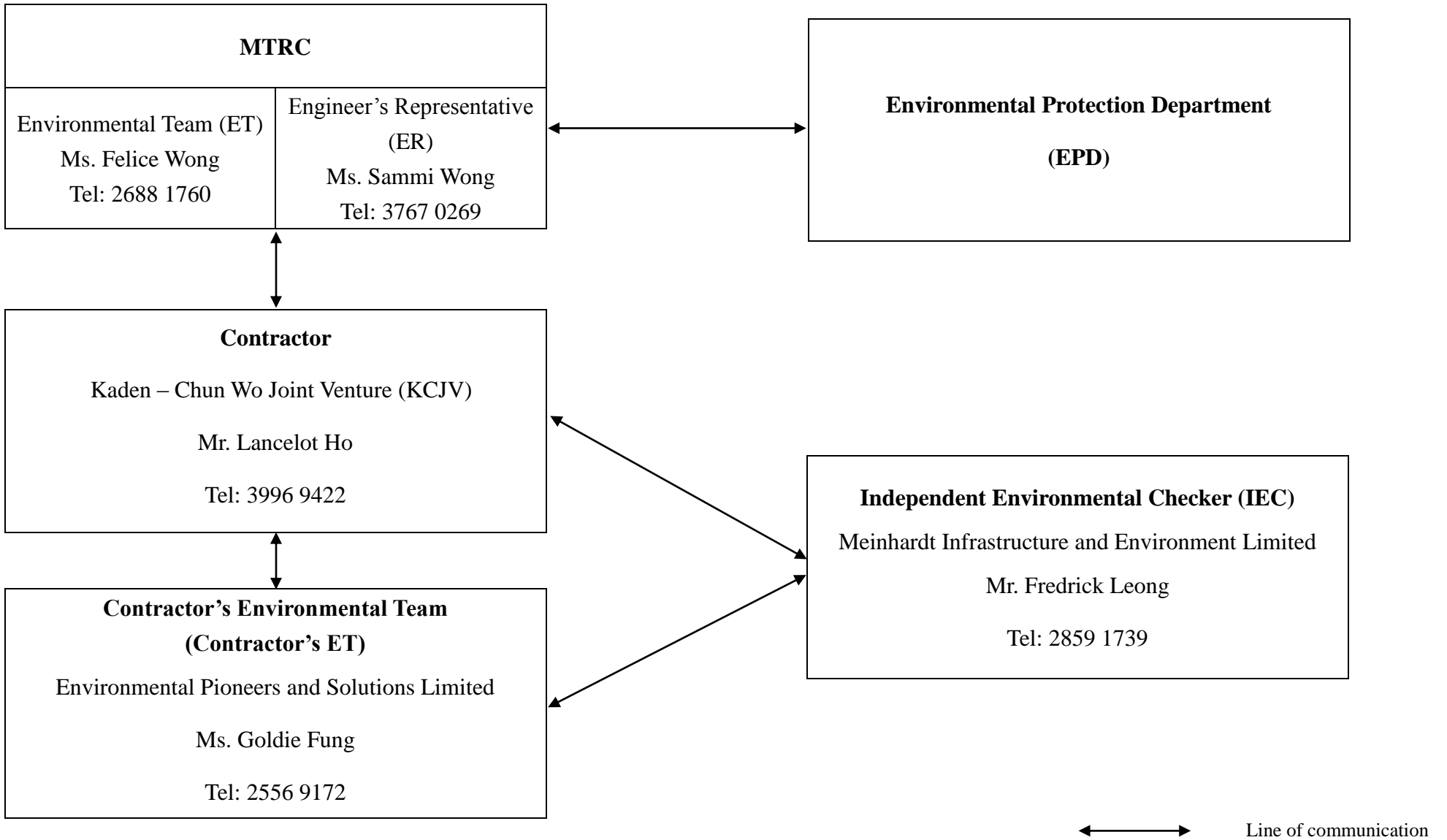
| Activity ID  | Activity Name   | Activity % Complete | Start       | Finish    | May |    |    |    |    | June |    |    |    |    | July |    |    |    |    | August |    |    |    |    | September |  |
|--|---|---------------------|-------------|-----------|-----|----|----|----|----|------|----|----|----|----|------|----|----|----|----|--------|----|----|----|----|-----------|--|
|  |   |                     |             |           | 50  |    |    |    |    | 51   |    |    |    |    | 52   |    |    |    |    | 53     |    |    |    |    | 54        |  |
|  |   |                     |             |           | 30  | 07 | 14 | 21 | 28 | 04   | 11 | 18 | 25 | 02 | 09   | 16 | 23 | 30 | 06 | 13     | 20 | 27 | 03 | 10 |           |  |
| 01108.AWD.DNA1.3   | KTND Hydraulic Assessment - No-adverse-comment by DSD                                 | 98%                 | 08-Aug-13 A | 31-May-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.AWD.DN09.5.3   | KTND Temporary Channel - Design - No-adverse-comment by DSD & RDO/BD/GEO              | 98%                 | 16-Jan-14 A | 31-May-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>E Option 1 SCL Works</b>  |   |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Option 1a Temp. Passenger Access Roads connecting Station Entrances with Carriageways</b> |   |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Preliminaries</b>   |   |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1A.PRE.010  | Submission of drawings & permanent works material control schedules & Approval        | 0%                  | 31-May-17   | 27-Jun-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1A.PRE.020  | Submission of shop drawings & materials & Approval                                    | 0%                  | 28-Jun-17   | 26-Jul-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Temporary Passenage Access Road ER3, 4, 5, 7 &amp; 8</b>                                  |   |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1A.TPA.010  | Formation leveling, 2280 m2   | 0%                  | 31-May-17   | 23-Aug-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1A.TPA.020  | Kerb foundation, concrete kerbs & edgings, 976 m                                      | 0%                  | 14-Jun-17   | 06-Sep-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1A.TPA.030  | Type 1 granular sub-base, sand base, geotextile soil & copping layer, 2280 m2         | 0%                  | 28-Jun-17   | 20-Sep-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1A.TPA.040  | Recycle aggregate concrete blocks, 2280 m2  | 0%                  | 27-Jul-17   | 06-Oct-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1A.TPA.050  | Chain link fence & 1m r/c concrete footing, 976m, & temporary lighting and testing    | 0%                  | 14-Aug-17   | 24-Oct-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Option 1b Temp. Passenger Access Roads connecting Entrance D with Pedestrian Strip</b>    |   |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>Temporary Passenage Acces Road ER6</b>  |   |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.CDO1B.EDP  | Option 1b SCL Works - Temp. Passenger Access Road - Latest Exercinsg Date (31-Dec-15) | 0%                  | 31-May-17   |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1B.TPA.010  | Formation leveling, 2343 m2   | 0%                  | 06-Jul-17   | 27-Sep-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1B.TPA.020  | Kerb foundation, concrete kerbs & edgings, 368 m                                      | 0%                  | 25-Jul-17   | 18-Oct-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1B.TPA.030  | Type 1 granular sub-base, sand base, geotextile soil & copping layer, 2343 m2         | 0%                  | 08-Aug-17   | 01-Nov-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| 01108.O1B.TPA.040  | Recycle aggregate concrete blocks, 2343 m2  | 0%                  | 22-Aug-17   | 15-Nov-17 |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>F Option 2 CEDD Entrusted Works for Roads L9 &amp; L16 &amp; Associated Works</b>         |   |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |
| <b>G Option 3 CEDD Entrusted Works for Reconstruction of Kai Tak Nullah</b>                  |   |                     |             |           |     |    |    |    |    |      |    |    |    |    |      |    |    |    |    |        |    |    |    |    |           |  |

|  |                           |  |             |
|--|---------------------------|--|-------------|
|  | Milestone                 |  | RMP Rev F   |
|  | Critical Milestone        |  | Last Report |
|  | Critical Remaining Work   |  | Actual Work |
|  | Remaining Work            |  |             |
|  | Remaining Level of Effort |  |             |

**Contract 1108**  
**Kai Tak Station and Associated Tunnels**  
**3-months Rolling Programme (May 2017)**

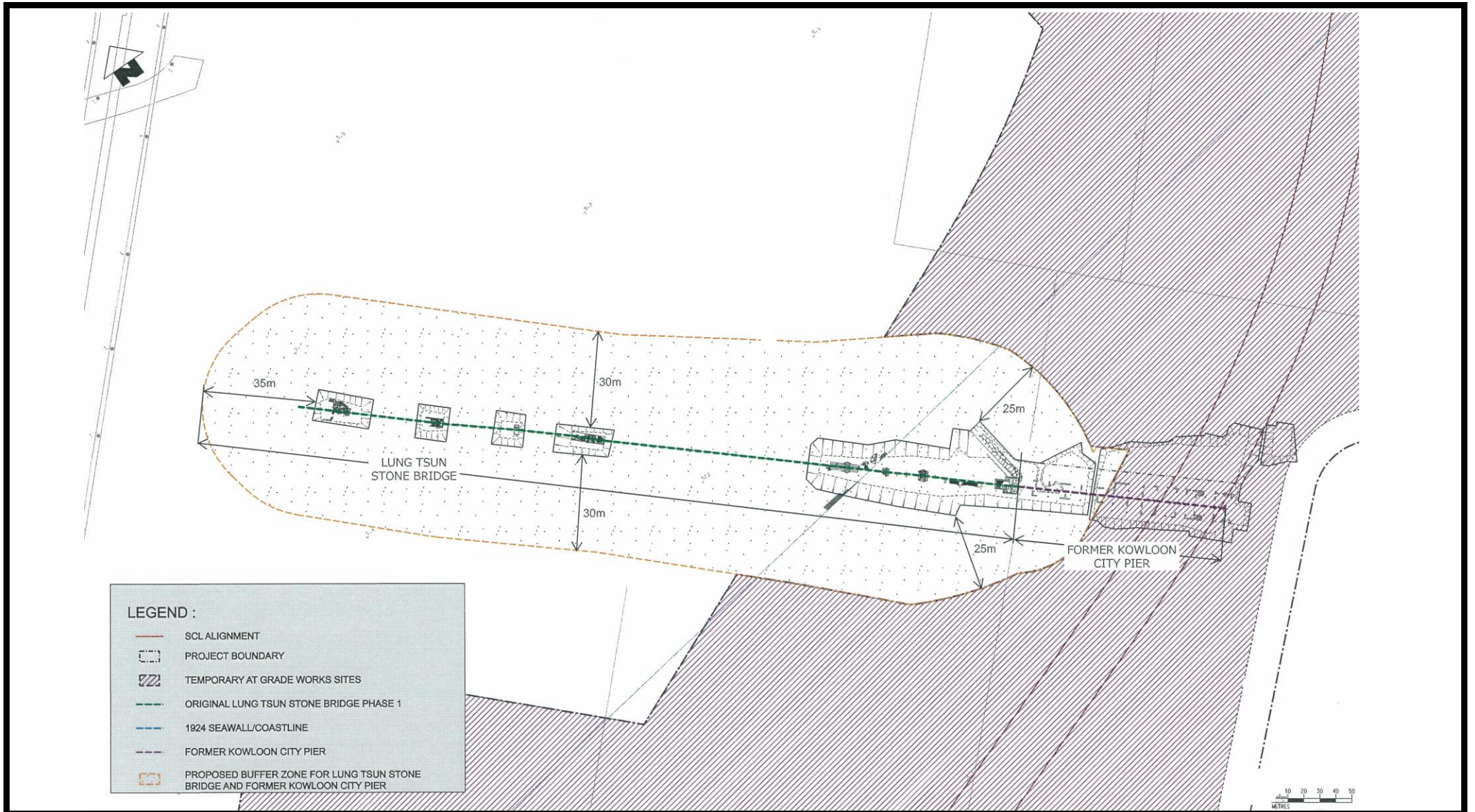


***Appendix C –Project Organization Chart & Contact Details***



***Appendix D – Buffer Zone for Lung Tsun Stone Bridge & Former  
Kowloon City Pier***





Project Title  
工程名稱

Shatin to Central Link (SCL) - Tai Wai to Hung Hom Section(TAW-HUH)  
沙田至中環綫 - 大圍至紅磡段

Environmental Permit No.: EP-438/2012/H  
環境許可證編號：EP-438/2012/H

Figure 6  
圖六

Buffer Zone from the Boundary of Lung Tsun Stone Bridge 龍津石橋界線之緩衝區  
[This figure was prepared based on the attachment of the Application No.: VEP-432/2014]  
[本圖是根據申請編號 VEP-432/2014 的附件編制]



***Appendix E – Event/Action Plan for landscape & Visual During  
Construction Stage***

Event / Action Plan for Landscape and Visual during Construction Stage

| Action Level                   | ET   | IEC   | ER   | Contractor   |
|--------------------------------|--|---|--|--|
| Non-conformity on one occasion | <ol style="list-style-type: none"> <li>1) Inform the Contractor, the IEC and the ER</li> <li>2) Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>3) Monitor remedial actions until rectification has been completed</li> </ol>  | <ol style="list-style-type: none"> <li>1) Check inspection report</li> <li>2) Check the Contractor's working method</li> <li>3) Discuss with the ET, ER and the Contractor on possible remedial measures</li> <li>4) Advise the ER on effectiveness of proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1) Confirm receipt of notification of non-conformity in writing</li> <li>2) Review and agree on the remedial measures proposed by the Contractor</li> <li>3) Supervise implementation of remedial measures</li> </ol> | <ol style="list-style-type: none"> <li>1) Identify Source and investigate the non-conformity</li> <li>2) Implement remedial measures</li> <li>3) Amend working methods agreed with the ER as appropriate</li> <li>4) Rectify damage and undertake any necessary replacement</li> </ol>   |
| Repeated Non-conformity        | <ol style="list-style-type: none"> <li>1) Identify Source</li> <li>2) Inform the Contractor, the IEC and the ER</li> <li>3) Increase inspection frequency</li> <li>4) Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>5) Monitor remedial actions until rectification has been completed</li> <li>6) If non-conformity stops, cease additional monitoring</li> </ol> | <ol style="list-style-type: none"> <li>1) Check inspection report</li> <li>2) Check the Contractor's working method</li> <li>3) Discuss with the ET and the Contractor on possible remedial measures</li> <li>4) Advise the ER on effectiveness of proposed remedial measures</li> </ol>      | <ol style="list-style-type: none"> <li>1) Notify the Contractor</li> <li>2) In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>3) Supervise implementation of remedial measures.</li> </ol>  | <ol style="list-style-type: none"> <li>1) Identify Source and investigate the non-conformity</li> <li>2) Implement remedial measures</li> <li>3) Amend working methods agreed with the ER as appropriate</li> <li>4) Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by the ER until the non-conformity is abated.</li> </ol> |

***Appendix F – Waste Flow Table***

**Monthly Summary Waste Flow Table for 2017 (year)**

| Month       | <u>Actual Quantities of Inert C&amp;D Materials Generated Monthly</u> |                              |                          |                          |                          |                          | <u>Actual Quantities of Non-inert C&amp;D Materials Generated Monthly</u> |                             |             |                |                          |
|-------------|---|------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|-----------------------------|-------------|----------------|--------------------------|
|             | Total Quantity Generated/ Received                                    | Hard Rocks & Broken Concrete | Reused in the Contract   | Reused in other Projects | Disposed as Public Fill  |                          | Metals  | Paper / cardboard packaging | Plastics    | Chemical waste | Others (general refuse)  |
|             |   |                              |                          |                          | 1108A*                   | CEDD <sup>#</sup>        |   |                             |             |                |                          |
|             | (in '000m <sup>3</sup> )  | (in '000m <sup>3</sup> )     | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000kg)   | (in '000kg)                 | (in '000kg) | (in '000kg)    | (in '000m <sup>3</sup> ) |
| Jan         | 0.000   | 0.000                        | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.064                       | 0.001       | 0.000          | 0.263                    |
| Feb         | 0.093   | 0.000                        | 0.093                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.071                       | 0.001       | 0.000          | 0.074                    |
| Mar         | 0.000   | 0.000                        | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.080                       | 0.000       | 0.000          | 0.104                    |
| Apr         | 31.306  | 0.000                        | 31.306                   | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.074                       | 0.000       | 0.000          | 0.085                    |
| May         | 0.000   | 0.000                        | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.146                    |
| Jun         | 0.000   | 0.000                        | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.000                    |
| Sub-total   | 31.399  | 0.000                        | 31.399                   | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.289                       | 0.002       | 0.000          | 0.672                    |
| July        | 0.000   | 0.000                        | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.000                    |
| August      | 0.000   | 0.000                        | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.000                    |
| September   | 0.000   | 0.000                        | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.000                    |
| October     | 0.000   | 0.000                        | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.000                    |
| November    | 0.000   | 0.000                        | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.000                    |
| December    | 0.000   | 0.000                        | 0.000                    | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.000                       | 0.000       | 0.000          | 0.000                    |
| Total       | 31.399  | 0.000                        | 31.399                   | 0.000                    | 0.000                    | 0.000                    | 0.000   | 0.289                       | 0.002       | 0.000          | 0.672                    |
| Year 2016   | 915.150   | 0.000                        | 915.150                  | 0.000                    | 0.000                    |                          | 66.004  | 0.927                       | 0.008       | 1.000          | 1.742                    |
| Year 2015   | 368.534   | 0.000                        | 322.676                  | 0.000                    | 45.857                   |                          | 208.770   | 1.042                       | 0.163       | 1.280          | 2.171                    |
| Year 2014   | 311.876   | 0.000                        | 39.476                   | 0.000                    | 272.400                  |                          | 103.280   | 0.855                       | 0.056       | 1.540          | 1.484                    |
| Year 2013   | 144.512   | 0.000                        | 0.000                    | 0.000                    | 144.512                  |                          | 93.330  | 0.030                       | 0.000       | 0.480          | 2.568                    |
| Grand Total | 1771.471  | 0.000                        | 1308.701                 | 0.000                    | 462.769                  |                          | 471.384   | 3.143                       | 0.229       | 4.300          | 8.637                    |

Notes: \* MTR SCL Contract 1108A barging point.

# Government (CEDD) Public Fill Reception Facilities

***Appendix G – Updated Environmental Mitigation Implementation  
Schedule***

## Environmental Mitigation Implementation Schedule –SCL Contract 1108 (Kai Tak Station and Associated Tunnels)

| EIA Ref.   | EM&A Log Ref | Recommended Mitigation Measure   | Objectives of the Recommended Measures & Main Concerns to address   | Who to implement the measures? | Location of the measures                           | When to implement the measures?                          | Implementation Status |
|--|--------------|--|---|--------------------------------|--|--|-----------------------|
| <i>Cultural Heritage Impact (Construction and Operational Phase)</i> |              |  |   |                                |  |  |                       |
| S4.9   | CH1          | Maintain a buffer distance as shown in <b>Appendix D</b> .<br>A 1.8-2.2m vertical separation distance shall be maintained between the top of tunnel and the piles of the Former Kowloon City Pier. | Reserve sufficient area for necessary archaeological conservation and display works for Lung Tsun Stone Bridge in the future. Avoid direct impact on the Lung Tsun Stone Bridge and the Former Kowloon City Pier. | MTR Corporation Contractor     | Lung Tsun Stone Bridge & Former Kowloon City Pier. | During the Construction of the tunnel section at Kai Tak | ✓                     |
| -  | -            | Adopt best management practices.   | -   | MTR Corporation Contractor     | Former Kowloon City Pier.                          | During the Construction of the tunnel section at Kai Tak | ✓                     |
| <i>Landscape &amp; Visual (Construction Phase)</i>                   |              |  |   |                                |  |  |                       |
| S6.9.3   | LV1          | The following good site practices and measures for minimisation and avoidance of potential impacts are recommended:<br><br><u>Re-use of Existing Soil</u>  | Minimize visual & landscape impact  | Contractor                     | Within Project Site                                | Construction stage                                       |                       |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure   | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status  |
|----------|--------------|--|---|--------------------------------|--------------------------|---------------------------------|--|
|          |              | <ul style="list-style-type: none"> <li>• For soil conservation, existing topsoil shall be re-used where possible for new planting areas within the project. The construction program shall consider using the soil removed from one phase for backfilling another. Suitable storage ground, gathering ground and mixing ground may be set up on-site as necessary.</li> <br/> <li> <p><u>No-intrusion Zone</u></p> <ul style="list-style-type: none"> <li>• To maximize protection to existing trees, ground vegetation and the associated under storey habitats, construction contracts may designate “No-intrusion Zone” to various areas within the site boundary with rigid and durable fencing for each individual no-intrusion zone. The contractor should closely monitor and restrict the site working staff from entering the “no-intrusion zone”, even for indirect construction activities and storage of equipment.</li> </ul> </li> <br/> <li> <p><u>Protection of Retained Trees</u></p> <ul style="list-style-type: none"> <li>• All retained trees should be recorded photographically at the commencement of the Contract, and carefully protected during the construction period. Detailed tree protection specification shall be allowed and included in the Contract Specification, which specifying the tree protection requirement, submission and</li> </ul> </li> </ul> |   |                                |                          |                                 | <ul style="list-style-type: none"> <li>✓</li> <br/> <li>✓</li> <br/> <li>✓</li> </ul> |



| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures?        | Implementation Status        |
|----------|--------------|---|---|--------------------------------|--------------------------|--|------------------------------|
|          |              | <p>approval system, and the tree monitoring system.</p> <ul style="list-style-type: none"> <li>The Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees,</li> </ul>  |   |                                |                          |  | ✓                            |
| S6.12    | LV2          | <p><u>Decorative Hoarding</u></p> <ul style="list-style-type: none"> <li>Erection of decorative screen during construction stage to screen off undesirable views of the construction site for visual and landscape sensitive areas. Hoarding should be designed to be compatible with the existing urban context</li> </ul> <p><u>Management of facilities on work sites</u></p> <ul style="list-style-type: none"> <li>To provide proper management of the facilities on the sites, give control on the height and disposition/ arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs.</li> </ul> <p><u>Tree Transplanting</u></p> <ul style="list-style-type: none"> <li>Trees of high to medium survival rate would be affected by the works shall be transplanted where possible and practicable. Tree transplanting proposal including final location for transplanted trees shall be submitted separately to seek relevant government department's approval, in accordance with ETWB TCW No 3/2006.</li> </ul> | Minimize visual & landscape impact                                | Contractor                     | Within Project Site      | Detailed design and construction stage | <p>✓</p> <p>✓</p> <p>N/A</p> |

| EIA Ref.                                | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address   | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|---|--------------|---|---|--------------------------------|--------------------------|---------------------------------|-----------------------|
| <i>Air Quality (Construction Phase)</i> |              |   |   |                                |                          |                                 |                       |
| /                                       | A1           | <u>Emission from Vehicles and Plants</u> <ul style="list-style-type: none"> <li>All vehicles shall be shut down in intermittent use.</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.</li> <li>All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD).</li> </ul>   | Reduce air pollution emission from construction vehicles and plants | Contractor                     | All construction sites   | Construction stage              | ✓<br>✓<br>✓           |
| /                                       | A2           | Open burning shall be prohibited.   | Reduce air pollution emission from work site                        | Contractor                     | All construction sites   | Construction stage              | ✓                     |
| <i>Construction Dust Impact</i>         |              |   |   |                                |                          |                                 |                       |
| 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 road 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 <sup>2</sup> to achieve the dust removal efficiency. | Minimize dust impact at the nearby sensitive receivers              | Contractor                     | All construction sites   | Construction stage              | *                     |
| S7.6.5                                  | D3           | <ul style="list-style-type: none"> <li>Proper watering of exposed spoil should be undertaken throughout the construction phase:</li> <li>Any excavated or stockpile of dusty material should be covered</li> </ul>  | Minimize dust impact at the nearby sensitive receivers              | Contractor                     | All construction sites   | Construction stage              | ✓<br>*                |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status                                 |
|----------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|---|
|          |              | <p>entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</p> <ul style="list-style-type: none"> <li>• Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>• A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones.</li> <li>• The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;</li> <li>• 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;</li> <li>• 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;</li> <li>• The portion of any road leading only to construction site that is</li> </ul> |   |                                |                          |                                 | <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status                                   |
|----------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|---|
|          |              | <p>within 30m of a vehicle entrance or exit should be kept clear of dusty materials;</p> <ul style="list-style-type: none"> <li>• Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously;</li> <li>• Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;</li> <li>• Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;</li> <li>• Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>• Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;</li> <li>• Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked</li> </ul> |   |                                |                          |                                 | <p>✓</p> <p>✓</p> <p>N/A</p> <p>✓</p> <p>✓</p> <p>✓</p> |

| EIA Ref.                             | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status      |
|--------------------------------------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|----------------------------|
|                                      |              | <p>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</p> <ul style="list-style-type: none"> <li>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.</li> </ul> |   |                                |                          |                                 | N/A                        |
| <b>Construction Noise (Airborne)</b> |              |   |   |                                |                          |                                 |                            |
| S8.3.6                               | N1           | <p>Implement the following good site practices:</p> <ul style="list-style-type: none"> <li>only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>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;</li> <li>plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;</li> </ul>  | Control construction airborne noise                               | Contractor                     | All construction sites   | Construction stage              | <p>✓</p> <p>✓</p> <p>✓</p> |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address                         | Who to implement the measures? | Location of the measures                 | When to implement the measures? | Implementation Status   |
|----------|--------------|---|---|--------------------------------|--|---------------------------------|---|
|          |              | <ul style="list-style-type: none"> <li>silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> <li>mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul> |   |                                |  |                                 | <ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> </ul> |
| 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 construction period.  | Reduce the construction noise levels at low-level zone of NSRs through partial screening. | Contractor                     | All construction sites                   | Construction stage              | ✓   |
| 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              | ✓   |
| 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                     | All construction sites where practicable | Construction stage              | ✓   |

| EIA Ref.                                  | EM&A Log Ref | Recommended Mitigation Measure   | Objectives of the Recommended Measures & Main Concerns to address                                  | Who to implement the measures? | Location of the measures                 | When to implement the measures? | Implementation Status   |
|---|--------------|--|--|--------------------------------|--|---------------------------------|---|
| <i>Water Quality (Construction Phase)</i> |              |  |  |                                |  |                                 |   |
| S10.7.1                                   | W1           | <p>In accordance with the Practice Noise for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following:</p> <p><u>Construction Runoff and Site Drainage</u></p> <ul style="list-style-type: none"> <li>At the start of site establishment (including the barging facilities), perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction.</li> <li>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</li> </ul> | To minimize water quality impact from construction site runoff and general construction activities | Contractor                     | All construction sites where practicable | Construction stage              | <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure   | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status  |
|----------|--------------|--|---|--------------------------------|--------------------------|---------------------------------|--|
|          |              | <ul style="list-style-type: none"> <li>• 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<sup>3</sup>/s a sedimentation basin of 30m<sup>3</sup> would be required and for a flow rate of 0.5 m<sup>3</sup>/s the basin would be 150 m<sup>3</sup>. The detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction.</li> <li>• All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means.</li> <li>• The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows.</li> <li>• All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and</li> </ul> |   |                                |                          |                                 | <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> |



| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status               |
|----------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|-------------------------------------|
|          |              | <p>efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.</p> <ul style="list-style-type: none"> <li>• Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.</li> <li>• Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m<sup>3</sup> 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.</li> <li>• 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.</li> <li>• Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular</li> </ul> |   |                                |                          |                                 | <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status  |
|----------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|--|
|          |              | <p>attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.</p> <ul style="list-style-type: none"> <li>• All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing 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.</li> <li>• 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.</li> <li>• Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality</li> </ul> |   |                                |                          |                                 | <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address  | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status               |
|----------|--------------|---|--|--------------------------------|--------------------------|---------------------------------|-------------------------------------|
|          |              | <p>impacts.</p> <ul style="list-style-type: none"> <li>• All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby.</li> <li>• All the earth works involving should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.</li> <li>• Adopt best management practices.</li> </ul>   |  |                                |                          |                                 | <p>✓</p> <p>✓</p> <p>*</p>          |
| S10.7.1  | W2           | <p><u>Tunnelling Works</u></p> <ul style="list-style-type: none"> <li>• Cut-&amp;-cover/ open cut tunnelling work should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.</li> <li>• Uncontaminated discharge should pass through sedimentation tanks prior to off-site discharge</li> <li>• The wastewater with a high concentration of SS should be treated (e.g. by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater.</li> <li>• Direct discharge of the bentonite slurry (as a result of D-wall and</li> </ul> | To minimize construction water quality impact from tunneling works | Contractor                     | All tunneling portion    | Construction stage              | <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures                      | When to implement the measures? | Implementation Status |
|----------|--------------|---|---|--------------------------------|---|---------------------------------|-----------------------|
|          |              | <p>bored tunnelling construction) is not allowed. It 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 are completed. The requirements in ProPECC PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.</p>   |   |                                |   |                                 |                       |
| S10.7.1  | W3           | <p><u>Sewage Effluent</u></p> <ul style="list-style-type: none"> <li>Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</li> </ul>  | To minimize water quality from sewage effluent                    | Contractor                     | All construction sites where practicable      | Construction stage              | ✓                     |
| S10.7.1  | W4           | <p><u>Groundwater from Contaminated Area:</u></p> <ul style="list-style-type: none"> <li>No direct discharge of groundwater from contaminated areas should be adopted. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed with reference to the site investigation data in this EIA report for compliance to the Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters (TM-Water) and the existence of prohibited substance should be confirmed. The review results</li> </ul> | 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 | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|----------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|-----------------------|
|          |              | <p>should be submitted to EPD for examination If the review results indicated 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.</p> <ul style="list-style-type: none"> <li>• 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. TPH) to undetectable range. All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-Water and should be discharged into the foul sewers.</li> <li>• If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The 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, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the</li> </ul> |   |                                |                          |                                 | <p>N/A</p> <p>N/A</p> |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure   | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures                 | When to implement the measures? | Implementation Status      |
|----------|--------------|--|---|--------------------------------|--|---------------------------------|----------------------------|
|          |              | <p>pollutant levels of groundwater to be recharged) to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited 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 WPCO through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater.</p>  |   |                                |  |                                 |                            |
| S10.7.1  | W7           | <p>In order to prevent accidental spillage of chemicals, the following is recommended:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation.</li> </ul> | To minimize water quality impact from accidental spillage         | Contractor                     | All construction sites where practicable | Construction stage              | <p>*</p> <p>✓</p> <p>✓</p> |

| EIA Ref.                                     | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address   | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|--|--------------|---|---|--------------------------------|--------------------------|---------------------------------|-----------------------|
| <i>Waste Management (Construction Waste)</i> |              |   |   |                                |                          |                                 |                       |
| S11.4.1.1                                    | WM1          | <p>On-site sorting of C&amp;D material</p> <ul style="list-style-type: none"> <li>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 at designated stockpile areas preventing them from delivering to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from ended up at concrete batching plants and be turned into concrete for structural use Details regarding control measures at source site 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 and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced 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.</li> </ul> | 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              | ✓                     |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address   | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status   |
|----------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|---|
| S11.5.1  | WM2          | <u>Construction and Demolition Material</u> <ul style="list-style-type: none"> <li>• Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>• Carry out on-site sorting;</li> <li>• Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> <li>• Adopt ‘Selective Demolition’ technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;</li> <li>• Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified; and</li> <li>• 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&amp;D materials and to minimize their generation during the course of construction.</li> <li>• In addition, disposal of the C&amp;D materials onto 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 its approval before implementation.</li> </ul> | Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal | Contractor                     | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> </ul> |
| S11.5.1  | WM3          | <u>C&amp;D Waste</u> <ul style="list-style-type: none"> <li>• Standard formwork or pre-fabrication should be used as far as</li> </ul>  | Good site practice to minimize the waste  | Contractor                     | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>✓</li> </ul>   |



| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address   | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|----------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|-----------------------|
|          |              | <p>practicable in order to minimise the arising of C&amp;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, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage.</p> <ul style="list-style-type: none"> <li>The Contractor should recycle as much of the C&amp;D materials as possible on-site. Public fill and C&amp;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.</li> </ul> | <p>generation and recycle the C&amp;D materials as far as practicable so as to reduce the amount for final disposal</p> |                                |                          |                                 | <p>✓</p>              |
| S11.5.1  | WM4          | <p><u>General Refuse</u></p> <ul style="list-style-type: none"> <li>General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>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</li> </ul>  | <p>Minimize production of the general refuse and avoid odour, pest and litter impacts</p>                               | Contractor                     | All construction sites   | Construction stage              | <p>✓</p> <p>✓</p>     |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status          |
|----------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|--------------------------------|
|          |              | <p>odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law.</p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>   |   |                                |                          |                                 | <p>✓</p> <p>✓</p>              |
| S11.5.1  | WM6          | <p><u>Land-based and Marine-based Sediment</u></p> <ul style="list-style-type: none"> <li>All construction plant and equipment shall be designed and maintained to minimize the risk of silt, sediments, contaminants or other pollutants being released into the water column or deposited in the locations other than designated location;</li> <li>All vessels shall be sized such that adequate draft is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;</li> <li>Before moving the vessels which are used for transporting dredged material, excess material shall be cleaned from the decks and exposed fittings of vessels and the excess materials shall never be dumped into the sea except at the approved locations;</li> </ul> | To control pollution due to marine sediment                       | Contractor                     | Within Project Site Area | Construction Stage              | <p>✓</p> <p>N/A</p> <p>N/A</p> |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure   | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status  |
|----------|--------------|--|---|--------------------------------|--------------------------|---------------------------------|--|
|          |              | <ul style="list-style-type: none"> <li>• Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.</li> <li>• The Contractors shall monitor all vessels transporting material to ensure that no dumping outside the approved location takes place. The Contractor shall keep and produce logs and other records to demonstrate compliance and that journeys are consistent with designated locations and copies of such records shall be submitted to the engineers;</li> <li>• The Contractors shall comply with the conditions in the dumping licence.</li> <li>• All bottom dumping vessels (Hopper barges) shall be fitted with tight fittings seals to their bottom openings to prevent leakage of material;</li> <li>• The material shall be placed into the disposal pit by bottom dumping;</li> <li>• Contaminated marine mud shall be transported by spit barge of not less than 750m<sup>3</sup> capacity and capable of rapid opening and discharge at the disposal site;</li> <li>• Discharge shall be undertaken rapidly and the hoppers shall be closed immediately. Material adhering to the sides of the hopper shall not be washed out of the hopper and the hopper shall remain closed until the barge returns to the disposal site.</li> </ul> |   |                                |                          |                                 | <p>N/A</p> <p>N/A</p> <p>✓</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> |

| EIA Ref. | EM&A Log Ref | Recommended Mitigation Measure   | Objectives of the Recommended Measures & Main Concerns to address            | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status   |
|----------|--------------|--|--|--------------------------------|--------------------------|---------------------------------|---|
|          |              | <ul style="list-style-type: none"> <li>For Type 3 special disposal treatment, sealing of contaminant with geosynthetic containment before dropping into designated mud pit would be a possible arrangement. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping at the disposal site, thereby fulfil confined mud disposal.</li> </ul>  |  |                                |                          |                                 | N/A   |
| S11.5.1  | WM7          | <p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> <li>Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</li> <li>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; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation.</li> <li>The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3</li> </ul> | Control the chemical waste and ensure proper storage, handling and disposal. | Contractor                     | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> </ul> |

| EIA Ref.                | EM&A Log Ref | Recommended Mitigation Measure  | Objectives of the Recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to implement the measures? | Implementation Status |
|-------------------------|--------------|---|---|--------------------------------|--------------------------|---------------------------------|-----------------------|
|                         |              | <p>sides; 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; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated.</p> <ul style="list-style-type: none"> <li>Disposal of chemical waste should be via a licensed waste collector; be 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 be to a reuser of the waste, under approval from the EPD.</li> </ul> |   |                                |                          |                                 | ✓                     |
| <b>EM&amp;A Project</b> |              |   |   |                                |                          |                                 |                       |
| S14.2 – 14.4            | EM2          | <ol style="list-style-type: none"> <li>An Environmental Team needs to be employed as per the EM&amp;A Manual.</li> <li>Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures.</li> <li>An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&amp;A Manual are fully complied with.</li> </ol>   | Perform environmental monitoring & auditing                       | MTR Corporation/<br>Contractor | All construction sites   | Construction stage              | ✓<br><br>✓<br><br>✓   |

Remarks :

- ✓ Compliance of mitigation measure
- X Non-compliance of mitigation measure
- Non-compliance but rectified by the contractor
- \* Recommendation was made during site audit but improved/rectified by the contractor.
- N/A Not Applicable

***Appendix H – Cumulative Log for Environmental Exceedance,  
Complaints, Notification of Summons and Successful Prosecutions***

**Cumulative Log for Environmental Exceedance, Complaints, Notification of Summons and Successful Prosecution**

| Reporting Month | Number of Exceedance | Number of Environmental Complaints | Number of Notification of Summons | Number of Successful Prosecutions |
|-----------------|----------------------|------------------------------------|-----------------------------------|-----------------------------------|
| January 2017    | 0                    | 0                                  | 0                                 | 0                                 |
| February 2017   | 0                    | 0                                  | 1                                 | 0                                 |
| March 2017      | 0                    | 0                                  | 0                                 | 0                                 |
| April 2017      | 0                    | 0                                  | 0                                 | 0                                 |
| May 2017        | 0                    | 0                                  | 0                                 | 0                                 |
| Total           | 0                    | 0                                  | 1                                 | 0                                 |
| Year 2013       | 0                    | 0                                  | 0                                 | 0                                 |
| Year 2014       | 0                    | 0                                  | 0                                 | 0                                 |
| Year 2015       | 0                    | 16                                 | 0                                 | 0                                 |
| Year 2016       | 0                    | 9                                  | 1                                 | 0                                 |
| Grand Total     | 0                    | 25                                 | 2                                 | 0                                 |



---

**Appendix H**

**44<sup>th</sup> Monthly EM&A Report for Works Contract 1102 –  
Hin Keng Station and Approach Structures**

---

MTR Corporation Limited

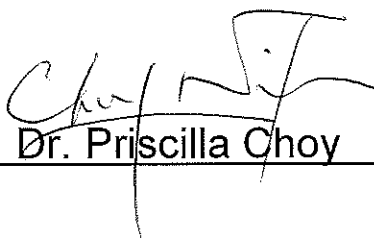
**Shatin to Central Link –  
Tai Wai to Hung Hom Section**

Monthly EM&A Report No. 44

[Period from 1 to 31 May 2017]

Works Contract 1102 –  
Hin Keng Station and Approach Structures

(June 2017)

Certified by:   
\_\_\_\_\_ Dr. Priscilla Choy

Position: \_\_\_\_\_ Environmental Team Leader

Date: \_\_\_\_\_ 12<sup>th</sup> June 2017

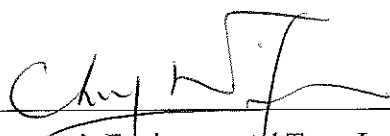
**Penta-Ocean Construction Co. Ltd.**

**Shatin to Central Link –  
Contract 1102  
Hin Keng Station and Approach  
Structures**

**Monthly Environmental Monitoring  
and Audit Report**

**(Version 1.0)**

**May 2017**

Approved By   
(Contractor's Environmental Team Leader)

REMARKS:

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

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

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

## TABLE OF CONTENTS

|  | Page      |
|--|-----------|
| <b>EXECUTIVE SUMMARY .....</b>   | <b>1</b>  |
| Introduction .....   | 1         |
| Summary of Construction Works undertaken during the Reporting Month .....                      | 1         |
| Environmental Monitoring and Audit Progress .....  | 1         |
| Regular Construction Noise and Construction Dust Monitoring .....                              | 1         |
| Waste Management .....   | 1         |
| Landscape and Visual.....  | 1         |
| Environmental Site Inspection .....  | 2         |
| Environmental Exceedance/Non-conformance/Complaint/Summons and Successful<br>Prosecution ..... | 2         |
| Future Key Issues .....  | 2         |
| <b>1 INTRODUCTION .....</b>  | <b>3</b>  |
| Purpose of the Report .....  | 3         |
| Structure of the Report .....  | 3         |
| <b>2 PROJECT INFORMATION.....</b>  | <b>4</b>  |
| Background .....   | 4         |
| General Site Description .....   | 4         |
| Construction Programme and Activities .....  | 4         |
| Project Organization.....  | 4         |
| Status of Environmental Licences, Notification and Permits.....                                | 4         |
| Summary of EM&A Requirements .....   | 5         |
| <b>3 ENVIRONMENTAL MONITORING REQUIREMENTS .....</b>   | <b>6</b>  |
| Regular Construction Noise Monitoring .....  | 6         |
| Monitoring Parameter and Frequency .....   | 6         |
| Monitoring Equipment, Maintenance, Calibration and Procedures .....                            | 6         |
| Action & Limit Level for Construction Noise Monitoring .....                                   | 7         |
| Continuous Noise Monitoring .....  | 7         |
| Regular Construction Dust Monitoring .....   | 7         |
| Monitoring Parameter and Frequency .....   | 7         |
| Monitoring Equipment, Maintenance, Calibration and Procedures .....                            | 7         |
| Action and Limit Levels for Dust Monitoring .....  | 8         |
| Landscape and Visual.....  | 8         |
| <b>4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION<br/>REQUIREMENTS .....</b>              | <b>9</b>  |
| <b>5 MONITORING RESULTS .....</b>  | <b>10</b> |
| Regular Construction Noise Monitoring .....  | 10        |
| Regular Dust Monitoring.....   | 10        |
| Waste Management .....   | 11        |
| Landscape and Visual.....  | 11        |
| <b>6 ENVIRONMENTAL SITE INSPECTION.....</b>  | <b>12</b> |
| Site Audits .....  | 12        |
| Implementation Status of Environmental Mitigation Measures.....                                | 12        |
| <b>7 ENVIRONMENTAL NON-CONFORMANCE .....</b>   | <b>14</b> |
| Summary of Exceedances .....   | 14        |

|  |           |
|--|-----------|
| Summary of Environmental Non-Compliance.....                     | 14        |
| Summary of Environmental Complaint .....                         | 14        |
| Summary of Environmental Summon and Successful Prosecution ..... | 14        |
| <b>8 FUTURE KEY ISSUES .....</b>                                 | <b>15</b> |
| Construction Programme for the Next Month.....                   | 15        |
| Key Issues in the Next Month .....                               | 15        |
| Monitoring Schedule in the Next Month.....                       | 15        |
| <b>9 CONCLUSIONS AND RECOMMENDATIONS .....</b>                   | <b>16</b> |
| Conclusions .....  | 16        |
| Recommendations .....  | 16        |

## LIST OF TABLES

|           |   |
|-----------|---|
| Table 2.1 | Summaries of Environmental Licences, Notification and Permits |
| Table 3.1 | Regular Construction Noise Monitoring Station                 |
| Table 3.2 | Construction Noise Monitoring Parameters and Frequency        |
| Table 3.3 | Dust Monitoring Station                                       |
| Table 3.4 | Dust Monitoring Parameters and Frequency                      |
| Table 4.1 | Status of Required Submissions under EP                       |
| Table 5.1 | Summary Table of Construction Noise Monitoring Results        |
| Table 5.2 | Summary Table of Dust Monitoring Results                      |
| Table 5.3 | Quantities of Waste Generated from the Project                |
| Table 6.1 | Observations and Recommendations of Site Audit                |

## LIST OF FIGURES

|          |   |
|----------|---|
| Figure 1 | Site Layout Plan of Works Contract 1102           |
| Figure 2 | Organization Chart and Key Contact of the Project |
| Figure 3 | Location of Noise Monitoring Station              |
| Figure 4 | Location of Dust Monitoring Station               |

## LIST OF APPENDICES

|            |   |
|------------|---|
| Appendix A | Tentative Construction Programme  |
| Appendix B | Action and Limit Levels   |
| Appendix C | Summary of Exceedance   |
| Appendix D | Site Audit Summary  |
| Appendix E | Updated Environmental Mitigation Implementation Schedule  |
| Appendix F | Event and Action Plans  |
| Appendix G | Waste Generation in the Reporting Month   |
| Appendix H | Log and Cumulative Summary Table for Complaints, Notifications of Summons and Successful Prosecutions |

## EXECUTIVE SUMMARY

### Introduction

1. This is the 44<sup>th</sup> monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for MTR Shatin to Central Link (SCL) Works Contract 1102 – Hin Keng Station and Approach Structures. This report documents the findings of EM&A Works conducted from 1 to 31 May 2017.

### Summary of Construction Works undertaken during the Reporting Month

2. The major site activities undertaken in the reporting month include:
  - Soft Landscaping;
  - ABWF works at Hin Keng Station;
  - Modification of Retaining Wall and Installation of Noise Barrier;
  - Hard Landscape; and
  - E&M Works.

### Environmental Monitoring and Audit Progress

3. A summary of the monitoring activities in this reporting period is listed below and the monitoring works were undertaken by Contractor ET of Works Contract SCL 1103:

#### Regular Construction Noise and Construction Dust Monitoring

- Regular construction noise monitoring during normal working hours  
Noise Monitoring Station ID
  - NMS-CA-1<sup>(1)</sup> (C.U.H.K.A.A Thomas Cheung School) 4 times
- Construction Dust (24-hour TSP) Monitoring  
Dust Monitoring Station ID
  - DMS-1<sup>(1)</sup> (C.U.H.K.A.A Thomas Cheung School) 5 times

#### Remarks:

(1) Station ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

#### Waste Management

4. Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. About 486.2 m<sup>3</sup> of inert C&D materials were generated from the Project and sent to Tuen Mun Area 38 Fill Bank and Tseung Kwan O Area 137 Fill Bank during the reporting month. No non-recyclable non-inert C&D materials and 48.8 m<sup>3</sup> general refuse were disposed of at NENT Landfill. No chemical wastes, steel material, plastics and paper/cardboard packaging was generated and collected by the recycler during this reporting month.

#### Landscape and Visual

5. Bi-weekly inspections of the implementation of landscape and visual mitigation measures were conducted on 9 and 25 May 2017. Most of the necessary mitigation measures have been implemented and recommended follow-up actions have been

discharged by the Contractor. Details of the audit findings and implementation status are presented in **Section 6**.

#### Environmental Site Inspection

6. Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET on 2, 9, 16, 25 and 31 May 2017. The representative of the IEC joined the site inspection on 25 May 2017. Details of the audit findings and implementation status are presented in **Section 6**.

#### **Environmental Exceedance/Non-conformance/Complaint/Summons and Successful Prosecution**

7. No exceedance of the Action and Limit Levels of regular construction noise monitoring and 24-hour TSP monitoring was recorded during the reporting period.
8. No non-compliance event was recorded during the reporting period.
9. No reporting change was recorded during the reporting period.
10. No Project related environmental complaint and notification of summons/ successful prosecutions were received in this reporting period.

#### **Future Key Issues**

11. Major site activities for the coming reporting month will include:
  - Soft Landscaping;
  - ABWF works at Hin Keng Station;
  - Modification of Retaining Wall and Installation of Noise Barrier;
  - Hard Landscape;
  - E&M Works; and
  - Backfilling Works.

## INTRODUCTION

- 1.1 Cinotech Consultants Limited (Cinotech) was appointed by Penta-Ocean Construction Co.Ltd. (POC) as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the MTR Shatin to Central Link (SCL)Works Contract 1102 – Hin Keng Station and Approach Structures (hereafter referred to as the Project).

### Purpose of the Report

- 1.2 This is the 44<sup>th</sup> EM&A report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from 1 to 31 May 2017.

### Structure of the Report

- 1.3 The structure of the report is as follows:

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

Section 2: **Project Information** - summarises background and scope of the project, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting period.

Section 3: **Environmental Monitoring Requirement** - summarises the monitoring parameters, monitoring frequency, monitoring locations, Action and Limit Levels, Event / Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

Section 4: **Implementation Status on Environmental Mitigation Measures** - summarises the implementation of environmental protection measures during the reporting period.

Section 5: **Monitoring Results** - summarises the monitoring results obtained in the reporting period.

Section 6: **Environmental Site Inspection** - summarises the audit findings of the weekly site inspections undertaken within the reporting period.

Section 7: **Environmental Non-conformance** - summarises any monitoring exceedance, environmental complaints and environmental summons within the reporting period.

Section 8: **Future Key Issues** - summarises the impact forecast and monitoring schedule for the next three months.

Section 9: **Conclusions and Recommendations**



## 2 PROJECT INFORMATION

### Background

- 2.1 The Shatin to Central Link – Tai Wai to Hung Hom Section (hereafter referred to as SCL (TAW-HUH)) is an approximately 11 km long extension of the Ma On Shan Line and links 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).
- 2.2 The construction of the SCL (TAW-HUH) has been divided into a series of civil construction Works Contracts. This Works Contract 1102 covers the construction of SCL Hin Keng Station (HIK Station) and its approach structures. This construction contract was awarded to Penta-Ocean Construction Co. Ltd. (POC) in July 2013 and the EM&A programme was commenced on 1<sup>st</sup> October 2013.

### General Site Description

- 2.3 For Works Contract 1102, the works area for the HIK Station is located next to Hin Keng Estate and Che Kung Miu Road. The alignment and works area for the Works Contract 1102 are shown in **Figure 1**.

### Construction Programme and Activities

- 2.4 A summary of the major construction activities undertaken in this reporting period is shown as follows. The tentative construction programme is presented in **Appendix A**.
- Soft Landscaping;
  - ABWF works at Hin Keng Station;
  - Modification of Retaining Wall and Installation of Noise Barrier;
  - Hard Landscape; and
  - E&M Works

### Project Organization

- 2.5 The project organization chart and contact details are shown in **Figure 2**.

### Status of Environmental Licences, Notification and Permits

- 2.6 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since the commencement of the construction works in October 2013 are presented in **Table 2.1**.

**Table 2.1 Summary of the Status of Environmental Licences, Notification and Permits**

| Permit / License No.   | Valid Period |           | Status |
|--|--------------|-----------|--------|
|  | From         | To        |        |
| <b>Environmental Permit (EP)</b>   |              |           |        |
| EP-438/2012/K  | 4/10/2016    | N/A       | Valid  |
| <b>Notification pursuant to Air Pollution Control (Construction Dust) Regulation</b> |              |           |        |
| Reference No: 362534   | 29/7/2013    | N/A       | Valid  |
| <b>Billing Account for Construction Waste Disposal</b>                               |              |           |        |
| A/C No.: 7017900   | 02/8/2013    | N/A       | Valid  |
| <b>Registration of Chemical Waste Producer</b>                                       |              |           |        |
| Registration No.<br>5218-759-P1057-03  | 03/9/2013    | N/A       | Valid  |
| <b>Effluent Discharge License under Water Pollution Control Ordinance</b>            |              |           |        |
| WT00018589-2014  | 29/4/2014    | 30/9/2018 | Valid  |
| <b>Construction Noise Permit (CNP)</b>   |              |           |        |
| GW-RN0961-16   | 30/12/2016   | 29/6/2017 | Valid  |

### Summary of EM&A Requirements

- 2.7 The EM&A programme under Works Contract 1102 require regular dust and noise monitoring as well as environmental site audits. The EM&A requirements are described in the following sections, including:
- All monitoring parameters;
  - Action and Limit levels for all environmental parameters;
  - Event / Action Plans;
  - Environmental mitigation measures, as recommended in the Project EIA study final report; and
  - Environmental requirements in contract documents.
- 2.8 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 6** of this report.
- 2.9 This report presents the monitoring results, observations, locations of the required monitoring parameters, namely construction noise & dust monitoring as well as audit works for the Project in the reporting month.

**3 ENVIRONMENTAL MONITORING REQUIREMENTS**

**Regular Construction Noise Monitoring**

3.1 In accordance with the EM&A Manual, monitoring of construction noise impact should be conducted at the designated monitoring station. The construction noise monitoring location is listed in **Table 3.1** and shown in **Figure 3**.

**Table 3.1 Regular Construction Noise Monitoring Station**

| <b>Regular Construction Noise Monitoring Location</b> | <b>Description</b>               | <b>Type of Measurement</b> |
|---|----------------------------------|----------------------------|
| NMS-CA-1 <sup>(1)</sup>                               | C.U.H.K.A.A Thomas Cheung School | Façade                     |

Note (1): NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

**Monitoring Parameter and Frequency**

3.2 Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual by the Contractor Environmental Team of Works Contract SCL 1103. 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 could be referred to Appendix K of SCL 1103 monthly EM&A report. The construction noise was monitored at the frequency and duration stated in **Table 3.2**.

**Table 3.2 Construction Noise Monitoring Parameters and Frequency**

| <b>Monitoring Period</b> | <b>Duration</b>                    | <b>Parameter</b>        | <b>Frequency</b> |
|--------------------------|------------------------------------|-------------------------|------------------|
| Impact Monitoring        | Throughout the construction period | L <sub>eq</sub> (30min) | Once per week    |

3.3 The construction noise levels were measured in terms of the A-weighted equivalent continuous sound pressure level (L<sub>Aeq</sub>) in decibels dB(A). L<sub>Aeq</sub> (30min) was used as the monitoring metric for the time period between 0700 – 1900 hours on normal weekdays while L<sub>10</sub> and L<sub>90</sub> were also recorded as supplementary reference information for data auditing.

**Monitoring Equipment, Maintenance, Calibration and Procedures**

3.4 The detailed information of monitoring equipment, maintenance, calibration and procedures could be referred to Section 4.2 of SCL 1103 monthly EM&A report.

**Action & Limit Level for Construction Noise Monitoring**

- 3.5 The Action and Limit Levels are presented in **Appendix B** and the Event / Action Plan (EAP) for noise monitoring is presented in **Appendix F**.

**Continuous Noise Monitoring**

- 3.6 With reference to the latest Continuous Noise Monitoring Plan (CNMP) and Construction Noise Mitigation Measures Plan (CNMMP) prepared and submitted under EP Condition 2.10, it is predicted that no residual air-borne construction noise impacts exceeding the relevant noise criteria will be anticipated. Therefore, no continuous noise monitoring is required during the construction of the SCL (TAW-HUH) under Works Contract 1102.

**Regular Construction Dust Monitoring**

- 3.7 The proposed dust monitoring station for the construction phase of the Project, as recommended in the approved EM&A Manual, is listed in **Table 3.3** and shown in **Figure 4**.

**Table 3.3 Dust Monitoring Station**

| <b>Regular Dust Monitoring Location</b> | <b>Description</b>                |
|---|-----------------------------------|
| DMS-1 <sup>(1)</sup>                    | C.U.H.K.A.A. Thomas Cheung School |

Note (1): ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

**Monitoring Parameter and Frequency**

- 3.8 The dust monitoring (in terms of Total Suspended Particulates (TSP)) was conducted at the designated monitoring station in accordance with the requirements stipulated in the EM&A Manual. The monitoring schedule for this reporting period could be referred to Appendix K of SCL 1103 monthly EM&A report. The 24-hour TSP levels were monitored at the frequency and duration stated in **Table 3.4**.

**Table 3.4 Dust Monitoring Parameters and Frequency**

| <b>Monitoring Period</b>         | <b>Duration</b>                    | <b>Parameter</b>           | <b>Frequency</b> |
|----------------------------------|------------------------------------|----------------------------|------------------|
| Impact Monitoring <sup>(1)</sup> | Throughout the construction period | 24-hour TSP <sup>(2)</sup> | Once per 6 days  |

Note:

(1) 1- hour TSP shall be conducted when one documented valid complaint is received.

(2) 24-hour TSP will be conducted when project-related construction activities are being undertaken within a radius of 500m from monitoring stations.

**Monitoring Equipment, Maintenance, Calibration and Procedures**

- 3.9 The detailed information of monitoring equipment, maintenance, calibration and procedures could be referred to Section 3.2 of SCL 1103 monthly EM&A report.

### **Action and Limit Levels for Dust Monitoring**

- 3.10 The Action and Limit levels have been established and are presented in **Appendix B** and the Event / Action Plan (EAP) for dust monitoring is presented in **Appendix F**.

### **Landscape and Visual**

- 3.11 In accordance with the EM&A Manual, the landscape and visual mitigation measures shall be implemented and a site inspection shall be conducted once every two weeks throughout the construction period. The implementation status is given in **Appendix E**. The Event / Action Plan (EAP) for landscape and visual are presented in **Appendix F**.

#### 4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

- 4.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status of the environmental mitigation measures of the reporting period is summarized in **Appendix E**. Status of required submissions under the Environmental Permit (EP) of the reporting period is presented in **Table 4.1**.

**Table 4.1 Status of Required Submissions under EP**

| EP Condition | Submission   | Submission Date |
|--------------|--|-----------------|
| 3.4          | Monthly Environmental Monitoring & Audit Report (April 2017) | 12 May 2017     |

## 5 MONITORING RESULTS

### Regular Construction Noise Monitoring

- 5.1 A total of 4 sets of 30-minute construction noise measurements were carried out at the monitoring stations during normal weekdays during the reporting period by ET of SCL 1103. No exceedance of the limit level was recorded at designated monitoring station.
- 5.2 Based on observation during the on-site monitoring, road traffic nearby is considered as a potential noise source other than construction works of the Project that affects the monitoring results of the reporting month.
- 5.3 The detailed noise monitoring results together with their graphical presentations are presented in Appendix H of SCL 1103 monthly EM&A report.

**Table 5.1 Summary Table of Construction Noise Monitoring Results**

| Parameter | Minimum Leq(30min), dB(A) | Maximum Leq(30min), dB(A) | Action Level                              | Limit Level, Leq(30min), dB(A) |
|-----------|---------------------------|---------------------------|---|--------------------------------|
| Noise     | < Baseline Level          | < Baseline Level          | When one documented complaint is received | 70/65 <sup>(1)</sup>           |

**Remarks:**

- (1) For normal day-time working hours, the noise criteria is 70 dB(A) and 65 dB(A) for normal teaching period and examination periods respectively.
- (2) The noise monitoring data presented in the table is baseline corrected.

- 5.4 No exceedance of the Action and Limit Levels of construction noise due to the Project was recorded during the reporting period.

### Regular Dust Monitoring

- 5.5 A total of 5 sets of 24-hour TSP monitoring were carried out at the designated monitoring station of the reporting period by ET of Works Contract SCL 1103. The monitoring results together with their graphical presentations are presented in Appendix E of SCL 1103 monthly EM&A report and a summary of the dust monitoring results in this reporting month is given in **Table 5.2**.

**Table 5.2 Summary Table of Dust Monitoring Results**

| Parameter | Minimum $\mu\text{g}/\text{m}^3$ | Maximum $\mu\text{g}/\text{m}^3$ | Average $\mu\text{g}/\text{m}^3$ | Action Level, $\mu\text{g}/\text{m}^3$ | Limit Level, $\mu\text{g}/\text{m}^3$ |
|-----------|----------------------------------|----------------------------------|----------------------------------|--|---------------------------------------|
| 24-hr TSP | 21.9                             | 59.1                             | 38.4                             | 148.7                                  | 260                                   |

- 5.6 Wind monitoring data obtained from Kai Tak Meteorological Station of Hong Kong Observatory is shown in Appendix F of SCL 1103 monthly EM&A report.
- 5.7 Based on observation during the on-site monitoring, road traffic emission nearby is considered as a potential dust source other than construction works of the Project that affects the monitoring results of the reporting month.
- 5.8 No exceedance of the Action and Limit Levels of the 24-hour TSP was recorded during the reporting period.

**Waste Management**

5.9 Waste generated from this Project 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 like plastics and paper/cardboard packaging materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in **Table 5.3**. No chemical waste, steel material, plastics, paper/cardboard packaging was generated during this reporting month. Details of waste management data is presented in **Appendix G**.

**Table 5.3 Quantities of Waste Generated from the Project**

| Reporting Month         | Quantity                             |  |                |                    |      |      |
|-------------------------|--------------------------------------|--|----------------|--------------------|------|------|
|                         | C&D Materials (inert) <sup>(a)</sup> | C&D Materials (non-inert) <sup>(b)</sup> |                |                    |      |      |
|                         |                                      | General Refuse                           | Chemical Waste | Recycled materials |      |      |
| Paper/ cardboard        | Plastics                             |  |                | Metals             |      |      |
| May 2017 <sup>(c)</sup> | 486.2 m <sup>3</sup>                 | 48.8 m <sup>3</sup>                      | 0 kg           | 0 kg               | 0 kg | 0 kg |

Notes:

- (a) Inert C&D materials include excavated soil and rock. 486.2 m<sup>3</sup> of inert C&D materials were delivered to Tuen Mun Area 38 Fill Bank and Tseung Kwan O Area 137 Fill Bank during the reporting month.
- (b) Non-inert C&D materials include steel, paper/cardboard packaging waste, plastics and other wastes such as general refuse and vegetative wastes. Steel materials generated from the project are grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. General refuse was delivered to designated landfill for disposal.
- (c) The cut-off date of the waste flow table in reporting month was 31 May 2017.

**Landscape and Visual**

5.10 Bi-weekly inspections of the implementation of landscape and visual mitigation measures were conducted on 9 and 25 May 2017. The observations and recommendations made during the audit sessions are summarized in **Table 6.1**.



## 6 ENVIRONMENTAL SITE INSPECTION

### Site Audits

- 6.1 Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix D**.
- 6.2 Site audits were conducted on 2, 9, 16, 25 and 31 May 2017 by ET. A joint site audit with the representative with IEC, ER, the Contractor and the ET was carried out on 25 May 2017. No EPD site inspection was conducted during the reporting month. The details of observations during site audit carried out by ET can refer to **Table 6.1**.

### Implementation Status of Environmental Mitigation Measures

- 6.3 According to the EIA Study Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix E**.
- 6.4 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations made during the audit sessions are summarized in **Table 6.1**.

**Table 6.1 Observations and Recommendations of Site Audit**

| Parameters           | Date                   | Observations and Recommendations  | Follow-up   |
|----------------------|------------------------|---|---|
| <i>Water Quality</i> | 11, 20 and 27 Apr 2017 | <u>Reminder:</u><br>The Contractor was reminded to ensure sufficient capacity of sedimentation tank with better drainage system for wastewater treatment. | Water quality in the catch pit was improved on 2 May 2017.                                    |
|                      | 27 Apr 2017            | <u>Reminder:</u><br>Sandbag bund should be enhanced in Viaduct to prevent silty runoff entering the public area.  | Sandbag bund was enhanced under Viaduct on 2 May 2017.  |
|                      | 9 May 2017             | <u>Reminder:</u><br>Ponding water in the pits near football court should be removed after rain events.  | Ponding water was removed on 16 May 2017.   |
|                      | 16 May 2017            | Standby pump should be provided and sandbag should be enhanced near football court to prevent silty runoff entering the public area.                      | Sandbag bund was observed enhanced near site boundary near the football court on 25 May 2017. |
|                      | 25 May 2017            | <u>Reminder:</u><br>The Contractor was reminded to provide sedimentation tanks for wastewater treatment near container office before discharge.           | Discharge of untreated wastewater was not observed on 31 May 2017.                            |
|                      | 25 May 2017            | Sandbag bund should be provided along the site boundary near container office to prevent silty runoff entering public roads.                              | Sandbag bund was enhanced and no silty runoff was observed on 31 May 2017.                    |

| <b>Parameters</b>                  | <b>Date</b> | <b>Observations and Recommendations</b>  | <b>Follow-up</b>  |
|------------------------------------|-------------|--|---|
| <i>Noise</i>                       | N/A         | There was no observation in the reporting period.  | N/A   |
| <i>Landscape and Visual</i>        | 27 Apr 2017 | Fencing of tree protection zones within the Site should be enhanced to protect all retained trees.                       | Tree protection zones were enhanced on 2 May 2017.              |
| <i>Air Quality</i>                 | 2 May 2017  | <u>Reminder:</u><br>Water spraying should be provided more frequently near football court to prevent dust generation.    | Haul road near football court was observed wet on 9 May 2017.   |
|                                    | 31 May 2017 | <u>Reminder:</u><br>Water spraying should be provided more frequently next to football court to prevent dust generation. | Follow up actions will be reported in the next reporting month. |
| <i>Waste / Chemical Management</i> | 9 May 2017  | <u>Reminder:</u><br>Waste skips within the Site should be maintained more frequently.                                    | Waste skips within the Site were maintained on 16 May 2017.     |
|                                    | 16 May 2017 | <u>Reminder:</u><br>Stagnant water in the drip trays within the Site should be removed more frequently.                  | Drip trays were observed maintained on 25 May 2017.             |
| <i>Permits/ Licenses</i>           | N/A         | There was no observation in the reporting period.  | N/A   |

## 7 ENVIRONMENTAL NON-CONFORMANCE

### Summary of Exceedances

- 7.1 No exceedance of the Action and Limit Levels of the regular construction noise and 24-hour TSP monitoring was recorded during the reporting month. The summary of exceedance is provided in **Appendix C**.

### Summary of Environmental Non-Compliance

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

### Summary of Environmental Complaint

- 7.3 No environmental Project-related complaint was received in the reporting month. The Complaint Log in reporting month and cumulative summary table since the commencement of the Project is presented in **Appendix H**.

### Summary of Environmental Summon and Successful Prosecution

- 7.4 There was no successful environmental prosecution or notification of summons received since the Project commencement. The Log for environmental summon and successful prosecution in reporting month and cumulative summary table since the commencement of the Project is presented in **Appendix H**.

## 8 FUTURE KEY ISSUES

### Construction Programme for the Next Month

8.1 A tentative construction programme is provided in **Appendix A**. The major construction activities in the coming month will include:

- Soft Landscaping;
- ABWF works at Hin Keng Station;
- Modification of Retaining Wall and Installation of Noise Barrier;
- Hard Landscape;
- E&M Works; and
- Backfilling Works.

### Key Issues in the Next Month

8.2 Key issues to be considered in the coming month include:

- Dust arising from loading, unloading, transfer, handling or storage of bulk cement, excavated materials and soil erosion in dry days;
- Control of silty surface runoff;
- Implementation of mitigation measures for wastewater spillage from construction works.
- Preservation and protection of retained and transplanted trees;
- Implementation of mitigation measures for noise nuisance from construction works;
- Regular removal of silt, mud and sand along drainage channels and sedimentation tanks; and
- Proper storage and mitigation measures for oil/chemical containers.

### Monitoring Schedule in the Next Month

8.3 The tentative schedule of regular construction noise monitoring and 24-hour TSP monitoring at in the next reporting period is presented in Appendix K of SCL 1103 monthly EM&A report. The regular construction noise monitoring and 24-hour TSP monitoring will be conducted at the same monitoring locations in the next reporting period.

## 9 CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 9.1 The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 to 31 May 2017 in accordance with EM&A Manual and the requirement under EP.
- 9.2 No exceedance of the Action and Limit Levels of regular construction noise and 24-hour TSP monitoring was recorded at the designated monitoring stations during the reporting month.
- 9.3 5 times of joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Contractor's ET and 2 times of bi-weekly inspections of the implementation of landscape and visual mitigation measures were conducted during the reporting period.
- 9.4 There was no Project related environmental complaint, successful prosecution or notification of summons received during the reporting month.
- 9.5 The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

### Recommendations

- 9.6 According to the environmental audit performed in the reporting month, the following recommendations were made:

#### Water Quality

- Discharge of untreated wastewater should be avoided. Sedimentation tanks or other wastewater treatment facilities should be used to treat any discharge of wastewater out of the Site.
- Bund of sandbags should be stepped up as far as practicable to prevent silty runoff leaving the Site during rainy seasons.
- Ponding and standing water should be cleared so as to prevent silty runoff entering the public area.

#### Air Quality

- Exposed area and haul roads in the Site should be provided with adequate dust control measures to prevent dust generation.

#### Waste/Chemical Management

- Waste collectors within the Site should be maintained as far as practicable and avoid accumulation of waste in the Site.
- Drip trays for chemical containers should be maintained so as to avoid stagnant oil and water accumulated within.

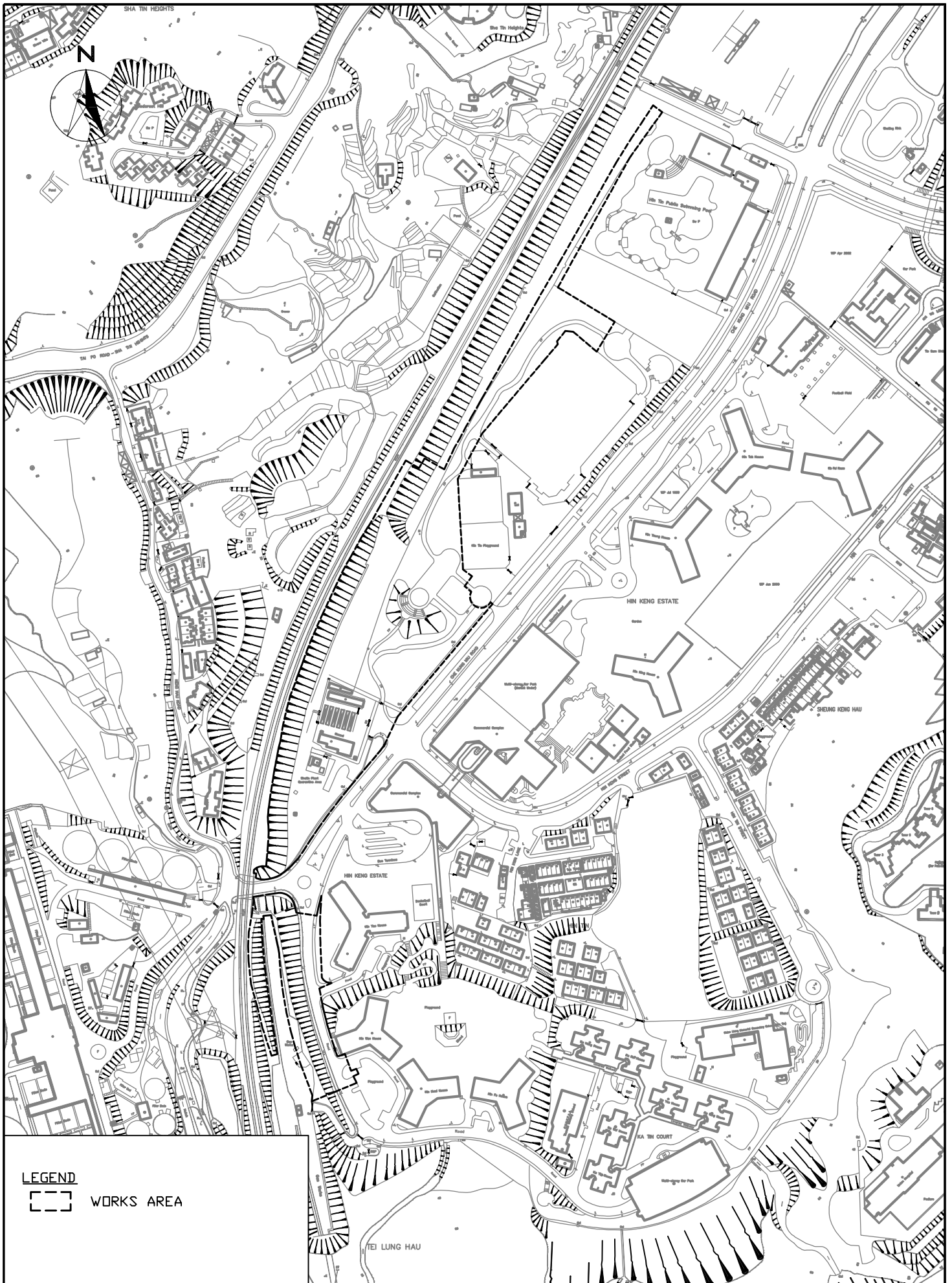
---

---

## FIGURES

---

---



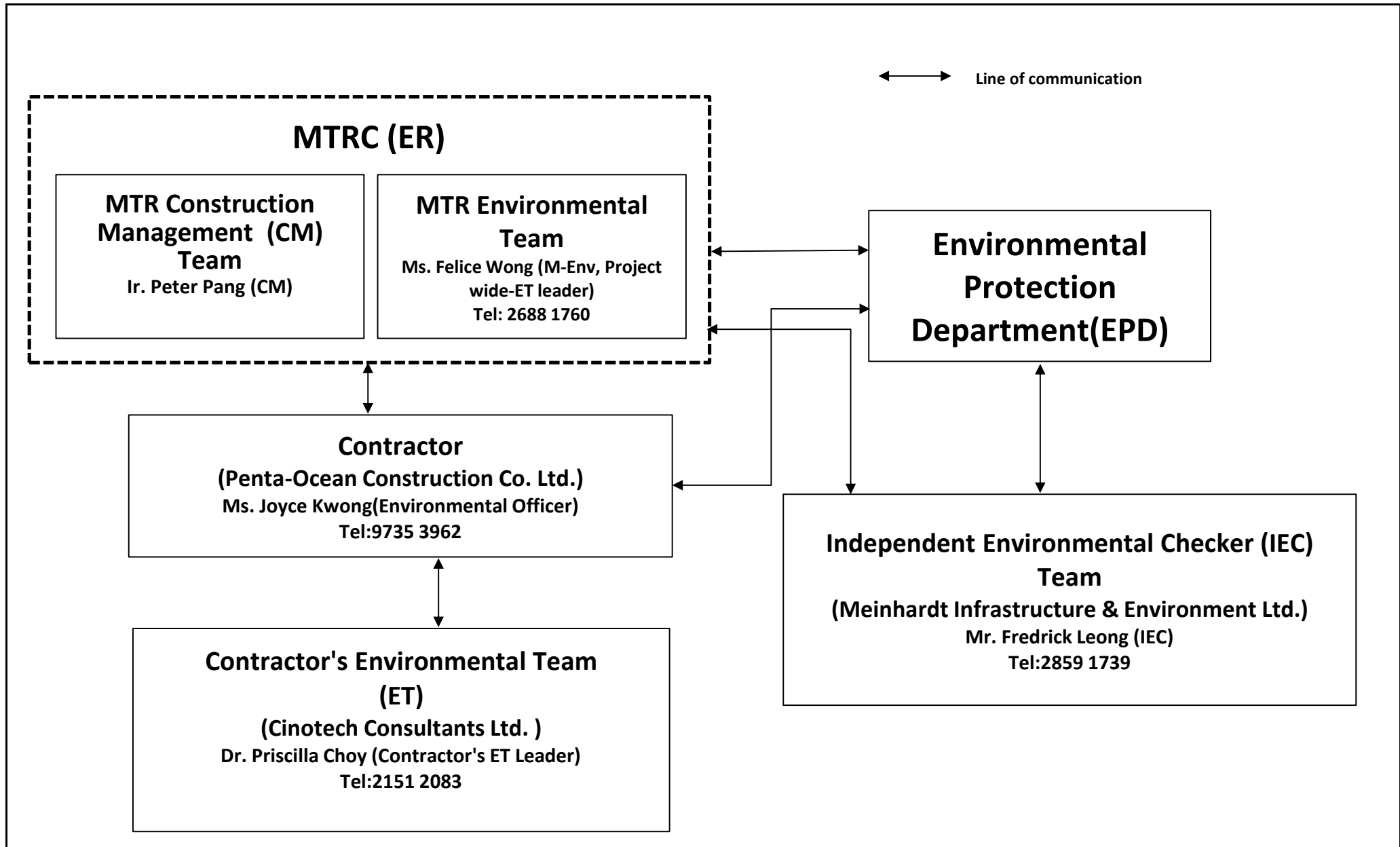
**LEGEND**

 WORKS AREA



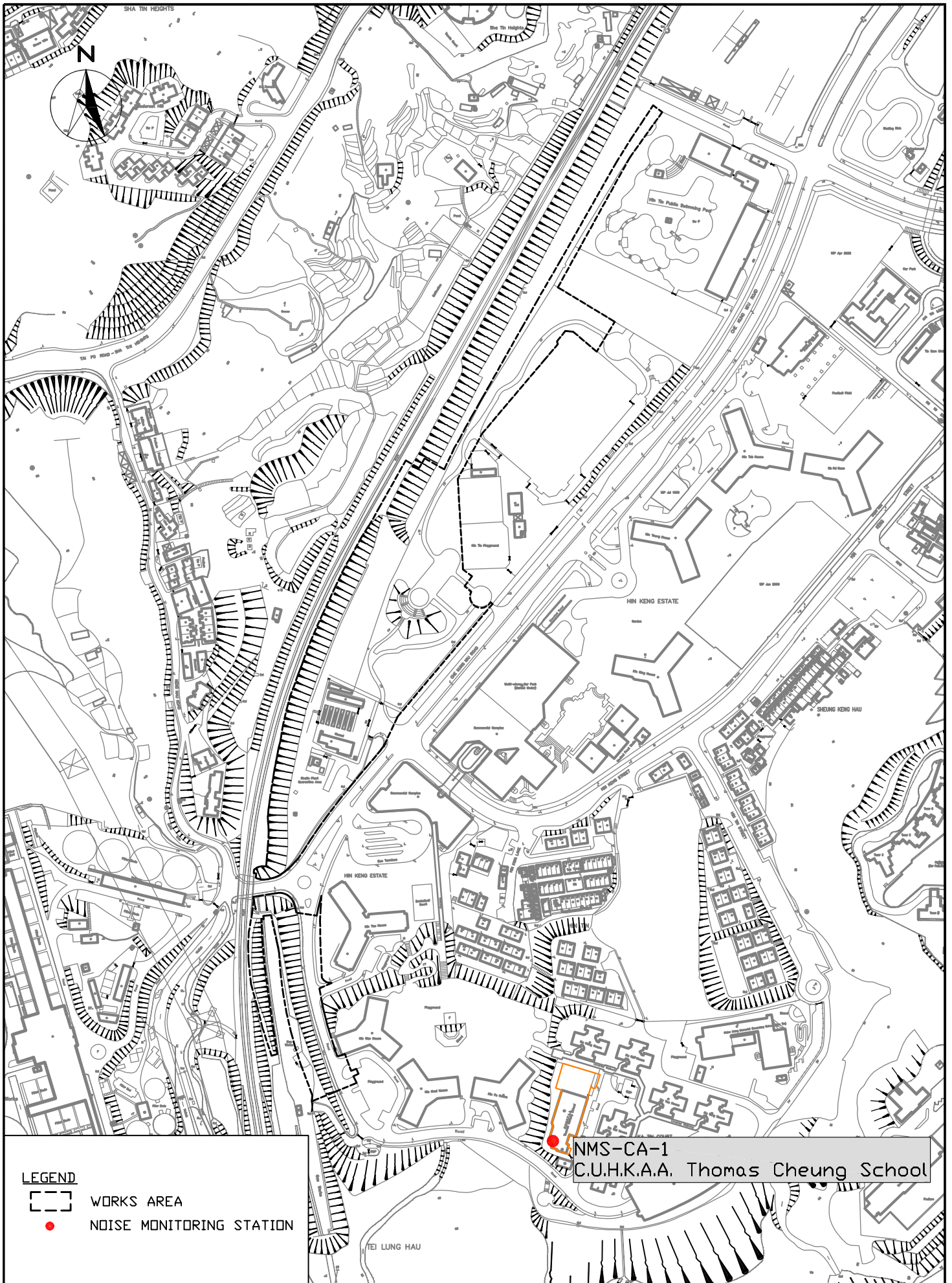
SCL CONTRACT 1102  
 THE SHATIN TO CENTRAL LINK -  
 HIN KENG STATION AND APPROACH STRUCTURES  
**SITE LAYOUT PLAN OF  
 WORKS CONTRACT 1102**

|         |            |            |          |
|---------|------------|------------|----------|
| SCALE   | 1:10000@A4 | DATE       | NOV 2013 |
| CHECK   | GL         | DRAWN      | JW       |
| JOB No. | MA13040    | FIGURE NO. | FIG 1    |
|         |            | REV        | -        |



|   |       |        |             |         |                 |
|---|-------|--------|-------------|---------|-----------------|
| Title<br>SCL Contract 1102<br>The Shatin to Central Link -<br>Hin Keng Station and Approach Structures<br>Organization Chart and Key Contact of the Project | Scale | N.T.S  | Project No. | MA13040 | <b>CINOTECH</b> |
|   | Date  | Jan-17 | Figure      | 2       |                 |





**LEGEND**

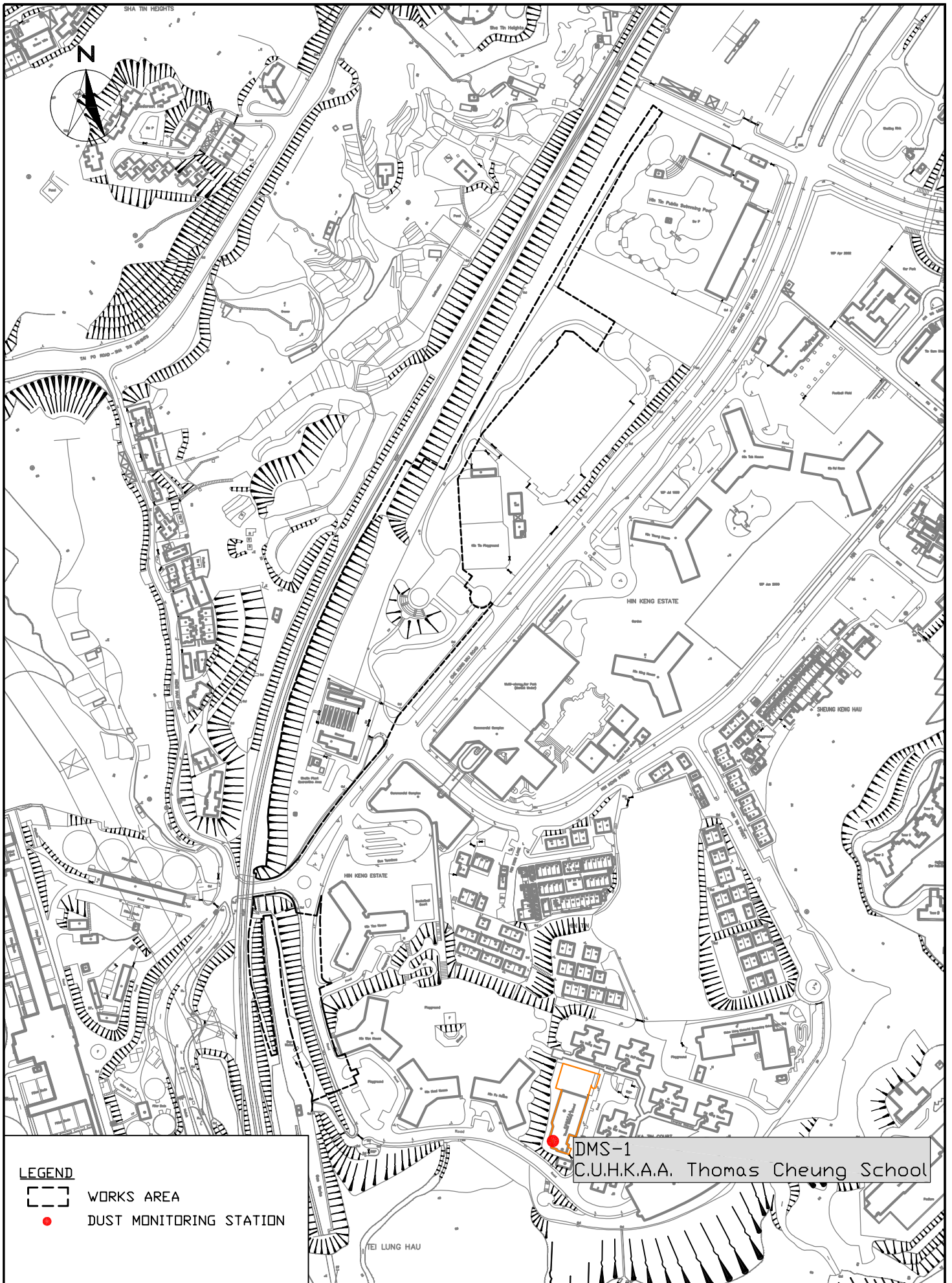
- WORKS AREA
- NOISE MONITORING STATION

NMS-CA-1  
C.U.H.K.A.A. Thomas Cheung School



SCL CONTRACT 1102  
THE SHATIN TO CENTRAL LINK -  
HIN KENG STATION AND APPROACH STRUCTURES  
**LOCATION OF NOISE MONITORING STATION**

|         |            |            |          |
|---------|------------|------------|----------|
| SCALE   | 1:10000@A4 | DATE       | OCT 2013 |
| CHECK   | GL         | DRAWN      | JW       |
| JOB No. | MA13040    | FIGURE NO. | FIG 3    |
|         |            | REV        | -        |



DMS-1  
C.U.H.K.A.A. Thomas Cheung School

**LEGEND**

- WORKS AREA
- DUST MONITORING STATION



SCL CONTRACT 1102  
THE SHATIN TO CENTRAL LINK -  
HIN KENG STATION AND APPROACH STRUCTURES  
**LOCATION OF DUST MONITORING STATION**

|         |            |            |          |
|---------|------------|------------|----------|
| SCALE   | 1:10000@A4 | DATE       | OCT 2013 |
| CHECK   | GL         | DRAWN      | JW       |
| JOB No. | MA13040    | FIGURE NO. | FIG 4    |
|         |            | REV        | -        |

---

---

**APPENDIX A  
TENTATIVE CONSTRUCTION  
PROGRAMME**

---

---

| Activity ID  | Activity Name | Original Duration | Remaining Duration | Start       | Finish      | 2017 |     |     |     |   |
|--|---------------|-------------------|--------------------|-------------|-------------|------|-----|-----|-----|---|
|  |               |                   |                    |             |             | May  | Jun | Jul | Aug | P |
| <b>3-month Rolling Programme Summary (Jun to Aug 2017)</b> |               | 719.20            | 200.00             | 21-Oct-13 A | 27-Jan-18   |      |     |     |     |   |
| <b>Hin Keng Station</b>                                    |               | 403.00            | 200.00             | 04-Mar-15 A | 27-Jan-18   |      |     |     |     |   |
| <b>Superstructure</b>                                      |               | 403.00            | 200.00             | 04-Mar-15 A | 27-Jan-18   |      |     |     |     |   |
| <b>ABWF</b>  |               | 403.00            | 200.00             | 04-Mar-15 A | 27-Jan-18   |      |     |     |     |   |
| <b>Ma On Shan Line &amp; Tail Track</b>                    |               | 378.00            | 81.23              | 21-Oct-13 A | 06-Sep-17   |      |     |     |     |   |
| <b>Noise Barrier behind Hin Tin Swimming Pool</b>          |               | 378.00            | 81.23              | 21-Oct-13 A | 06-Sep-17   |      |     |     |     |   |
| <b>Noise Barrier Work</b>                                  |               | 157.00            | 30.00              | 15-Jul-14 A | 22-Jul-17   |      |     |     |     |   |
| <b>At-grade Box</b>  |               | 320.00            | 30.00              | 27-May-16 A | 06-Jul-17   |      |     |     |     |   |
| <b>Backfilling Works</b>                                   |               | 320.00            | 30.00              | 27-May-16 A | 06-Jul-17   |      |     |     |     |   |
| <b>FR63 Slope</b>  |               | 60.00             | 6.00               | 15-Jul-15 A | 07-Jun-17   |      |     |     |     |   |
| <b>Soft Landscape</b>                                      |               | 60.00             | 6.00               | 15-Jul-15 A | 07-Jun-17   |      |     |     |     |   |
| <b>FR65 Slope</b>  |               | 90.00             | 9.00               | 05-Jan-15 A | 10-Jun-17   |      |     |     |     |   |
| <b>Soft Landscape</b>                                      |               | 90.00             | 9.00               | 05-Jan-15 A | 10-Jun-17   |      |     |     |     |   |
| <b>F320 Slope</b>  |               | 60.00             | 0.00               | 01-Nov-16 A | 24-May-17 A |      |     |     |     |   |
| <b>Soft Landscaping Works</b>                              |               | 60.00             | 0.00               | 01-Nov-16 A | 24-May-17 A |      |     |     |     |   |
| <b>Hin Tin Playground</b>                                  |               | 241.20            | 89.20              | 15-Nov-16 A | 15-Sep-17   |      |     |     |     |   |
| <b>Hard Landscape</b>                                      |               | 29.00             | 29.00              | 05-Aug-17   | 09-Sep-17   |      |     |     |     |   |
| <b>E&amp;M Works</b>                                       |               | 241.20            | 89.20              | 15-Nov-16 A | 15-Sep-17   |      |     |     |     |   |



- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone
- % Complete

MTRC SCL Project Contract 1102  
Hin Keng Station and Approach Structures

3 Months Rolling Programme  
Summary  
(Period - Jun to Aug 2017)

| Date      | Revision | Checked | Approved |
|-----------|----------|---------|----------|
| 01-Jun-17 | 0        | SC      |          |

---

---

**APPENDIX B  
ACTION AND LIMIT LEVELS**

---

---

**APPENDIX B – Action and Limit Levels****24-Hour TSP**

| <b>Regular Dust Monitoring Station</b> | <b>Description</b>                | <b>Action Level, <math>\mu\text{g}/\text{m}^3</math></b> | <b>Limit Level, <math>\mu\text{g}/\text{m}^3</math></b> |
|--|-----------------------------------|--|---|
| DMS-1 <sup>(1)(2)</sup>                | C.U.H.K.A.A. Thomas Cheung School | 148.7  | 260   |

Note:

- (1) ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).  
 (2) Dust monitoring is carried out by Environmental Team of SCL Works Contract 1103.

**Construction Noise**

| <b>Regular Construction Noise Monitoring Station</b> | <b>Description</b>               | <b>Time Period</b>               | <b>Action Level</b>                       | <b>Limit Level</b>           |
|--|----------------------------------|----------------------------------|---|------------------------------|
| NMS-CA-1 <sup>(1)(2)</sup>                           | C.U.H.K.A.A Thomas Cheung School | 0700-1900 hrs on normal weekdays | When one documented complaint is received | 65 / 70 dB(A) <sup>(3)</sup> |

Note:

- (1) NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).  
 (2) Construction Noise monitoring is carried out by Environmental Team of SCL Works Contract 1103.  
 (3) Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period.

---

---

**APPENDIX C**  
**SUMMARY OF EXCEEDANCE**

---

---

## **APPENDIX C – SUMMARY OF EXCEEDANCE**

**Reporting Month:** May 2017

**a) Exceedance Report for Dust Monitoring (NIL)**

**b) Exceedance Report for Noise Monitoring (NIL)**



---

---

**APPENDIX D**  
**SITE AUDIT SUMMARY**

---

---

*Shatin to Central Link -  
Contract 1102 Hin Keng Station and Approach Structures*



**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |                      |
|----------------------------|----------------------|
| Checklist Reference Number | 170502               |
| Date                       | 2 May 2017 (Tuesday) |
| Time                       | 09:30 – 11:00        |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations  | Related Item No. |
|------------|---|------------------|
| 170502-R01 | <p><b>Part B – Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C – Ecology</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D – Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E – Air Quality</b></p> <ul style="list-style-type: none"> <li>Water spraying should be provided more frequently near football court to prevent dust generation.</li> </ul> <p><b>Part F – Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part G – Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part H – Permits/Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part I – Others</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> | E 5              |

|             | Name               | Signature  | Date       |
|-------------|--------------------|--|------------|
| Recorded by | Kelvin Koo         |  | 2 May 2017 |
| Checked by  | Dr. Priscilla Choy |  | 2 May 2017 |

**Shatin to Central Link -  
Contract 1102 Hin Keng Station and Approach Structures**


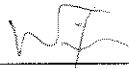
**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |                      |
|----------------------------|----------------------|
| Checklist Reference Number | 170509               |
| Date                       | 9 May 2017 (Tuesday) |
| Time                       | 09:30 – 11:00        |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations  | Related Item No. |
|------------|---|------------------|
| 170509-R01 | <p><b>Part B – Water Quality</b></p> <ul style="list-style-type: none"> <li>• Ponding water in the pits near football court should be removed after rainy season.</li> </ul> <p><b>Part C – Ecology</b></p> <ul style="list-style-type: none"> <li>• No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D – Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>• No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E – Air Quality</b></p> <ul style="list-style-type: none"> <li>• No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F – Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>• No environmental deficiency was identified during the site inspection.</li> </ul> | B 12             |
| 170509-R02 | <p><b>Part G – Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>• Waste skips within the Site should be maintained more frequently.</li> </ul> <p><b>Part H – Permits/Licenses</b></p> <ul style="list-style-type: none"> <li>• No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part I – Others</b></p> <ul style="list-style-type: none"> <li>• No environmental deficiency was identified during the site inspection.</li> </ul>  | G 1i             |

|             | Name               | Signature  | Date       |
|-------------|--------------------|--|------------|
| Recorded by | Kelvin Koo         |  | 9 May 2017 |
| Checked by  | Dr. Priscilla Choy |   | 9 May 2017 |

*Shatin to Central Link -  
Contract 1102 Hin Keng Station and Approach Structures*

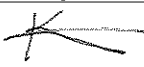
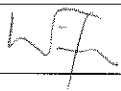
**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |                       |
|----------------------------|-----------------------|
| Checklist Reference Number | 170516                |
| Date                       | 16 May 2017 (Tuesday) |
| Time                       | 09:30 – 12:00         |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations  | Related Item No. |
|------------|---|------------------|
| 170516-O01 | <p><b>Part B – Water Quality</b></p> <ul style="list-style-type: none"> <li>Standby pump should be provided and sandbag bund should be enhanced near football court to prevent silty runoff entering the public area.</li> </ul> <p><b>Part C – Ecology</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D – Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E – Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F – Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> | B 21             |
| 170516-R02 | <p><b>Part G – Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>Stagnant water in the drip trays within the Site should be removed more frequently.</li> </ul> <p><b>Part H – Permits/Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part I – Others</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul>  | G 10             |

|             | Name               | Signature   | Date        |
|-------------|--------------------|---|-------------|
| Recorded by | Kelvin Koo         |  | 16 May 2017 |
| Checked by  | Dr. Priscilla Choy |  | 16 May 2017 |

*Shatin to Central Link -  
Contract 1102 Hin Keng Station and Approach Structures*

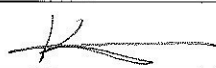

**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |                        |
|----------------------------|------------------------|
| Checklist Reference Number | 170525                 |
| Date                       | 25 May 2017 (Thursday) |
| Time                       | 14:00 – 16:30          |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations  | Related Item No. |
|------------|---|------------------|
| 170525-R01 | <p><b>Part B – Water Quality</b></p> <ul style="list-style-type: none"> <li>The Contractor was reminded to provide sedimentation tanks for wastewater treatment near the Container office before discharge.</li> </ul> <p><b>Part C – Ecology</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D – Landscape &amp; Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E – Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F – Construction Noise Impact</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part G – Waste/Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part H – Permits/Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part I – Others</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> | B 5              |

|             | Name               | Signature  | Date        |
|-------------|--------------------|--|-------------|
| Recorded by | Kelvin Koo         |  | 25 May 2017 |
| Checked by  | Dr. Priscilla Choy |   | 25 May 2017 |

*Shatin to Central Link -  
Contract 1102 Hin Keng Station and Approach Structures*



**Record Summary of Environmental Site Inspection**

**Inspection Information**

|                            |                         |
|----------------------------|-------------------------|
| Checklist Reference Number | 170531                  |
| Date                       | 31 May 2017 (Wednesday) |
| Time                       | 09:30 – 11:00           |

| Ref. No. | Non-Compliance  | Related Item No. |
|----------|-----------------|------------------|
| -        | None identified | -                |

| Ref. No.   | Remarks/Observations   | Related Item No. |
|------------|--|------------------|
| 170531-R01 | <p><i>Part B – Water Quality</i></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><i>Part C – Ecology</i></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><i>Part D – Landscape &amp; Visual</i></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><i>Part E – Air Quality</i></p> <ul style="list-style-type: none"> <li>Water spraying should be provided at haul road near football court to prevent dust generation.</li> </ul> <p><i>Part F – Construction Noise Impact</i></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><i>Part G – Waste/Chemical Management</i></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><i>Part H – Permits/Licenses</i></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><i>Part I – Others</i></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> | E 7              |

|             | Name               | Signature   | Date        |
|-------------|--------------------|---|-------------|
| Recorded by | Andy Chan          |  | 31 May 2017 |
| Checked by  | Dr. Priscilla Choy |  | 31 May 2017 |

---

---

**APPENDIX E  
UPDATED ENVIRONMENTAL  
MITIGATION IMPLEMENTATION  
SCHEDULE**

---

---

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref.                            | EM&A<br>Log Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures                    | When to<br>Implement the<br>measures?  | What requirements<br>or standards for<br>the measures to<br>achieve?   | Status |
|-------------------------------------|-----------------|---|--|---|--|--|--|--------|
| <b>Ecology (Construction Phase)</b> |                 |   |  |   |  |  |  |        |
| S5.4                                | E1              | Engineering works should not encroach into country park boundary, Tei Lung Hau Stream and secondary woodland near the portal at Hin Keng  | Minimise ecological impacts  | Contractor                              | Lion Rock Country Park,<br>Tei Lung Hau Stream | Detailed design and construction stage | <ul style="list-style-type: none"> <li>• AFCD's requirements</li> <li>• EIAO</li> <li>• Country Parks Ordinance</li> </ul> | ^      |
| S5.7                                | E5              | <p><u>Good Site Practices</u></p> <p>Impact to any habitats or local fauna should be avoided by implementing good site practices, including the containment of silt runoff within the site boundary, the 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.</p> <p>The following good site practices should also be implemented:</p> <ul style="list-style-type: none"> <li>• Erection of temporary geotextile silt or sediment fences/oil traps around any earth-moving works to trap any sediments and prevent them from entering watercourses in particular the Tei Lung Hau stream;</li> <li>• Avoidance of soil storage against trees or close to</li> </ul> | Minimise ecological impacts  | Contractor                              | All construction sites                         | During construction                    | <ul style="list-style-type: none"> <li>• ProPECC PN 1/94</li> </ul>  | ^      |
|                                     |                 |   |  |   |  |  |  | N/A    |



## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref.  | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address   | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status            |
|---|-----------------|--|--|---|-----------------------------|---------------------------------------|--|-------------------|
|   |                 | <p>waterbodies in particular the Tei Lung Hau stream;</p> <ul style="list-style-type: none"> <li>• Delineation of works site by erecting hoardings to prevent encroachment onto adjacent habitats and fence off areas which have some ecological value e.g. Tei Lung Hau Stream and the adjoining secondary woodland, tunnel on hill at top of slope stabilisation works;</li> <li>• No on-site burning of waste;</li> <li>• Waste and refuse in appropriate receptacles.</li> </ul> |  |   |                             |                                       |  | N/A<br><br>^<br>^ |
| S5.7  | E7              | <p><u>Water Quality and Hydrology</u></p> <ul style="list-style-type: none"> <li>• Implement water control measures (ETWB TCW No. 5/2005, Protection of natural streams/ rivers from adverse impacts arising from construction works to avoid direct or indirect impacts on the Tei Lung Hau Stream) and good site practices.</li> </ul>   | <ul style="list-style-type: none"> <li>• Avoid indirect water impact to any wetland habitats or wetland fauna</li> <li>• Minimize the drawdown of water table</li> </ul> | Contractor                              | Works area in Hin Keng      | Construction stage                    | • TCW No. 5/2005   | ^                 |
| <b><i>Landscape &amp; Visual (Construction Phase)</i></b> |                 |  |  |   |                             |                                       |  |                   |
| S6.9.3  | LV1             | <p>The following good site practices and measures for minimisation and avoidance of potential impacts are recommended:</p> <p><u>Re-use of Existing Soil</u></p> <ul style="list-style-type: none"> <li>• For soil conservation, existing topsoil shall be re-used where possible for new planting areas within the project. The construction program shall consider using the soil removed from one phase for backfilling another. Suitable storage</li> </ul>                      | Minimize visual & landscape impact   | Contractor                              | Within Project Site         | Construction stage                    | TM-EIAO  | ^                 |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status   |
|----------|-----------------|--|--|---|-----------------------------|---------------------------------------|--|--|
|          |                 | <p>ground, gathering ground and mixing ground may be set up on-site as necessary.</p> <p><u>No-intrusion Zone</u></p> <ul style="list-style-type: none"> <li>To maximize protection to existing trees, ground vegetation and the associated under storey habitats, construction contracts may designate "No-intrusion Zone" to various areas within the site boundary with rigid and durable fencing for each individual no-intrusion zone. The contractor should closely monitor and restrict the site working staff from entering the "no-intrusion zone", even for indirect construction activities and storage of equipment.</li> </ul> <p><u>Protection of Retained Trees</u></p> <ul style="list-style-type: none"> <li>All retained trees should be recorded photographically at the commencement of the Contract, and carefully protected during the construction period. Detailed tree protection specification shall be allowed and included in the Contract Specification, which specifying the tree protection requirement, submission and approval system, and the tree monitoring system.</li> <li>The Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees,</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |



## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref.                                       | EM&A<br>Log Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?              | Status              |
|--|-----------------|---|--|---|-----------------------------|---------------------------------------|---|---------------------|
| <b><i>Air Quality (Construction Phase)</i></b> |                 |   |  |   |                             |                                       |   |                     |
| /  | A1              | Emission from Vehicles and Plants <ul style="list-style-type: none"> <li>• All vehicles shall be shut down in intermittent use.</li> <li>• Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.</li> <li>• All diesel fuelled construction plant within the works areas shall be powered by ultra-low sulphur diesel fuel (ULSD)</li> </ul> | Reduce air pollution<br>emission from construction<br>vehicles and plants  | Contractor                              | All construction<br>sites   | Construction<br>stage                 | • APCO  | ^<br><br>^<br><br>^ |
| /  | A2              | Open burning shall be prohibited  | Reduce air pollution<br>emission from work site                            | Contractor                              | All construction<br>sites   | Construction<br>stage                 | • APCO  | ^                   |
| <b><i>Construction Dust Impact</i></b>         |                 |   |  |   |                             |                                       |   |                     |
| 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<br>the<br>nearby sensitive receivers               | Contractor                              | All construction<br>sites   | Construction<br>stage                 | • APCO<br>• To control the<br>dust impact to meet<br>HKAQO and TM-EIA<br>criteria | ^                   |
| 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 road in the Kowloon area and once per 1.5hour at those in the Tai Wai 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                                    | Minimize dust impact at<br>the<br>nearby sensitive receivers               | Contractor                              | All construction<br>sites   | Construction<br>stage                 | • APCO<br>• To control the<br>dust impact to meet<br>HKAQO and TM-EIA<br>criteria | *                   |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?   | Status                                |
|----------|-----------------|--|--|---|-----------------------------|---------------------------------------|--|---------------------------------------|
|          |                 | may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.8 L/m2 to achieve the dust removal efficiency  |  |   |                             |                                       |  |                                       |
| S7.6.5   | D3              | <ul style="list-style-type: none"> <li>• Proper watering of exposed spoil should be undertaken throughout the construction phase:</li> <li>• Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</li> <li>• Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>• A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones.</li> <li>• The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;</li> <li>• 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</li> </ul> | Minimize dust impact at the nearby sensitive receivers                     | Contractor                              | All construction sites      | Construction stage                    | <ul style="list-style-type: none"> <li>• APCO</li> <li>• To control the dust impact to meet HKAQO and TM-EIA criteria</li> </ul> | ^<br><br>^<br><br>^<br><br>^<br><br>^ |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status   |
|----------|-----------------|--|--|---|-----------------------------|---------------------------------------|--|--|
|          |                 | <p>point should be paved with concrete, bituminous materials or hardcores;</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;</li> <li>• Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously;</li> <li>• Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;</li> <li>• Where a scaffolding is erected around the perimeter of a building</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status  |
|----------|-----------------|--|--|---|-----------------------------|---------------------------------------|--|---|
|          |                 | <p>under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;</p> <p>Any skip hoist for material transport should be totally enclosed by impervious sheeting;</p> <ul style="list-style-type: none"> <li>• Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;</li> <li>• 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;</li> <li>• 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;</li> </ul> <p>and</p> <ul style="list-style-type: none"> <li>• 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</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref.                             | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures                     | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status                                |
|--------------------------------------|-----------------|--|--|---|---|---------------------------------------|--|---------------------------------------|
|                                      |                 | 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                              | Selected representative dust monitoring station | Construction stage                    | • TM-EIA   | ^                                     |
| <b>Construction Noise (Airborne)</b> |                 |  |  |   |   |                                       |  |                                       |
| S8.3.6                               | N1              | Implement the following good site practices: <ul style="list-style-type: none"> <li>• only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>• 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;</li> <li>• plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;</li> <li>• silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> <li>• mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>• material stockpiles, mobile container site office and other</li> </ul> | Control construction airborne noise  | Contractor                              | All construction sites                          | Construction stage                    | • Annex 5, TM-EIA  | ^<br><br>^<br><br>^<br><br>^<br><br>^ |



## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address                | Who to<br>implement<br>the<br>measures? | Location of the<br>measures              | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status |
|----------|-----------------|--|---|---|--|---------------------------------------|--|--------|
|          |                 | structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.  |   |   |  |                                       |  |        |
| 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 construction period.   | Reduce the construction noise levels at low-level zone of NSRs through partial screening. | Contractor                              | All construction sites                   | Construction stage                    | • Annex 5, TM-EIA  | ^      |
| 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                    | • Annex 5, TM-EIA  | ^      |
| S8.3.6   | N4              | Use "Quiet plants"   | Reduce the noise levels of plant items  | Contractor                              | All construction sites where practicable | Construction stage                    | • Annex 5, TM-EIA  | ^      |
| 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                              | All construction sites where practicable | Construction stage                    | • Annex 5, TM-EIA  | ^      |
| S8.3.6   | N6              | Implement a noise monitoring under EM&A programme.   | Monitor the construction noise levels at the selected                                     | Contractor                              | Selected representative                  | Construction stage                    | • TM-EIA   | ^      |



## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status                     |
|----------|-----------------|---|--|---|-----------------------------|---------------------------------------|--|----------------------------|
|          |                 | <p>in the permanent drainage channels to enhance deposition rates.</p> <ul style="list-style-type: none"> <li>• 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<sup>3</sup>/s a sedimentation basin of 30m<sup>3</sup> would be required and for a flow rate of 0.5 m<sup>3</sup>/s the basin would be 150 m<sup>3</sup>. The detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction.</li> <li>• All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means.</li> <li>• The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows.</li> </ul> |  |   |                             |                                       |  | <p>^</p> <p>^</p> <p>^</p> |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status  |
|----------|-----------------|---|--|---|-----------------------------|---------------------------------------|--|---|
|          |                 | <ul style="list-style-type: none"> <li>• All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.</li> <li>• Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.</li> <li>• Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m<sup>3</sup> 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.</li> <li>• 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.</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status   |
|----------|-----------------|--|--|---|-----------------------------|---------------------------------------|--|--|
|          |                 | <ul style="list-style-type: none"> <li>• Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.</li> <li>• All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing 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.</li> <li>• 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</li> </ul> |  |   |                             |                                       |  | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures              | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?                                      | Status                              |
|----------|-----------------|--|--|---|--|---------------------------------------|---|-------------------------------------|
|          |                 | <p>accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain.</p> <ul style="list-style-type: none"> <li>• Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.</li> <li>• All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby.</li> <li>• All the earth works involving should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.</li> <li>• Adopt best management practices</li> </ul> |  |   |  |                                       |   | <p>^</p> <p>^</p> <p>^</p> <p>^</p> |
| S10.7.1  | W3              | <p><u>Sewage Effluent</u></p> <ul style="list-style-type: none"> <li>• Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</li> </ul>   | To minimize water quality from sewage effluent                             | Contractor                              | All construction sites where practicable | Construction stage                    | <ul style="list-style-type: none"> <li>• Water Pollution Control Ordinance</li> <li>• TM-water</li> </ul> | ^                                   |



## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address  | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?  | Status                       |
|----------|-----------------|--|---|---|-----------------------------|---------------------------------------|---|------------------------------|
|          |                 | operator should also be reminded to set up measures to prevent unsuitable rock from ended up at concrete batching plants and be turned into concrete for structural use. Details regarding control measures at source site 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 and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced 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. |   |   |                             |                                       |   |                              |
| S11.5.1  | WM2             | <p><u>Construction and Demolition Material</u></p> <ul style="list-style-type: none"> <li>• Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>• Carry out on-site sorting;</li> <li>• Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> <li>• Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;</li> </ul>  | Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal | Contractor                              | All construction sites      | Construction stage                    | <ul style="list-style-type: none"> <li>• Land (Miscellaneous Provisions) Ordinance</li> <li>• Waste Disposal Ordinance</li> <li>• ETWB TCW No. 19/2005</li> </ul> | ^<br><br>^<br><br>^<br><br>^ |



## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures  | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address  | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?  | Status   |
|----------|-----------------|--|---|---|-----------------------------|---------------------------------------|---|--|
|          |                 | <ul style="list-style-type: none"> <li>• Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified; and</li> <li>• 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&amp;D materials and to minimize their generation during the course of construction.</li> <li>• In addition, disposal of the C&amp;D materials onto 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 its approval before implementation</li> </ul> |   |   |                             |                                       |   | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |
| S11.5.1  | WM3             | <p><u>C&amp;D Waste</u></p> <ul style="list-style-type: none"> <li>• Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&amp;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, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage.</li> </ul>  | Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal | Contractor                              | All construction sites      | Construction stage                    | <ul style="list-style-type: none"> <li>• Land (Miscellaneous Provisions) Ordinance</li> <li>• Waste Disposal Ordinance</li> <li>• ETWB TCW No. 19/2005</li> </ul> | <p style="text-align: center;">^</p>   |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address         | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status                       |
|----------|-----------------|---|--|---|-----------------------------|---------------------------------------|--|------------------------------|
|          |                 | <ul style="list-style-type: none"> <li>• The Contractor should recycle as much of the C&amp;D materials as possible on-site. Public fill and C&amp;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.</li> </ul>   |  |   |                             |                                       |  | ^                            |
| S11.5.1  | WM4             | <p><u>General Refuse</u></p> <ul style="list-style-type: none"> <li>• General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>• 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.</li> <li>• 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.</li> <li>• Office wastes can be reduced through the recycling of paper if</li> </ul> | Minimize production of the general refuse and avoid odour, pest and litter impacts | Contractor                              | All construction sites      | Construction stage                    | • Waste Disposal Ordinance   | *<br><br>^<br><br>^<br><br>^ |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref. | EM&A<br>Log Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address   | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve?   | Status   |
|----------|-----------------|---|--|---|-----------------------------|---------------------------------------|--|--|
|          |                 | volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor.  |  |   |                             |                                       |  |  |
| S11.5.1  | WM7             | <p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> <li>• Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</li> <li>• 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; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation.</li> <li>• 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; 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; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated.</li> </ul> | Control the chemical waste and ensure proper storage, handling and disposal. | Contractor                              | All construction sites      | Construction Stage                    | <ul style="list-style-type: none"> <li>• Waste Disposal (Chemical Waste) (General) Regulation</li> <li>• Code of Practice on the Packaging, Labelling and Storage of Chemical Waste</li> </ul> | <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref.                  | EM&A<br>Log Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures? | What requirements<br>or standards for<br>the measures to<br>achieve? | Status |
|---------------------------|-----------------|---|--|---|-----------------------------|---------------------------------------|--|--------|
|                           |                 | <ul style="list-style-type: none"> <li>• Disposal of chemical waste should be via a licensed waste collector; be 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 be to a reuser of the waste, under approval from the EPD.</li> </ul> |  |   |                             |                                       |  | ^      |
| <b>Land Contamination</b> |                 |   |  |   |                             |                                       |  |        |



## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref.                | EM&A<br>Log Ref | Recommended Mitigation Measures   | Objectives of the<br>recommended Measures<br>& Main Concerns to<br>address | Who to<br>implement<br>the<br>measures? | Location of the<br>measures | When to<br>Implement the<br>measures?      | What requirements<br>or standards for<br>the measures to<br>achieve? | Status |
|-------------------------|-----------------|---|--|---|-----------------------------|--|--|--------|
|                         |                 |   |  |   | Keng Street)                | phases                                     |  |        |
| Chapter<br>13.13        | A13C.8          | Establishment of emergency response and evacuation plans (cooperation of various parties/departments required. For the operational phase the emergency plan should also include adequate procedures for controlling the tunnel ventilation system and stopping of the SCL train traffic in order to prevent the trains moving into the affected areas.) | To reduce the risks to the SCL staff, construction workers and passengers  | MTRC/<br>Contractor                     | -                           | Construction<br>and<br>operation<br>phases |  | ^      |
| Chapter<br>13.13        | A13C.8          | Safety/emergency response/evacuation training and drills for all personnel  | To reduce the risks to the SCL staff, construction workers and passengers  | MTRC/<br>Contractor                     | -                           | Construction<br>and<br>operation<br>phases |  | ^      |
| <b>EM&amp;A Project</b> |                 |   |  |   |                             |  |  |        |

## SCL Works Contract 1102 - Environmental Mitigation Implementation Schedule

| EIA Ref.      | EM&A Log Ref | Recommended Mitigation Measures  | Objectives of the recommended Measures & Main Concerns to address | Who to implement the measures? | Location of the measures | When to Implement the measures? | What requirements or standards for the measures to achieve?                                     | Status              |
|---------------|--------------|--|---|--------------------------------|--------------------------|---------------------------------|---|---------------------|
| S 14.2        | EM1          | <ul style="list-style-type: none"> <li>An Independent Environmental Checker needs to be employed as per the EM&amp;A Manual.</li> </ul>  | Control EM&A Performance  | MTR Corporation                | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>EIAO Guidance Note No.4/2010</li> <li>TM-EIAO</li> </ul> | ^                   |
| S 14.2 – 14.4 | EM2          | <ul style="list-style-type: none"> <li>An Environmental Team needs to be employed as per the EM&amp;A Manual</li> <li>Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures.</li> <li>An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&amp;A Manual are fully complied with.</li> </ul> | Perform environmental monitoring & auditing                       | MTR Corporation/<br>Contractor | All construction sites   | Construction stage              | <ul style="list-style-type: none"> <li>EIAO Guidance Note No.4/2010</li> <li>TM-EIAO</li> </ul> | ^<br><br>^<br><br>^ |

Remarks:    ^    Compliance of mitigation measure                      X    Non-compliance of mitigation measure

•    Non-compliance but rectified by the contractor

\*    Recommendation was made during site audit but improved/rectified by the contractor.

N/A    Not Applicable

---

---

**APPENDIX F**  
**EVENT AND ACTION PLANS**

---

---



**Appendix F - Event and Action Plan for Air Quality Monitoring during Construction Phase**

| EVENT   | ACTION   |  |  |   |
|---|--|--|--|---|
|   | Works Contract 1102 ET   | IEC  | ER   | CONTRACTOR  |
| <b>ACTION LEVEL</b>                               |  |  |  |   |
| 1. Exceedance for one sample                      | <ol style="list-style-type: none"> <li>1. Inform the IEC, Contractor and ER;</li> <li>2. Discuss with the Contractor, IEC and ER on the remedial measures required;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency</li> </ol>   | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> </ol>   | <ol style="list-style-type: none"> <li>1. Identify source(s), investigate the causes of exceedance and propose remedial measures;</li> <li>2. Implement remedial measures;</li> <li>3. Amend working methods agreed with the ER as appropriate.</li> </ol>  |
| 2. Exceedance for two or more consecutive samples | <ol style="list-style-type: none"> <li>1. Inform the IEC, Contractor and ER;</li> <li>2. Discuss with the ER, IEC and Contractor on the remedial measures required;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. If exceedance continues, arrange meeting with the IEC, ER and Contractor;</li> <li>6. If exceedance stops, cease additional monitoring</li> </ol> | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify the Contractor, IEC and ET;</li> <li>3. Review and agree on the remedial measures proposed by the Contractor;</li> <li>4. Supervise Implementation of remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance;</li> <li>2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend proposal as appropriate.</li> </ol> |

**LIMIT LEVEL**

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

**Event and Action Plan for Noise Monitoring during Construction Phase**

| EVENT        | ACTION  |  |   |   |
|--------------|---|--|---|---|
|              | Works Contract 1102 ET  | IEC  | ER  | CONTRACTOR  |
| Action Level | <ol style="list-style-type: none"> <li>1. Notify the IEC, Contractor and ER</li> <li>2. Discuss with the ER, IEC and Contractor on the remedial measures required</li> <li>3. Increase monitoring frequency to check mitigation effectiveness</li> </ol>  | <ol style="list-style-type: none"> <li>1. Review the investigation results submitted by the contractor;</li> <li>2. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.</li> </ol>   | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of complaint in writing</li> <li>2. Notify the Contractor, IEC and ET</li> <li>3. Review and agree on the remedial measures proposed by the Contractor;</li> <li>4. Supervise implementation of remedial measures</li> </ol>  | <ol style="list-style-type: none"> <li>1. Investigate the complaint and propose remedial measures</li> <li>2. Report the results of investigation to the IEC, ET and ER</li> <li>3. Submit noise mitigation proposals to the ER with copy to the IEC and ET within 3 working days of notification.</li> <li>4. Implement noise mitigation proposals</li> </ol>  |
| Limit Level  | <ol style="list-style-type: none"> <li>1. Notify the IEC, Contractor and EPD</li> <li>2. Repeat measurement to confirm findings</li> <li>3. Increase monitoring frequency</li> <li>4. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</li> <li>5. Arrange meeting with the IEC, Contractor and ER to discuss the remedial measures to be taken;</li> <li>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances</li> <li>7. Assess effectiveness of the Contractor's remedial measures and keep IEC, ER and EPD informed of the results</li> </ol> | <ol style="list-style-type: none"> <li>1. Check monitoring data submitted by the ET;</li> <li>2. Check the Contractor's working method;</li> <li>3. Discuss with the ER, ET and Contractor on the potential remedial measures</li> <li>4. Review and advise the ET and ER on the effectiveness of the remedial measures proposed by the Contractor.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing</li> <li>2. Notify the Contractor, IEC and ET</li> <li>3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>4. Supervise the implementation of remedial measures</li> <li>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</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify source and investigate the causes of exceedance</li> <li>2. Take immediate action to avoid further exceedance</li> <li>3. Submit proposals for remedial measures to the ER with copy to the IEC and ET within 3 working days of notification.</li> <li>4. Implement the agreed proposals</li> <li>5. Revise and resubmit proposals if problem still not under control</li> <li>6. Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol> |

**Event and Action Plan for Landscape and Visual during Construction Phase**

| <b>Action Level</b>            | <b>Works Contract 1102 ET</b>  | <b>IEC</b>  | <b>ER</b>  | <b>Contractor</b>  |
|--------------------------------|--|---|--|--|
| Non-conformity on one occasion | <ol style="list-style-type: none"> <li>1. Inform the Contractor, the IEC and the ER</li> <li>2. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>3. Monitor remedial actions until rectification has been completed</li> </ol>  | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET, ER and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures.</li> </ol> | <ol style="list-style-type: none"> <li>1. Confirm receipt of notification of non-conformity in writing</li> <li>2. Review and agree on the remedial measures proposed by the Contractor</li> <li>3. Supervise implementation of remedial measures</li> </ol> | <ol style="list-style-type: none"> <li>1. Identify Source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement</li> </ol>   |
| Repeated Non-conformity        | <ol style="list-style-type: none"> <li>1. Identify Source</li> <li>2. Inform the Contractor, the IEC and the ER</li> <li>3. Increase inspection frequency</li> <li>4. Discuss remedial actions with the IEC, the ER and the Contractor</li> <li>5. Monitor remedial actions until rectification has been completed</li> <li>6. If non-conformity stops, cease additional monitoring</li> </ol> | <ol style="list-style-type: none"> <li>1. Check inspection report</li> <li>2. Check the Contractor's working method</li> <li>3. Discuss with the ET and the Contractor on possible remedial measures</li> <li>4. Advise the ER on effectiveness of proposed remedial measures</li> </ol>      | <ol style="list-style-type: none"> <li>1. Notify the Contractor</li> <li>2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented</li> <li>3. Supervise implementation of remedial measures.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Identify Source and investigate the non-conformity</li> <li>2. Implement remedial measures</li> <li>3. Amend working methods agreed with the ER as appropriate</li> <li>4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by the ER until the non-conformity is abated.</li> </ol> |

---

---

**APPENDIX G  
WASTE GENERATION IN THE  
REPORTING MONTH**

---

---

Name of Contractor: Penta-Ocean Construction Co. Ltd.  
Waste Flow Table for Year 2017

| Month                  | Actual Quantities of Inert C&D Materials Generated Monthly |                          |                          |                          |                                      |                              | Actual Quantities of C&D Wastes Generated Monthly |                            |             |                |                             |
|------------------------|--|--------------------------|--------------------------|--------------------------|--------------------------------------|------------------------------|---|----------------------------|-------------|----------------|-----------------------------|
|                        | Total Quantity Generated                                   | Broken Concrete          | Reused in the Contract   | Reused in other Projects | Disposed as Public Fill (See Note 1) | Disposed as Sorting Facility | Metals  | Paper/ cardboard packaging | Plastics    | Chemical Waste | Others, e.g. general refuse |
|                        | (in '000m <sup>3</sup> )                                   | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> ) | (in '000m <sup>3</sup> )             | (in '000m <sup>3</sup> )     | (in '000 kg)                                      | (in '000kg)                | (in '000kg) | (in '000kg)    | (in '000m <sup>3</sup> )    |
| Jan-17                 | 0.2040   | 0                        | 0                        | 0                        | 0.2040                               | 0                            | 0   | 0                          | 0           | 0.0660         |                             |
| Feb-17                 | 0.5803   | 0                        | 0                        | 0                        | 0.5650                               | 0.0153                       | 0   | 0                          | 0           | 0.1602         |                             |
| Mar-17                 | 0.2185   | 0                        | 0                        | 0                        | 0.2185                               | 0                            | 0   | 0                          | 0           | 0.0610         |                             |
| Apr-17                 | 0.2893   | 0                        | 0                        | 0                        | 0.2893                               | 0                            | 0   | 0                          | 0           | 0.0543         |                             |
| May-17<br>(See Note 2) | 0.4862   | 0                        | 0                        | 0                        | 0.4862                               | 0                            | 0   | 0                          | 0           | 0.0488         |                             |
| Jun-17                 |  |                          |                          |                          |                                      |                              |   |                            |             |                |                             |
| Sub-total              | 1.7783   | 0                        | 0                        | 0                        | 1.7630                               | 0                            | 0   | 0                          | 0           | 0.3903         |                             |
| Jul-17                 |  |                          |                          |                          |                                      |                              |   |                            |             |                |                             |
| Aug-17                 |  |                          |                          |                          |                                      |                              |   |                            |             |                |                             |
| Sep-17                 |  |                          |                          |                          |                                      |                              |   |                            |             |                |                             |
| Oct-17                 |  |                          |                          |                          |                                      |                              |   |                            |             |                |                             |
| Nov-17                 |  |                          |                          |                          |                                      |                              |   |                            |             |                |                             |
| Dec-17                 |  |                          |                          |                          |                                      |                              |   |                            |             |                |                             |
| <b>Total</b>           | <b>1.7783</b>  | <b>0</b>                 | <b>0</b>                 | <b>0</b>                 | <b>1.7630</b>                        | <b>0.0153</b>                | <b>0</b>  | <b>0</b>                   | <b>0</b>    | <b>0.3903</b>  |                             |

Note: (1) Inert C&D materials include excavated soil and rock. 292.2 m<sup>3</sup> and 194.2 m<sup>3</sup> of inert C&D materials were delivered to Tuen Mun Area 38 Fill Bank and Tseung Kwan O Area 137 Fill Bank respectively during the reporting month.

Note: (2) The cut-off date of waste flow table in reporting month was 31 May 2017.

---

---

**APPENDIX H  
LOG AND CUMULATIVE SUMMARY  
TABLE FOR COMPLAINTS,  
NOTIFICATIONS OF SUMMONS AND  
SUCCESSFUL PROSECUTIONS**

---

---

**Appendix H - Log and Cumulative Summary Table for Complaints, Notifications of Summons and Successful Prosecutions****Reporting Month:** May 2017**Complaint Log**

| Log Ref. | Date/Location | Complainant/<br>Date of Contact | Details of Complaint | Investigation/ Mitigation Action | Status |
|----------|---------------|---------------------------------|----------------------|----------------------------------|--------|
| --       | --            | --                              | --                   | --                               | --     |

**Log for Notifications of Summons**

| Log Ref. | Date/Location | Subject | Status | Total no. Received in this reporting month | Total no. Received since project commencement |
|----------|---------------|---------|--------|--|---|
| --       | --            | --      | --     | --   | --  |

**Log for Successful Prosecutions**

| Log Ref. | Date/Location | Subject | Status | Total no. Received in this reporting month | Total no. Received since the commencement of the project |
|----------|---------------|---------|--------|--|--|
| --       | --            | --      | --     | --   | --   |



**Cumulative Summary Table for Complaints, Notifications of Summons and Successful Prosecution**

| <b>Reporting Month</b> | <b>Number of Complaints</b> | <b>Number of Notifications of Summons</b> | <b>Number of Successful Prosecution</b> |
|------------------------|-----------------------------|---|---|
| October 2013           | 0                           | 0   | 0                                       |
| November 2013          | 0                           | 0   | 0                                       |
| December 2013          | 0                           | 0   | 0                                       |
| January 2014           | 0                           | 0   | 0                                       |
| February 2014          | 0                           | 0   | 0                                       |
| March 2014             | 0                           | 0   | 0                                       |
| April 2014             | 0                           | 0   | 0                                       |
| May 2014               | 0                           | 0   | 0                                       |
| June 2014              | 0                           | 0   | 0                                       |
| July 2014              | 0                           | 0   | 0                                       |
| August 2014            | 0                           | 0   | 0                                       |
| September 2014         | 0                           | 0   | 0                                       |
| October 2014           | 0                           | 0   | 0                                       |
| November 2014          | 1                           | 0   | 0                                       |
| December 2014          | 0                           | 0   | 0                                       |

| <b>Reporting Month</b> | <b>Number of Complaints</b> | <b>Number of Notifications of Summons</b> | <b>Number of Successful Prosecution</b> |
|------------------------|-----------------------------|---|---|
| January 2015           | 0                           | 0   | 0                                       |
| February 2015          | 0                           | 0   | 0                                       |
| March 2015             | 0                           | 0   | 0                                       |
| April 2015             | 0                           | 0   | 0                                       |
| May 2015               | 0                           | 0   | 0                                       |
| June 2015              | 0                           | 0   | 0                                       |
| July 2015              | 0                           | 0   | 0                                       |
| August 2015            | 0                           | 0   | 0                                       |
| September 2015         | 0                           | 0   | 0                                       |
| October 2015           | 0                           | 0   | 0                                       |
| November 2015          | 0                           | 0   | 0                                       |
| December 2015          | 0                           | 0   | 0                                       |
| January 2016           | 0                           | 0   | 0                                       |
| February 2016          | 0                           | 0   | 0                                       |
| March 2016             | 0                           | 0   | 0                                       |
| April 2016             | 0                           | 0   | 0                                       |

| <b>Reporting Month</b> | <b>Number of Complaints</b> | <b>Number of Notifications of Summons</b> | <b>Number of Successful Prosecution</b> |
|------------------------|-----------------------------|---|---|
| May 2016               | 0                           | 0   | 0                                       |
| June 2016              | 0                           | 0   | 0                                       |
| July 2016              | 0                           | 0   | 0                                       |
| August 2016            | 0                           | 0   | 0                                       |
| September 2016         | 0                           | 0   | 0                                       |
| October 2016           | 0                           | 0   | 0                                       |
| November 2016          | 0                           | 0   | 0                                       |
| December 2016          | 0                           | 0   | 0                                       |
| January 2017           | 0                           | 0   | 0                                       |
| February 2017          | 0                           | 0   | 0                                       |
| March 2017             | 0                           | 0   | 0                                       |
| April 2017             | 0                           | 0   | 0                                       |
| May 2017               | 0                           | 0   | 0                                       |
| Total                  | 1                           | 0   | 0                                       |