

Entrusted Portion of Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling Stage 2

Quarterly EM&A Report

May 2014 to July 2014

Submitted to

Environmental Protection Department

Prepared By

Meinhardt Infrastructure and Environment Ltd

Meinhardt Infrastructure and Environment Limited

**Entrusted Portion of Widening of Tolo
Highway / Fanling Highway between Island
House Interchange and Fanling Stage 2**

Quarterly EM&A Report

(May 2014 to July 2014)

Certified by: Fredrick Leong 

Position: Environmental Team Leader

Date: 13 August 2014



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183 Queen's Road East
Wanchai, Hong Kong

13 August 2014
By Fax (2805 5028) & Post

Dear Sir,

Attn: Mr. James Penny

**EM&A for Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2 (between Tai Hang to Wo Hop Shek Interchange) – Entrusted Works
Environmental Permit No. EP-324/2008/B
Quarterly EM&A Summary Report for May 2014 to July 2014 for the portion of Stage 2 works entrusted to CEDD under Contract No. CV/2012/09**

We refer to the Quarterly EM&A Summary Report for May 2014 to July 2014 for the Project received on 11 and 13 May 2014 submitted by ET via email. We confirm we have no comment.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Terence Kong
Independent Environmental Checker

c.c. HyD – Mr. Chung Lok Chin (Fax: 2714 5198) / Ms. Jackei Yin (Fax: 2761 4864)
CEDD/BCP – Mr. Chris Wong / Mr. Desmond Lam (Fax: 2714 0103)
AECOM – Mr. Alan Lee (Fax: 3922 9797)
Meinhardt Infrastructure and Environment Limited – Mr. Fredrick Leong (Fax: 2540 1580)

| Date | Revision | Prepared By | Checked By | Approved By |
|----------------|----------|-------------------------|----------------|----------------|
| 13 August 2014 | 0 | Ivan TING Cindy KWOK | Fredrick LEONG | Helen COCHRANE |

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EXECUTIVE SUMMARY

This report documents the findings of EM&A works conducted in the quarter between 1 May 2014 and 31 July 2014.

The impact stage EM&A programme for the Project includes air quality and noise monitoring.

The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the environmental monitoring and audit works that adequate environmental mitigation measures have been implemented by the civil works contractors where appropriate in the reporting quarter.

In the reporting quarter, a total of 2 exceedance events were recorded. The exceedances were concluded not to be project related. No necessary remedial actions have been taken.

No environmental non-compliance was noted. No environmental complaint was received. No environmental related prosecution or notification of summons was received in the reporting quarter.

The box culvert works have been partially completed by the end of March 2014 except the last construction activity, i.e. installation of a base slab at Box Culvert ID4. Due to the loading requirement of a fresh water main under the box culvert, installation of the base slab at Box Culvert ID4 has to be scheduled in November 2015 after the utilities diversions were completed, and therefore the construction works were temporary suspended. The 4-week post construction water quality monitoring will be conducted after the installation of the base slab finishes, hence the completion of the box culvert works.

As such, impact monitoring for water quality was not necessary in the reporting quarter due to temporary suspension of the construction works and is anticipated to be resumed in November 2015 during the course of remaining box culvert works.

1 INTRODUCTION AND PROJECT INFORMATION

1.1 Background

1.1.1 The Project is a Designated Project under the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). An Environmental Impact Assessment (EIA) Report together with an Environmental Monitoring and Audit (EM&A) Manual were approved on 14 July 2000 (Register Number: EIA-043/2000). The Project is governed by an Environmental Permit (EP) (EP-324/2008) which was granted on 23 December 2008. A variation of EP (VEP) was applied and the VEP (EP-324/2008/A) was subsequently granted on 31 January 2012. An additional VEP has been applied on 24 February 2014 and the VEP (EP-324/2008/B) was subsequently granted on 17 March 2014.

1.1.2 Chun Wo Construction & Engineering Co Ltd (Chun Wo) was commissioned by the Civil Engineering and Development Department (CEDD) as the Civil Contractor for the Entrusted Portion of Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2. Meinhardt Infrastructure & Environment Ltd (MIEL) has been appointed by Chun Wo as the Environmental Team (ET) to fulfill the corresponding EM&A requirements pursuant to Environmental Permit No. EP-324/2008/B in accordance with the Updated EM&A Manual (dated October 2013) for Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2. The EM&A programme commenced in 5 November 2013.

1.1.3 **Figure 1** shows the works areas for the Entrusted Portion of Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling Stage 2.

1.2 Construction Programme and Activities

1.2.1 The construction programme is presented in **Appendix A**. The major construction activities undertaken in the reporting quarter are summarized below:

- Cable detection and trial trenches;
- Tree Felling Works;
- Pre-drilling works and piling works;
- Bored pile and bored pile wall construction;
- Construction of haul road and temporary soil platform for geotechnical works;
- Slope upgrading works;
- Noise barrier installation;
- Mini pile construction;
- Extension of box culvert ID04, ID05 and BC01;
- Water Pipe Installation;
- Diversion of DN1400;
- Filling Works;

- Laying diameter 1050mm storm drains;
- Pile Cap;
- Piling works for Bridge E;
- Receiving & Jacking Pit;
- Retaining Structure;
- Road works at Fanling Highway;
- Sewer works; and
- Soil nail construction.

1.3 Project Organisation

1.3.1 The project organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project, together with the general enquiry hotline, are summarised in **Table 1.1**.

Table 1.1 Contact Information of Key Personnel

| Party | Role | Position | Name | Telephone | Fax |
|-----------------|---|-----------------------------------|--------------------|-----------|-----------|
| AECOM | Engineer's Representative | Senior Resident Engineer | Mr. Alan Lee | 2171 3303 | 2171 3498 |
| | | Resident Engineer (Environmental) | Mr. Perry Yam | 2171 3350 | |
| Mott MacDonald | Independent Environmental Checker (IEC) | IEC | Mr. Terence Kong | 2828 5919 | 2827 1823 |
| Chun Wo | Contractor | Site Agent | Mr. Daniel Ho | 2638 6144 | 2638 7077 |
| | | Senior Environmental Officer | Mr. Sam Lam | 2638 6168 | |
| | | Environmental Officer | Mr. Victor Huang | 2638 6181 | |
| Meinhardt | Environmental Team (ET) | ET Leader | Mr. Fredrick Leong | 2859 1739 | 2540 1580 |
| Enquiry Hotline | General Enquiry | -- | Ms Helena Mak | 6355 1731 | -- |

1.4 Purpose of the Report

1.4.1 This is the Quarterly EM&A Report which summaries the impact monitoring results and audit findings for the Project during the reporting period between 1 May 2014 and 31 July 2014.

2 SUMMARY OF EM&A REQUIREMENTS

2.1 Monitoring Requirements

2.1.1 In accordance with the Updated EM&A Manual, environmental parameters including Air Quality and Noise have been monitored. The specific parameters, monitoring frequency and the respective Action and Limit Levels are given in **Table 2.1** and the location of the monitoring station is shown in the **Figure 2**.

Table 2.1 Monitoring Parameter

| Parameter | Unit | Action Level | Limit Level | Frequency |
|---------------------------|-------------------|---|-------------|--------------------------|
| Air Quality | | | | |
| 1 hour TSP | µg/m ³ | 292.7 | 500 | Three times every 6 days |
| 24 hour TSP | µg/m ³ | 170.3 | 260 | Once every 6 days |
| Construction Noise | | | | |
| Leq 30min | dB(A) | When one documented valid complaint is received | 75 | Once every Week |

Temporary Suspension of Box Culvert Works and Water Quality Monitoring

2.1.2 The box culvert works have been partially completed by the end of March 2014 except the last construction activity, i.e. installation of a base slab at Box Culvert ID4. Due to the loading requirement of a fresh water main under the box culvert, installation of the base slab at Box Culvert ID4 has to be scheduled in November 2015 after the utilities diversions were completed, and therefore the construction works are temporary suspended. The 4-week post construction water quality monitoring will be conducted after the installation of the base slab finishes, hence the completion of the box culvert works.

2.1.3 As such, impact monitoring for water quality was not necessary in the reporting quarter due to temporary suspension of the construction works and is anticipated to be resumed in November 2015 during the course of remaining box culvert works.

2.2 Environmental Mitigation Measures

2.2.1 Environmental mitigation measures have been recommended in the EM&A Manual and are given in **Appendix C**. The implementation status for the reporting quarter is also given in the Appendix.

3 SUMMARY OF EM&A Monitoring Data

3.1 Monitoring Data

3.1.1 Monitoring has been conducted in accordance with the specification in the EM&A Manual in the reporting quarter. Meteorological data for the reporting quarter have been extracted from Hong Kong Observatory and are given in **Appendix D**. Monitoring data with graphical presentation for the reporting quarter have been given in **Appendix E**. A summary on the monitoring results has also been given in **Table 3.1**.

Table 3.1 Summary of Monitoring Data in the Reporting Quarter

| Monitoring Location | Minimum | Maximum | Average |
|-------------------------------------|-----------------------|------------------------|------------------------|
| Air Quality | | | |
| 1 hour Total Suspended Particulate | | | |
| SR77 | 34.6µg/m ³ | 178.9µg/m ³ | 96.6µg/m ³ |
| 24 hour Total Suspended Particulate | | | |
| SR77 | 14.7µg/m ³ | 402.1µg/m ³ | 102.8µg/m ³ |
| Construction Noise | | | |
| SR77 | 58.5dB(A) | 64.0dB(A) | 60.0dB(A) |

3.1.2 The maximum recorded 24-hour Total Suspended Particulate in the reporting quarter is 402.1µg/m³ which is higher than the limit level of 260µg/m³. However, respective investigation has been conducted and concluded the exceedances would not be project related.

3.2 Summary of Monitoring Exceedances

3.2.1 The number of exceedances event recorded in the reporting quarter is summarized in **Table 3.2**.

3.2.2 Investigations for the exceedances events in the reporting quarter have been completed. The exceedances were considered not to be related to the construction works. The respective investigation reports have been presented in the respective Monthly EM&A Reports.

Table 3.2 Summary of Exceedance Events in the Reporting Quarter

| Parameter | | Number of Exceedances Events | Number of Project Related Exceedance Events |
|-------------------------------------|--------------|------------------------------|---|
| Air Quality | | | |
| 1 hour Total Suspended Particulate | Action Level | 0 | 0 |
| | Limit Level | 0 | 0 |
| 24 hour Total Suspended Particulate | Action Level | 1 | 0 |
| | Limit Level | 1 | 0 |
| Construction Noise | | | |
| Leq 30min | Action Level | 0 | 0 |
| | Limit Level | 0 | 0 |

3.2.3 The Contractor has been reminded to strengthen the mitigation measures including:

- Water spraying should be properly implemented whenever necessary for the unpaved roads, access roads and construction areas;
- All vehicles should be washed to remove any dusty materials before leaving the construction site;
- Wheel washing facilities should be properly maintained to ensure proper functioning;
- Silty effluent should be treated/desilted before discharged. Untreated effluent should be prevented from entering public drain channel;
- Channels or earth bunds or sand bag barriers should be provided on site to prevent surface runoff and stormwater should be properly directed to silt removal facilities;

- Temporarily exposed slopes and stockpiles of dusty materials should be covered by tarpaulin or similar fabric during rainy seasons; and
- All chemicals stored on site should be provided with drip trays.

4 WASTE MANAGEMENT

- 4.1.1 The Contractor has registered as a chemical waste producer of the Project. The C&D materials and waste sorting were carried out on-site. Receptacles were provided for general refuse collection.
- 4.1.2 During the reporting quarter, a total of 9,492m³ of excavated material has been generated. 7,182m³ of inert C&D materials was disposed of at public fill to Tuen Mun Area 38, while 1,369m³ of inert C&D materials was reused on site. 540m³ of general refuse was disposed of at North East New Territories (NENT) Landfill. 5m³ of plastics and no paper/cardboard packaging and metals were collected by recycling contractor in the reporting quarter. 21m³ of chemical waste was collected by licensed contractor in the reporting quarter. Details of the waste management data are presented in **Appendix F**.

5 ENVIRONMENTAL NON-CONFORMANCE

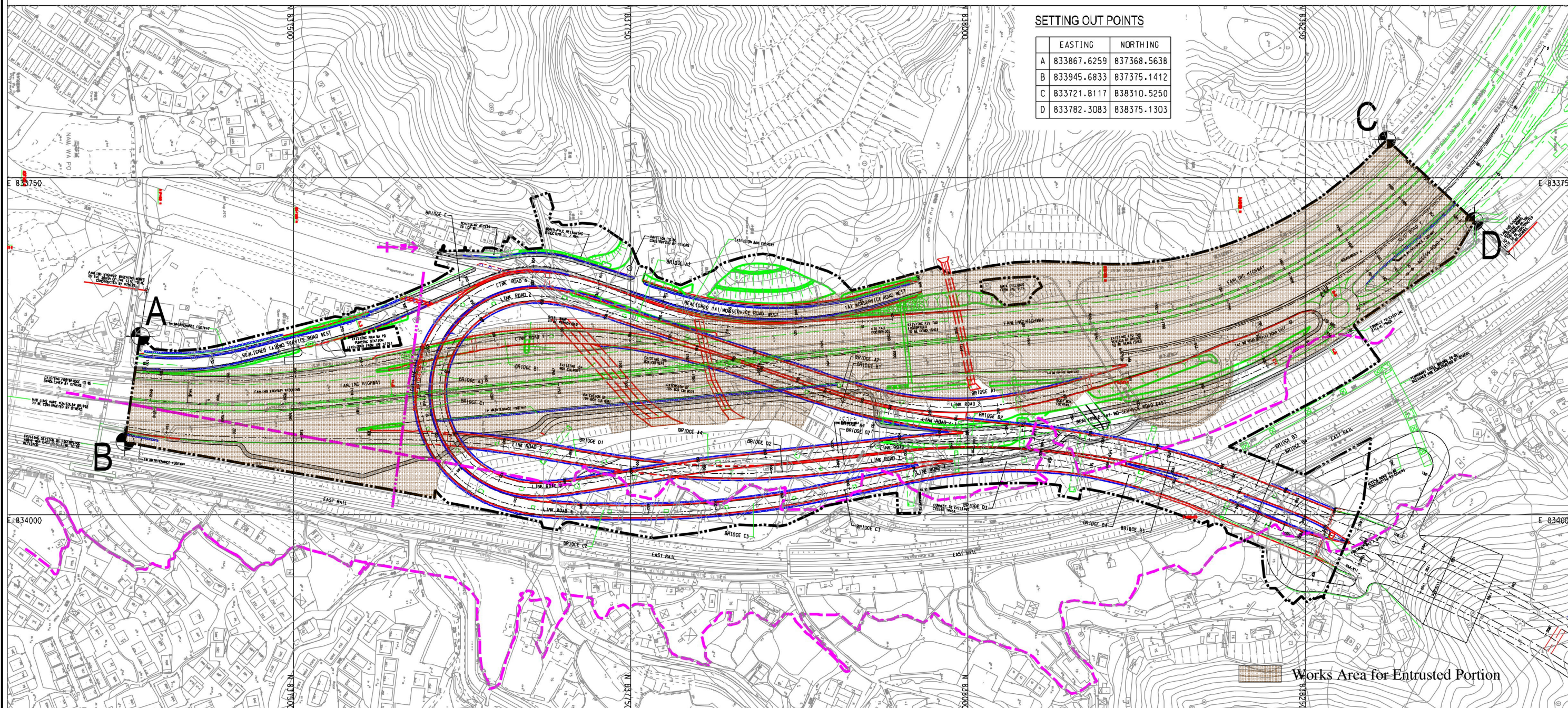
- 5.1.1 No environmental non-compliance was recorded in the reporting quarter. No environmental complaints were received in the reporting quarter. Investigations for the exceedances have been conducted. No environmental related prosecution or notification of summons was received in the reporting quarter. The summary for the non-compliance, complaints and prosecutions is provided in **Appendix G**.

6 CONCLUSION, COMMENTS AND RECOMMENDATIONS

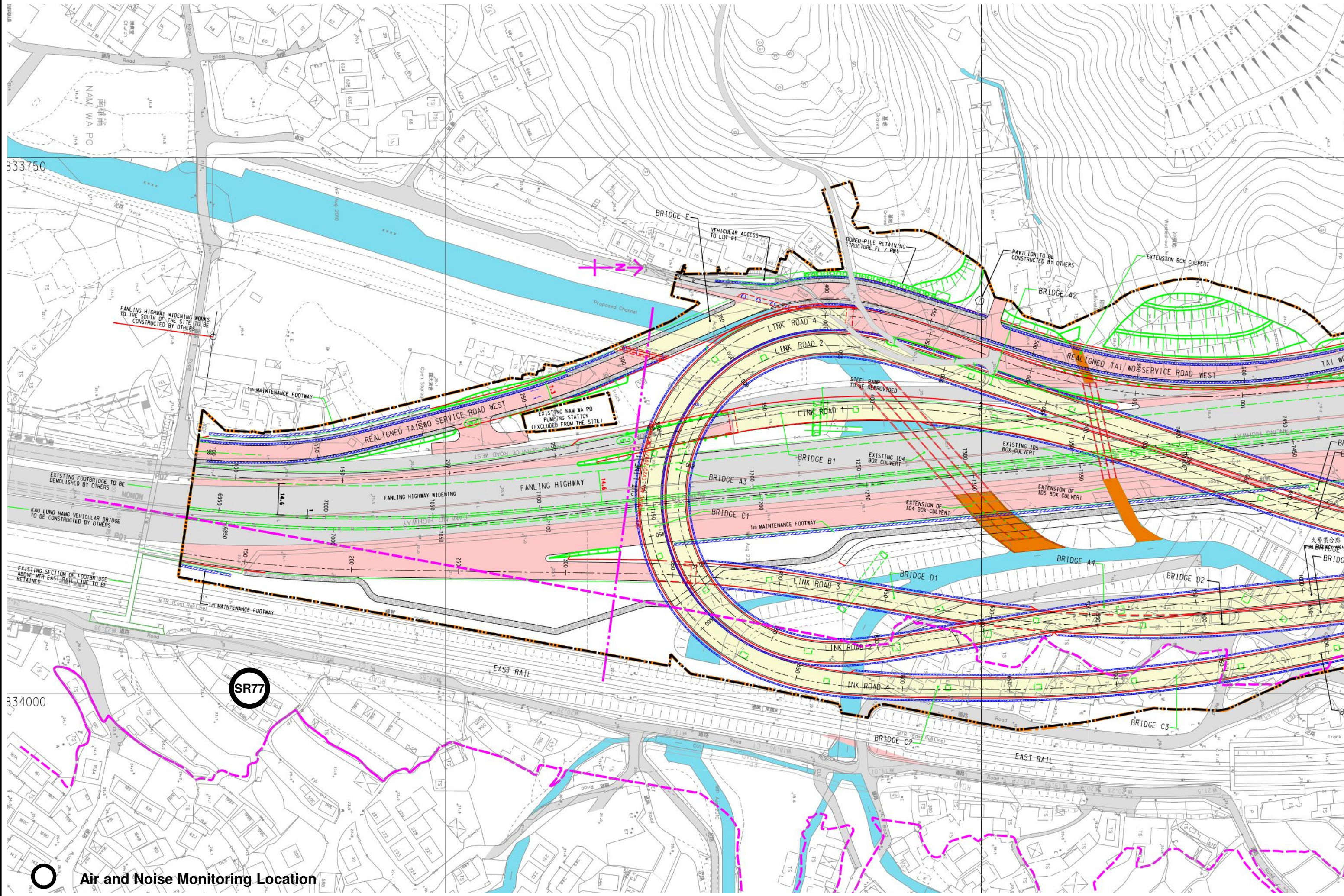
- 6.1.1 The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the environmental monitoring and audit works that adequate environmental mitigation measures have been implemented by the civil works contractors where appropriate in the reporting quarter.
- 6.1.2 In the reporting quarter, a total of 2 exceedance events have been recorded. No exceedances were concluded to be project related. No necessary remedial actions have been taken.
- 6.1.3 No environmental non-compliances were noted. No environmental complaint was received. No environmental related prosecution or notification of summons were received in the reporting quarter.
- 6.1.4 The box culvert works have been partially completed by the end of March 2014 except the last construction activity, i.e. installation of a base slab at Box Culvert ID4. Due to the loading requirement of a fresh water main under the box culvert, installation of the base slab at Box Culvert ID4 has to be scheduled in November 2015 after the utilities diversions were completed, and therefore the construction works are temporary suspended. The 4-week post construction water quality monitoring will be conducted after the installation of the base slab finishes, hence the completion of the box culvert works.

6.1.5 As such, impact monitoring for water quality was not necessary in the reporting quarter due to temporary suspension of the construction works and is anticipated to be resumed in November 2015 during the course of remaining box culvert works.

Figure

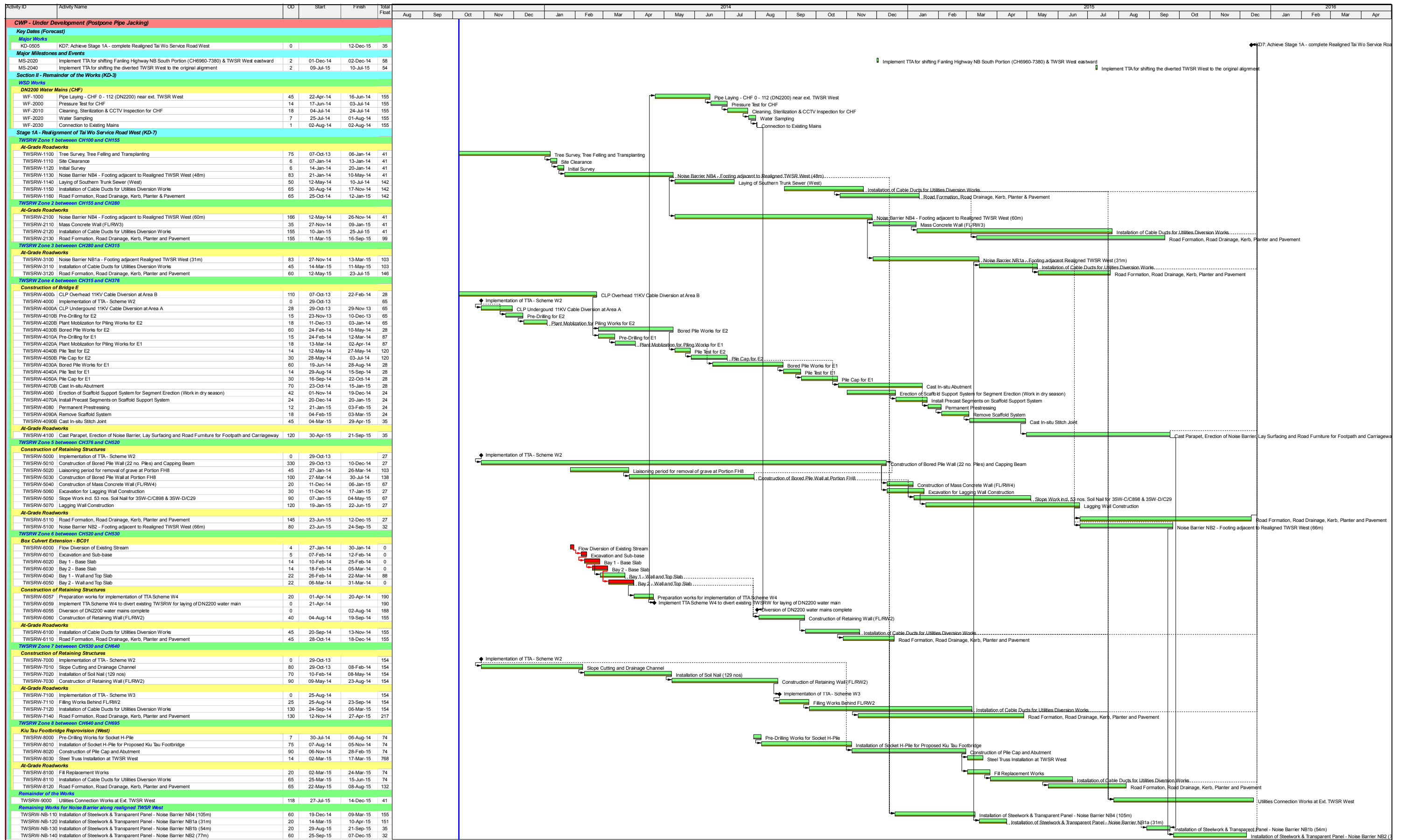


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Appendix A

Construction Programme



- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Milestone
- Project Baseline Bar

CEDD Contract No. CV/2012/09

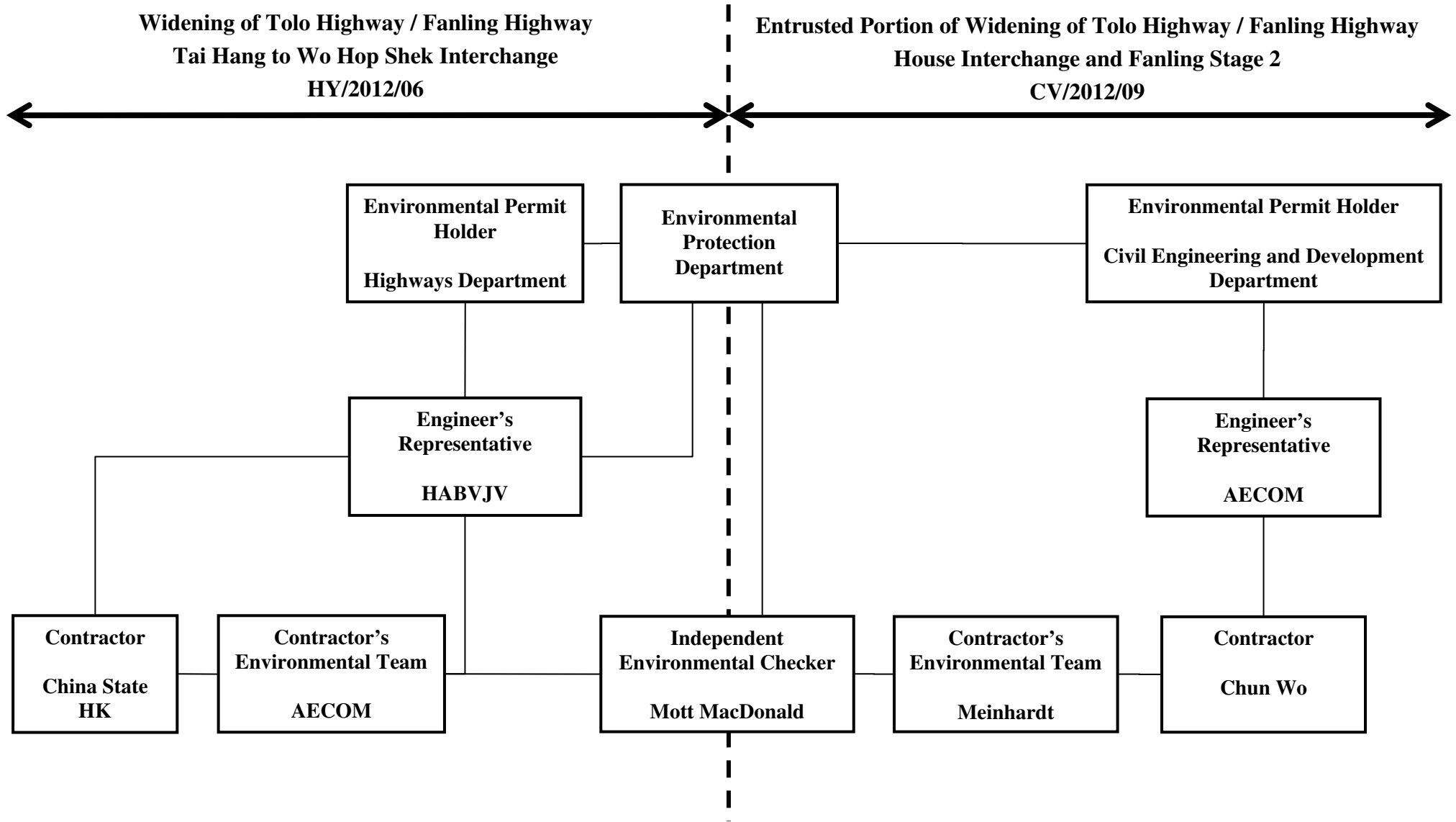
Liantang / Heung Yuen Wai BCP - Site Formation & Infrastructure Works, Contract 3

Works Sequence for TWSRW

| Date | Revision | Checked | Approved |
|-----------|----------|---------|----------|
| 11-Sep-13 | | SL | |
| | | | |
| | | | |
| | | | |
| | | | |

Appendix B

Project Organization Structure



Appendix C Implementation Schedule of Environmental Mitigation Measures (EMIS)

| Impact | Environmental Protection Measures | Timing | Responsibility | Implementation Status # |
|-----------------------------------|--|---------------------|----------------|--|
| Air Quality | | | | |
| Air Quality during Construction | <ul style="list-style-type: none"> Restricting heights from which materials are dropped, as far as practicable to minimize the fugitive dust arising from unloading/loading. All stockpiles of excavated materials or spoil of more than 50m³ shall be enclosed, covered or dampened during dry or windy conditions. Effective water sprays shall be used to control potential dust emission sources such as unpaved haul roads and active construction areas. All spraying of materials and surfaces shall avoid excessive water usage. Vehicles that have the potential to create dust while transporting materials shall be covered, with the cover properly secured and extended over the edges of the side and tail boards. Materials shall be dampened, if necessary, before transportation. Travelling speeds shall be controlled to reduce traffic induced dust dispersion and re-suspension within the site from the operating haul trucks. Vehicle washing facilities shall be provided to minimise the quantity of material deposited on public roads. | During Construction | Contractor | ✓ Obs ✓ ✓ ✓ ✓ ✓ Obs and Rem |
| Air Quality during Operation | Not required | N/A | N/A | N/A |
| Noise | | | | |
| Noise during Construction | <ul style="list-style-type: none"> Use of silenced plant or plant equipped with mufflers or dampers in substitute of ordinary plant. Reduce the number of equipment and their percentage on-time. | During Construction | Contractor | ✓ ✓ |
| Noise during Operation | Not required | N/A | N/A | N/A |
| Water Quality | | | | |
| Water Quality during Construction | <u>Road Widening Works, Earthworks and Culvert Extension Works</u> <ul style="list-style-type: none"> Wastewater generated from any concrete batching washdown of equipment or similar activities should be discharged into foul sewers, after the removal of settleable solids, and pH adjustment as necessary. All sewage discharges from the study area should meet the TM standards and approval from EPD through the licensing process is required. | During Construction | Contractor | ✓ |

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

| Impact | Environmental Protection Measures | Timing | Responsibility | Implementation Status # |
|--------------------------------------|--|--|--|---|
| | <ul style="list-style-type: none"> • Sand traps, oil interceptors and other pollution prevention installations should be provided, properly cleaned and maintained. • Runoff from exposed working areas, unfinished slopes and from unlined temporary channels should be directed to stilling basins and/or silt traps before discharging to the drainage outfalls. • Regular inspections of stilling basins and/or silt traps is required to ensure that sediment is not conveyed into the existing drainage system. • Open stockpiles should be covered with a tarpaulin cover. • During the wet season, any exposed top soils should be covered with a tarpaulin, shotcreted or hydroseeded. • Sand and silt from wash-water from vehicle washing should be settled out before discharging into storm drains. • Fuels should be stored in bunded areas such that spillage can be easily collected. | | | ✓ Rem ✓ ✓ Rem ✓ Obs |
| Water Quality during Operation | Not required | N/A | N/A | N/A |
| Waste Management | | | | |
| Waste Management during Construction | <u>General Waste</u> <ul style="list-style-type: none"> • Transport of wastes off site as soon as possible. • Maintenance of accurate waste records. • Minimisation of waste generation for disposal (via reduction/recycling/re-use). • No on-site burning will be permitted. • Use of re-useable metal hoardings/signboards. <u>Vegetation from site clearance</u> <ul style="list-style-type: none"> • Segregation of materials to facilitate disposal. • Mulching to reduce bulk and where possible review opportunities for the possible beneficial use within landscaping areas. | During Construction During Construction | Contractor Contractor | ✓ ✓ ✓ ✓ ✓ ✓ ✓ |

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

| Impact | Environmental Protection Measures | Timing | Responsibility | Implementation Status # |
|--|---|---------------------|----------------|-------------------------|
| | <u>Demolition Wastes</u> | During Construction | Contractor | ✓ |
| | <ul style="list-style-type: none"> • Segregation of materials to facilitate disposal. • Appropriate stockpile management. | | | ✓ |
| | <u>Excavated Materials</u> | During Construction | Contractor | ✓ |
| | <ul style="list-style-type: none"> • Segregation of materials to facilitate disposal / reuse. | | | ✓ |
| | <ul style="list-style-type: none"> • Appropriate stockpile management. | | | ✓ |
| | <ul style="list-style-type: none"> • Re-use of excavated material on or off site (where possible). | | | ✓ |
| | <ul style="list-style-type: none"> • Special handling and disposal procedures in the event that contaminated materials are excavated. | | | N/A |
| | <u>Construction Wastes</u> | During Construction | Contractor | ✓ |
| | <ul style="list-style-type: none"> • Segregation of materials to facilitate recycling/reuse (within designated area in appropriate containers/stockpiles). | | | ✓ |
| | <ul style="list-style-type: none"> • Appropriate stockpile management. | | | ✓ |
| <ul style="list-style-type: none"> • Planning to reduce over ordering and waste generation. | | | ✓ | |
| <ul style="list-style-type: none"> • Recycling and re-use of materials where possible (e.g. metal, wood from formwork) | | | ✓ | |
| <ul style="list-style-type: none"> • For material which cannot be re-used/recycled, collection should be carried out by an approved waste contractor for landfill disposal. | | | ✓ | |
| <u>Bentonite Slurries</u> | During Construction | Contractor | N/A | |
| <ul style="list-style-type: none"> • Bentonite slurries should be reused as far as possible. | | | N/A | |
| <ul style="list-style-type: none"> • Disposal in accordance with Practice Note For Professional Persons ProPECC PN 1/94. | | | N/A | |
| <u>Chemical Wastes</u> | During Construction | Contractor | Obs | |
| <ul style="list-style-type: none"> • Storage within locked, covered and bunded area. | | | ✓ | |
| <ul style="list-style-type: none"> • The storage area shall not be located adjacent to sensitive receivers e.g. drains. | | | ✓ | |

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

| Impact | Environmental Protection Measures | Timing | Responsibility | Implementation Status # |
|-----------------------------------|---|---------------------|----------------|--|
| | <ul style="list-style-type: none"> Minimise waste production and recycle oils/solvents where possible. A spill response procedure shall be in place and absorption material available for minor spillages. Use appropriate and labelled containers. Educate site workers on site cleanliness/waste management procedures. If chemical wastes are to be generated, the contractor must register with EPD as a chemical waste producer. The chemical wastes shall be collected by a licensed chemical waste collector. <p><u>Municipal Wastes</u></p> <ul style="list-style-type: none"> Waste shall be stored within a temporary refuse collection facility, in appropriate containers prior to collection and disposal. Regular, daily collections are required by an approved waste collector. | During Construction | Contractor | ✓ ✓ ✓ Obs and Rem ✓ ✓ Obs ✓ |
| Waste Management during Operation | Not required. | N/A | N/A | N/A |
| Ecology | | | | |
| Ecology during Construction | <p><u>Accurate Delineation of Works Area</u></p> <ul style="list-style-type: none"> Boundaries of proposed works areas shall be clearly identified and separated from external areas by a physical barrier to prevent encroachment of adjacent habitats. Individual trees which fall within the works areas but which work plans show do not require removal are to be retained and fenced off to maximise protection. <p><u>Dust generation</u></p> <p>There are a number of measures which shall be taken as specified in the Air Pollution Control (Construction Dust) Regulation on 'Dust Control Requirements, including the following key measures to be applied during construction:</p> <ul style="list-style-type: none"> vehicle washing facilities to be provided at every discernible or designated vehicle exit point; | During Construction | Contractor | ✓ ✓ Obs and Rem |

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

| Impact | Environmental Protection Measures | Timing | Responsibility | Implementation Status # |
|--|--|-----------------------------------|---|---|
| | <ul style="list-style-type: none"> • all temporary site access roads shall be sprayed with water to suppress dust as necessary; • all dusty materials should be sprayed with water immediately prior to any handling; and • all debris should be covered entirely by impervious sheeting or stored in a sheltered debris collection area. <p><u>Surface Run-off</u></p> <p>In general, mitigation measures shall be in accordance with ProPECC PN1/94 on 'Construction Site Drainage'. Key measures include:</p> <ul style="list-style-type: none"> • Bund and cover stockpiles to avoid run-off; • Channel any run-off through a system of oil, grease and sediment / silt traps and reuse water on site where ever practical; • All vehicle maintenance to be undertaken within a bunded area; and • Maximise vegetation retention on-site to maximise absorption (minimise transport). | During Construction | Contractor | ✓ ✓ ✓ Rem and Obs ✓ N/A ✓ |
| Ecology during Operation | <ul style="list-style-type: none"> • To conduct compensatory ecological planting as specified in the latest landscape plans approved by EPD (Clause 2.6 of the Environmental Permit refers). | During Construction and operation | Contractor (during construction) / LCS D* (during operation) (Note: * The division of vegetation planting and maintenance responsibilities shall follow the guidelines stipulated in ETWB TCW No. 2/2004.) | N/A |
| Landscape and Visual | | | | |
| Landscape and Visual during Construction | <p><u>Preservation of Existing Vegetation</u></p> <ul style="list-style-type: none"> • Trees identified for retention within the project limit would be protected during the works • The tree transplanting and planting works shall be implemented by approved Landscape Contractors | During Construction | Contractor | ✓ ✓ |

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

| Impact | Environmental Protection Measures | Timing | Responsibility | Implementation Status # |
|---------------------------------------|--|---------------------|----------------|-------------------------|
| | <p><u>Temporary Works Areas</u></p> <ul style="list-style-type: none"> Where feasible the works areas would be screened using hoarding and existing vegetation would be retained where possible to reduce the landscape and visual impacts arising from the construction activity. The landscape of these works areas would be restored following the completion of the construction phase. <p><u>Hoarding</u></p> <ul style="list-style-type: none"> A hoarding would be erected where practicable in the most visually sensitive locations to screen the temporary construction works from the local VSRs. <p><u>Top Soils</u></p> <ul style="list-style-type: none"> The works will result in disturbance to extensive areas of topsoil. Topsoil worthy of retention should be stockpiled for use following completion of the civil engineering works. It should either be temporarily vegetated with hydroseeded grass or turned over on a regular basis. <p><u>Protection of Important Landscape Features</u></p> <ul style="list-style-type: none"> Important features such as temples, Island House and kilns within the study area, although remote from the proposed works retained and adequately protected. | During Construction | Contractor | ✓ |
| | | During Construction | Contractor | ✓ |
| | | During Construction | Contractor | N/A |
| | | During Construction | Contractor | N/A |
| Landscape and Visual during Operation | Not required. | N/A | N/A | N/A |

Notes (#): ✓ – Compliance; Rem – Reminder; Obs – Observation; N/C – Non Compliance; N/A – Not Applicable;

Appendix D

Meteorological Data Extracted from Hong Kong Observatory

Climatological Information Services > Extracts of Climatological Data > Extract of Automatic Weather Station > Station: Sheung Shui Automatic Weather Station, Year: 2014, Month: May

Extract of Meteorological Observations for Sheung Shui Automatic Weather Station, May 2014 (Table 1)

| Date | Mean Pressure at M.S.L. (hPa) | Air Temperature | | | Mean Dew Point Temperature (deg C) | Relative Humidity | | |
|----------------|-------------------------------|-----------------|--------------|--------------|------------------------------------|-------------------|----------|----------|
| | | Max. (deg C) | Mean (deg C) | Min. (deg C) | | Max. (%) | Mean (%) | Min. (%) |
| May 1 | 1012.6 | 25.9 | 22.9 | 20.8 | 19.9 | 92 | 83 | 73 |
| May 2 | 1014.7 | 30.2 | 25.0 | 22.4 | 19.9 | 86 | 74 | 55 |
| May 3 | 1014.3 | 30.0 | 25.5 | 22.9 | 18.6 | 84 | 67 | 42 |
| May 4 | 1011.7 | 23.7 | 23.1 | 21.8 | 20.5 | 95 | 85 | 73 |
| May 5 | 1014.6 | 24.6 | 20.8 | 18.5 | 18.7 | 97 | 88 | 68 |
| May 6 | 1016.5 | 20.2 | 19.1 | 18.4 | 17.9 | 97 | 93 | 83 |
| May 7 | 1013.6 | 21.4 | 20.3 | 19.4 | 18.7 | 96 | 90 | 87 |
| May 8 | 1010.5 | 24.9 | 22.6 | 20.9 | 21.3 | 98 | 93 | 83 |
| May 9 | 1008.6 | 22.4 | 21.7 | 21.2 | 21.1 | 98 | 96 | 93 |
| May 10 | 1007.7 | 27.2 | 24.3 | 21.9 | 21.9 | 96 | 87 | 77 |
| May 11 | 1007.5 | 25.1 | 23.2 | 22.0 | 22.4 | 99 | 95 | 86 |
| May 12 | 1008.1 | 31.0 | 25.7 | 22.4 | 23.7 | 99 | 89 | 69 |
| May 13 | 1006.6 | 31.0 | 27.0 | 24.7 | 24.8 | 98 | 88 | 73 |
| May 14 | 1004.8 | 32.0 | 29.1 | 27.3 | 25.1 | 89 | 79 | 66 |
| May 15 | 1004.7 | 32.1 | 29.2 | 27.1 | 25.5 | 92 | 81 | 67 |
| May 16 | 1007.2 | 31.5 | 27.8 | 26.0 | 26.0 | 98 | 90 | 72 |
| May 17 | 1008.5 | 32.2 | 27.8 | 25.5 | 25.4 | 99 | 87 | 66 |
| May 18 | 1008.5 | 31.9 | 27.7 | 25.3 | 25.6 | 97 | 88 | 69 |
| May 19 | 1008.5 | 33.7 | 28.1 | 24.1 | 25.0 | 98 | 84 | 59 |
| May 20 | 1007.4 | 31.3 | 25.7 | 23.1 | 24.2 | 99 | 92 | 68 |
| May 21 | 1006.3 | 31.3 | 27.0 | 23.6 | 24.5 | 99 | 87 | 69 |
| May 22 | 1005.3 | 30.8 | 28.6 | 25.8 | 24.5 | 89 | 79 | 72 |
| May 23 | 1008.3 | 27.2 | 26.1 | 24.9 | 25.4 | 98 | 96 | 88 |
| May 24 | 1010.9 | 33.6 | 28.6 | 25.2 | 25.0 | 94 | 82 | 59 |
| May 25 | 1011.1 | 33.7 | 29.0 | 24.3 | 24.8 | 97 | 79 | 58 |
| May 26 | 1009.5 | 33.9 | 29.8 | 26.0 | 25.0 | 95 | 77 | 56 |
| May 27 | 1007.4 | 34.7 | 30.0 | 27.2 | 25.7 | 96 | 79 | 52 |
| May 28 | 1006.9 | 34.1 | 29.7 | 26.2 | 24.4 | 95 | 74 | 53 |
| May 29 | 1006.5 | 33.7 | 29.7 | 27.1 | 24.8 | 92 | 76 | 54 |
| May 30 | 1006.9 | 34.2 | 30.1 | 26.8 | 24.9 | 93 | 75 | 53 |
| May 31 | 1007.5 | 35.1 | 29.8 | 26.1 | 24.7 | 94 | 75 | 49 |
| Mean | 1009.1 | 29.8 | 26.3 | 23.8 | 23.2 | 95 | 84 | 67 |
| Maximum | 1016.5 | 35.1 | 30.1 | 27.3 | 26.0 | 99 | 96 | 93 |
| Minimum | 1004.7 | 20.2 | 19.1 | 18.4 | 17.9 | 84 | 67 | 42 |

Extract of Meteorological Observations for Sheung Shui Automatic Weather Station, May 2014 (Table 2)

| Date | Total Rainfall (mm) | Prevailing Wind Direction (degrees) | Mean Wind Speed (km/h) |
|----------------|---------------------|-------------------------------------|------------------------|
| May 1 | 0.0 | *** | ***** |
| May 2 | 0.0 | *** | ***** |
| May 3 | 0.0 | *** | ***** |
| May 4 | 5.0 | *** | ***** |
| May 5 | 28.5 | *** | ***** |
| May 6 | 4.0 | *** | ***** |
| May 7 | 1.0 | *** | ***** |
| May 8 | 80.0 | *** | ***** |
| May 9 | 71.0 | *** | ***** |
| May 10 | 1.0 | *** | ***** |
| May 11 | 189.5 | *** | ***** |
| May 12 | 14.0 | *** | ***** |
| May 13 | 9.5 | *** | ***** |
| May 14 | 2.0 | *** | ***** |
| May 15 | 1.0 | *** | ***** |
| May 16 | 17.5 | *** | ***** |
| May 17 | 45.5 | *** | ***** |
| May 18 | 4.0 | *** | ***** |
| May 19 | 12.5 | *** | ***** |
| May 20 | 22.5 | *** | ***** |
| May 21 | 9.0 | *** | ***** |
| May 22 | 0.0 | *** | ***** |
| May 23 | 38.5 | *** | ***** |
| May 24 | 0.0 | *** | ***** |
| May 25 | 0.5 | *** | ***** |
| May 26 | 0.0 | *** | ***** |
| May 27 | 3.0 | *** | ***** |
| May 28 | 0.0 | *** | ***** |
| May 29 | 0.0 | *** | ***** |
| May 30 | 0.0 | *** | ***** |
| May 31 | 0.0 | *** | ***** |
| Mean | ----- | *** | ***** |
| Total | 559.5 | --- | ----- |
| Maximum | 189.5 | --- | ***** |
| Minimum | 0.0 | --- | ***** |

*** unavailable

missing (less than 24 hourly observations a day)

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Climatological Information Services > Extracts of Climatological Data > Extract of Automatic Weather Station > Station: Sheung Shui Automatic Weather Station, Year: 2014, Month: June

Extract of Meteorological Observations for Sheung Shui Automatic Weather Station, June 2014 (Table 1)

| Date | Mean Pressure at M.S.L. (hPa) | Air Temperature | | | Mean Dew Point Temperature (deg C) | Relative Humidity | | |
|----------------|-------------------------------|-----------------|--------------|--------------|------------------------------------|-------------------|----------|----------|
| | | Max. (deg C) | Mean (deg C) | Min. (deg C) | | Max. (%) | Mean (%) | Min. (%) |
| Jun 1 | 1007.0 | 35.6 | 30.4 | 26.8 | 24.9 | 93 | 74 | 46 |
| Jun 2 | 1005.0 | 34.7 | 30.5 | 27.5 | 24.9 | 90 | 73 | 55 |
| Jun 3 | 1003.9 | 33.2 | 29.1 | 25.9 | 24.8 | 92 | 78 | 60 |
| Jun 4 | 1003.9 | 35.0 | 29.8 | 25.4 | 24.3 | 95 | 74 | 43 |
| Jun 5 | 1003.2 | 33.5 | 29.7 | 26.8 | 25.9 | 93 | 81 | 62 |
| Jun 6 | 1002.9 | 31.4 | 27.2 | 25.1 | 24.8 | 95 | 87 | 69 |
| Jun 7 | 1002.1 | 30.0 | 27.0 | 24.9 | 24.6 | 94 | 87 | 74 |
| Jun 8 | 1000.9 | 34.2 | 29.5 | 26.3 | 25.1 | 94 | 78 | 55 |
| Jun 9 | 1001.5 | 31.6 | 28.5 | 26.7 | 23.6 | 85 | 75 | 62 |
| Jun 10 | 1001.4 | 31.9 | 28.8 | 26.6 | 23.7 | 84 | 74 | 61 |
| Jun 11 | 1001.7 | 30.4 | 28.4 | 26.2 | 23.9 | 92 | 77 | 66 |
| Jun 12 | 1002.0 | 32.3 | 28.8 | 26.8 | 21.4 | 84 | 66 | 37 |
| Jun 13 | 1002.4 | 35.1 | 29.0 | 23.1 | 19.3 | 91 | 60 | 28 |
| Jun 14 | 1003.1 | 35.4 | 30.5 | 25.8 | 21.1 | 76 | 59 | 38 |
| Jun 15 | 1001.7 | 32.2 | 28.7 | 25.5 | 24.8 | 96 | 80 | 56 |
| Jun 16 | 1001.9 | 34.7 | 30.2 | 27.0 | 25.8 | 94 | 78 | 59 |
| Jun 17 | 1004.4 | 33.5 | 29.8 | 27.9 | 26.4 | 93 | 83 | 65 |
| Jun 18 | 1004.3 | 34.2 | 30.3 | 27.2 | 25.9 | 94 | 78 | 60 |
| Jun 19 | 1002.9 | 35.1 | 30.7 | 27.9 | 25.6 | 90 | 75 | 53 |
| Jun 20 | 1002.4 | 31.8 | 29.6 | 27.3 | 26.5 | 96 | 84 | 73 |
| Jun 21 | 1002.8 | 31.2 | 29.0 | 26.3 | 26.3 | 97 | 86 | 75 |
| Jun 22 | 1003.8 | 28.2 | 26.5 | 25.5 | 25.9 | 99 | 96 | 86 |
| Jun 23 | 1004.0 | 30.3 | 27.2 | 25.3 | 25.8 | 99 | 92 | 76 |
| Jun 24 | 1004.1 | 29.4 | 26.9 | 25.4 | 25.8 | 99 | 93 | 79 |
| Jun 25 | 1005.5 | 30.0 | 26.8 | 25.0 | 25.6 | 99 | 94 | 79 |
| Jun 26 | 1006.1 | 34.8 | 29.7 | 26.1 | 25.6 | 99 | 81 | 54 |
| Jun 27 | 1005.3 | 35.1 | 29.8 | 26.2 | 26.3 | 95 | 82 | 59 |
| Jun 28 | 1004.0 | 34.4 | 29.9 | 26.6 | 25.9 | 95 | 80 | 61 |
| Jun 29 | 1004.7 | 35.1 | 29.6 | 26.2 | 25.3 | 95 | 79 | 51 |
| Jun 30 | 1007.2 | 31.7 | 28.8 | 26.8 | 26.1 | 97 | 86 | 71 |
| Mean | 1003.5 | 32.9 | 29.0 | 26.2 | 24.8 | 93 | 80 | 60 |
| Maximum | 1007.2 | 35.6 | 30.7 | 27.9 | 26.5 | 99 | 96 | 86 |
| Minimum | 1000.9 | 28.2 | 26.5 | 23.1 | 19.3 | 76 | 59 | 28 |

Extract of Meteorological Observations for Sheung Shui Automatic Weather Station, June 2014 (Table 2)

| Date | Total Rainfall (mm) | Prevailing Wind Direction (degrees) | Mean Wind Speed (km/h) |
|----------------|---------------------|-------------------------------------|------------------------|
| Jun 1 | 0.0 | *** | ***** |
| Jun 2 | 0.0 | *** | ***** |
| Jun 3 | 0.0 | *** | ***** |
| Jun 4 | 0.0 | *** | ***** |
| Jun 5 | 0.0 | *** | ***** |
| Jun 6 | 8.5 | *** | ***** |
| Jun 7 | 1.5 | *** | ***** |
| Jun 8 | 0.0 | *** | ***** |
| Jun 9 | 0.0 | *** | ***** |
| Jun 10 | 0.0 | *** | ***** |
| Jun 11 | 0.0 | *** | ***** |
| Jun 12 | 0.0 | *** | ***** |
| Jun 13 | 0.0 | *** | ***** |
| Jun 14 | 0.0 | *** | ***** |
| Jun 15 | 5.0 | *** | ***** |
| Jun 16 | 0.5 | *** | ***** |
| Jun 17 | 8.5 | *** | ***** |
| Jun 18 | 0.0 | *** | ***** |
| Jun 19 | 0.0 | *** | ***** |
| Jun 20 | 2.5 | *** | ***** |
| Jun 21 | 5.0 | *** | ***** |
| Jun 22 | 78.0 | *** | ***** |
| Jun 23 | 54.0 | *** | ***** |
| Jun 24 | 12.0 | *** | ***** |
| Jun 25 | 30.5 | *** | ***** |
| Jun 26 | 1.0 | *** | ***** |
| Jun 27 | 1.5 | *** | ***** |
| Jun 28 | 0.0 | *** | ***** |
| Jun 29 | 1.5 | *** | ***** |
| Jun 30 | 8.0 | *** | ***** |
| Mean | ----- | *** | ***** |
| Total | 218.0 | --- | ----- |
| Maximum | 78.0 | --- | ***** |
| Minimum | 0.0 | --- | ***** |

*** unavailable

missing (less than 24 hourly observations a day)

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Extract of Meteorological Observations for Sheung Shui Automatic Weather Station, July 2014 (Table 1)

| Date | Mean Pressure at M.S.L. (hPa) | Air Temperature | | | Mean Dew Point Temperature (deg C) | Relative Humidity | | |
|----------------|-------------------------------|-----------------|--------------|--------------|------------------------------------|-------------------|----------|----------|
| | | Max. (deg C) | Mean (deg C) | Min. (deg C) | | Max. (%) | Mean (%) | Min. (%) |
| Jul 1 | 1008.6 | 32.3 | 27.7 | 26.2 | 26.3 | 98 | 93 | 64 |
| Jul 2 | 1006.7 | 34.6 | 29.9 | 25.8 | 25.3 | 98 | 79 | 53 |
| Jul 3 | 1004.0 | 34.6 | 30.4 | 27.5 | 25.6 | 93 | 76 | 53 |
| Jul 4 | 1003.7 | 35.8 | 30.7 | 26.9 | 25.3 | 93 | 74 | 46 |
| Jul 5 | 1004.2 | 35.5 | 30.7 | 26.9 | 25.4 | 92 | 75 | 49 |
| Jul 6 | 1003.8 | 36.5 | 31.1 | 27.4 | 25.2 | 91 | 73 | 42 |
| Jul 7 | 1001.8 | 33.3 | 27.9 | 25.1 | 25.5 | 97 | 87 | 65 |
| Jul 8 | 1000.2 | 33.4 | 28.7 | 25.5 | 26.1 | 96 | 86 | 69 |
| Jul 9 | 1002.1 | 35.6 | 30.4 | 26.2 | 25.9 | 95 | 78 | 53 |
| Jul 10 | 1003.7 | 33.9 | 29.0 | 26.5 | 26.6 | 97 | 87 | 67 |
| Jul 11 | 1005.1 | 32.6 | 28.4 | 26.9 | 26.4 | 98 | 89 | 70 |
| Jul 12 | 1006.5 | 35.0 | 29.2 | 27.0 | 26.5 | 98 | 86 | 56 |
| Jul 13 | 1008.2 | 35.0 | 30.0 | 26.8 | 25.9 | 97 | 80 | 51 |
| Jul 14 | 1009.2 | 34.5 | 30.3 | 27.0 | 25.7 | 94 | 77 | 55 |
| Jul 15 | 1009.5 | 35.8 | 30.6 | 27.1 | 24.8 | 92 | 73 | 45 |
| Jul 16 | 1007.7 | 36.1 | 30.3 | 26.0 | 24.4 | 94 | 72 | 47 |
| Jul 17 | 1004.8 | 33.7 | 30.2 | 27.0 | 24.7 | 93 | 73 | 54 |
| Jul 18 | 1003.9 | 29.6 | 27.6 | 25.9 | 24.9 | 96 | 86 | 71 |
| Jul 19 | 1007.0 | 32.9 | 29.3 | 26.8 | 25.2 | 94 | 79 | 59 |
| Jul 20 | 1007.8 | 34.3 | 29.3 | 26.0 | 25.4 | 98 | 81 | 57 |
| Jul 21 | 1005.4 | 33.8 | 29.4 | 26.5 | 25.2 | 93 | 79 | 56 |
| Jul 22 | 1002.3 | 34.3 | 29.0 | 26.1 | 25.7 | 94 | 83 | 58 |
| Jul 23 | 999.1 | 35.1 | 31.3 | 27.6 | 26.2 | 94 | 75 | 57 |
| Jul 24 | 1000.8 | 32.9 | 30.4 | 25.6 | 26.5 | 96 | 80 | 68 |
| Jul 25 | 1005.6 | 33.7 | 28.3 | 24.9 | 25.3 | 97 | 84 | 62 |
| Jul 26 | 1008.8 | 29.5 | 27.1 | 24.4 | 25.6 | 98 | 91 | 77 |
| Jul 27 | 1008.5 | 33.4 | 28.7 | 26.2 | 25.6 | 98 | 84 | 62 |
| Jul 28 | 1006.0 | 36.2 | 29.8 | 25.6 | 24.4 | 95 | 75 | 44 |
| Jul 29 | 1005.0 | 36.2 | 30.1 | 25.3 | 23.7 | 91 | 71 | 47 |
| Jul 30 | 1004.8 | 36.3 | 30.6 | 26.4 | 25.4 | 93 | 75 | 49 |
| Jul 31 | 1002.6 | 35.8 | 31.4 | 27.3 | 25.0 | 91 | 70 | 51 |
| Mean | 1005.1 | 34.3 | 29.6 | 26.3 | 25.5 | 95 | 80 | 57 |
| Maximum | 1009.5 | 36.5 | 31.4 | 27.6 | 26.6 | 98 | 93 | 77 |
| Minimum | 999.1 | 29.5 | 27.1 | 24.4 | 23.7 | 91 | 70 | 42 |

Extract of Meteorological Observations for Sheung Shui Automatic Weather Station, July 2014 (Table 2)

| Date | Total Rainfall (mm) | Prevailing Wind Direction (degrees) | Mean Wind Speed (km/h) |
|----------------|----------------------------|--|-------------------------------|
| Jul 1 | 18.0 | *** | ***** |
| Jul 2 | 0.0 | *** | ***** |
| Jul 3 | 0.0 | *** | ***** |
| Jul 4 | 0.0 | *** | ***** |
| Jul 5 | 0.0 | *** | ***** |
| Jul 6 | 0.0 | *** | ***** |
| Jul 7 | 15.5 | *** | ***** |
| Jul 8 | 1.0 | *** | ***** |
| Jul 9 | 0.0 | *** | ***** |
| Jul 10 | 26.0 | *** | ***** |
| Jul 11 | 15.5 | *** | ***** |
| Jul 12 | 10.0 | *** | ***** |
| Jul 13 | 0.5 | *** | ***** |
| Jul 14 | 0.5 | *** | ***** |
| Jul 15 | 0.0 | *** | ***** |
| Jul 16 | 0.0 | *** | ***** |
| Jul 17 | 3.0 | *** | ***** |
| Jul 18 | 43.5 | *** | ***** |
| Jul 19 | 4.5 | *** | ***** |
| Jul 20 | 11.5 | *** | ***** |
| Jul 21 | 0.0 | *** | ***** |
| Jul 22 | 3.5 | *** | ***** |
| Jul 23 | 0.5 | *** | ***** |
| Jul 24 | 6.5 | *** | ***** |
| Jul 25 | 0.0 | *** | ***** |
| Jul 26 | 66.0 | *** | ***** |
| Jul 27 | 7.5 | *** | ***** |
| Jul 28 | 0.0 | *** | ***** |
| Jul 29 | 0.0 | *** | ***** |
| Jul 30 | 0.0 | *** | ***** |
| Jul 31 | 0.0 | *** | ***** |
| Mean | ----- | *** | ***** |
| Total | 233.5 | --- | ----- |
| Maximum | 66.0 | --- | ***** |
| Minimum | 0.0 | --- | ***** |

*** unavailable

missing (less than 24 hourly observations a day)

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Appendix E Environmental Monitoring Data for Air, Noise and Water Quality

Appendix E
Air Quality Monitoring Results and their Graphical Presentation

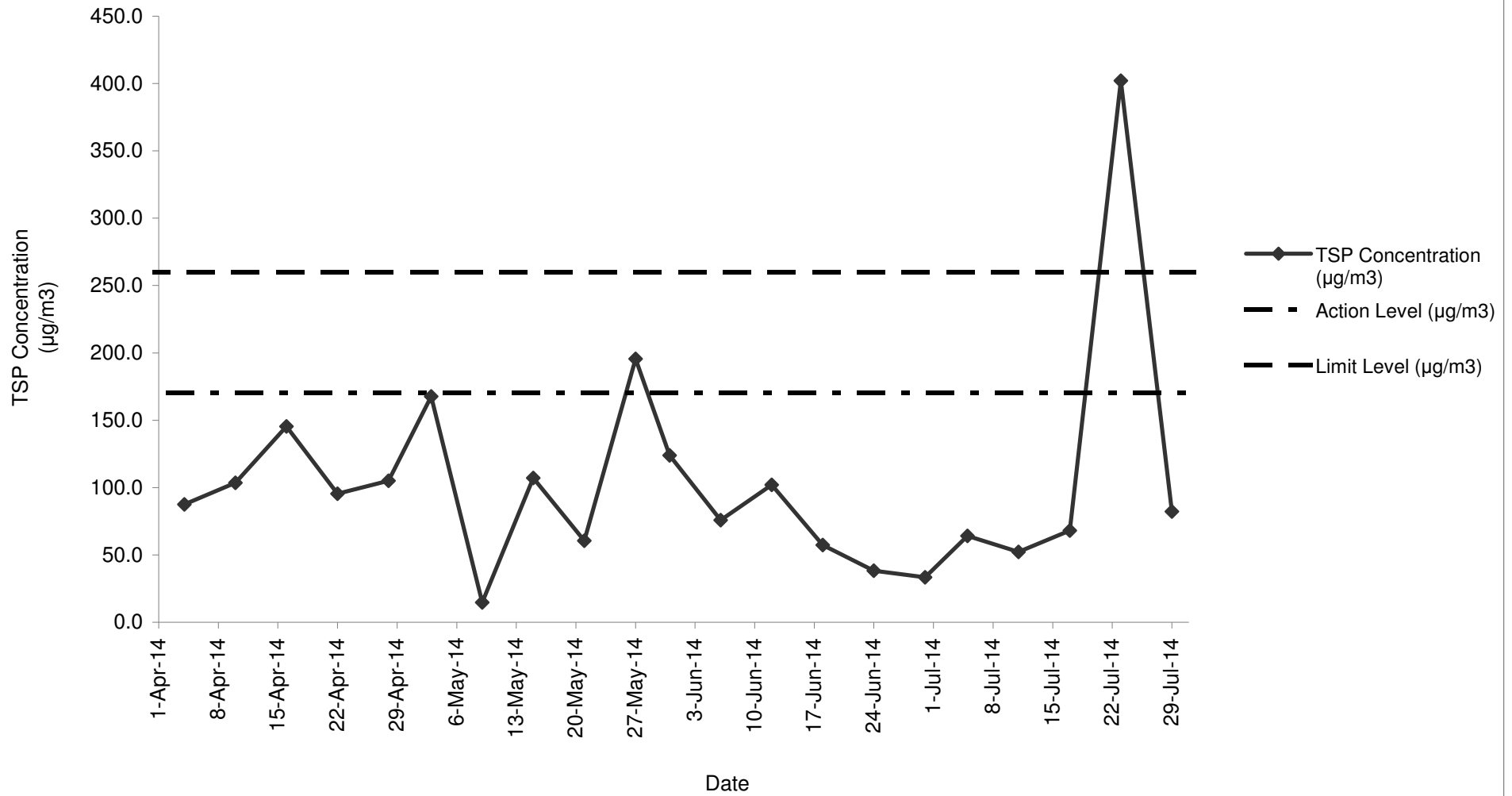
24-Hour TSP Monitoring Result at Station: SR77

| Sampling Date | Weather Condition | Paper No. | Wt. of paper (g) | | | Elapse Time | | | Flow Rate (CFM) | | | Flow Rate (m ³ /min) | | | Total Volume (m ³) | TSP Concentration (µg/m ³) | Action Level (µg/m ³) | Limit Level (µg/m ³) | Wind speed m/s | Wind direction |
|---------------|-------------------|-----------|------------------|-----------|-------------|-------------|-------|---------------|-----------------|-------|---------------|---------------------------------|-------|---------------|--------------------------------|--|-----------------------------------|----------------------------------|----------------|----------------|
| | | | Initial Wt. | Final Wt. | Wt. of Dust | Initial | Final | Sampling Hour | Initial | Final | Avg Flow Rate | Initial | Final | Avg Flow Rate | | | | | | |
| 4-Apr-14 | Cloudy | 10 | 2.6869 | 2.8690 | 0.1821 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 87.6 | 170.3 | 260.0 | <5 | N |
| 10-Apr-14 | Fine | 11 | 2.6915 | 2.9070 | 0.2155 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 103.6 | 170.3 | 260.0 | <5 | N |
| 16-Apr-14 | Sunny | 12 | 2.7313 | 3.0336 | 0.3023 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 145.4 | 170.3 | 260.0 | <5 | N |
| 22-Apr-14 | Sunny | 13 | 2.7088 | 2.9072 | 0.1984 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 95.4 | 170.3 | 260.0 | <5 | N |
| 28-Apr-14 | Sunny | 14 | 2.6694 | 2.8877 | 0.2183 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 105.0 | 170.3 | 260.0 | <5 | N |
| 3-May-14 | Fine | 15 | 2.7172 | 3.0659 | 0.3487 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 167.7 | 170.3 | 260.0 | <5 | N |
| 9-May-14 | Rainy | 21 | 2.7012 | 2.7317 | 0.0305 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 14.7 | 170.3 | 260.0 | <5 | N |
| 15-May-14 | Cloudy | 212 | 2.7112 | 2.9339 | 0.2227 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 107.1 | 170.3 | 260.0 | <5 | N |
| 21-May-14 | Rainy | 22 | 2.7506 | 2.8765 | 0.1259 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 60.5 | 170.3 | 260.0 | <5 | N |
| 27-May-14 | Fine | 23 | 2.7061 | 3.1128 | 0.4067 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 195.6 | 170.3 | 260.0 | <5 | N |
| 31-May-14 | Fine | 24 | 2.6975 | 2.9550 | 0.2575 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 123.8 | 170.3 | 260.0 | <5 | N |
| 6-Jun-14 | Cloudy | 41 | 2.6798 | 2.8375 | 0.1577 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 75.8 | 170.3 | 260.0 | <5 | N |
| 12-Jun-14 | Fine | 50 | 2.6908 | 2.9028 | 0.2120 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 101.9 | 170.3 | 260.0 | <5 | N |
| 18-Jun-14 | Cloudy | 44 | 2.7198 | 2.8389 | 0.1191 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 57.3 | 170.3 | 260.0 | <5 | N |
| 24-Jun-14 | Rainy | 46 | 2.6996 | 2.7792 | 0.0796 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 38.3 | 170.3 | 260.0 | <5 | N |
| 30-Jun-14 | Rainy | 47 | 2.7035 | 2.7728 | 0.0693 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 33.3 | 170.3 | 260.0 | <5 | N |
| 5-Jul-14 | Rainy | 50 | 2.7048 | 2.8380 | 0.1332 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 64.1 | 170.3 | 260.0 | <5 | N |
| 11-Jul-14 | Fine | 51 | 2.7072 | 2.8157 | 0.1085 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 52.2 | 170.3 | 260.0 | <5 | N |
| 17-Jul-14 | Fine | 53 | 2.7005 | 2.8421 | 0.1416 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 68.1 | 170.3 | 260.0 | <5 | N |
| 23-Jul-14 | Fine | 57 | 2.6795 | 3.5157 | 0.8362 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 402.1 | 170.3 | 260.0 | <5 | N |
| 29-Jul-14 | Fine | 59 | 2.7073 | 2.8783 | 0.1710 | 0.00 | 24.00 | 24.00 | 51 | 51 | 51.0 | 1.44 | 1.44 | 1.44 | 2079.59 | 82.2 | 170.3 | 260.0 | <5 | N |

| Summary For the Reporting Quarter (May - Jul 2014) | |
|--|-------|
| Average | 102.8 |
| Minimum | 14.7 |
| Maximum | 402.1 |

Note: No major dust source observed during the monitoring period
Data in **Bold** denotes exceedance of respective Action Level
Data in **Bold Underline** denotes exceedance of respective Limit Level

24-Hour TSP Monitoring Result at Station: SR77 (April - July 2014)



Appendix E
Air Quality Monitoring Results and their Graphical Presentation

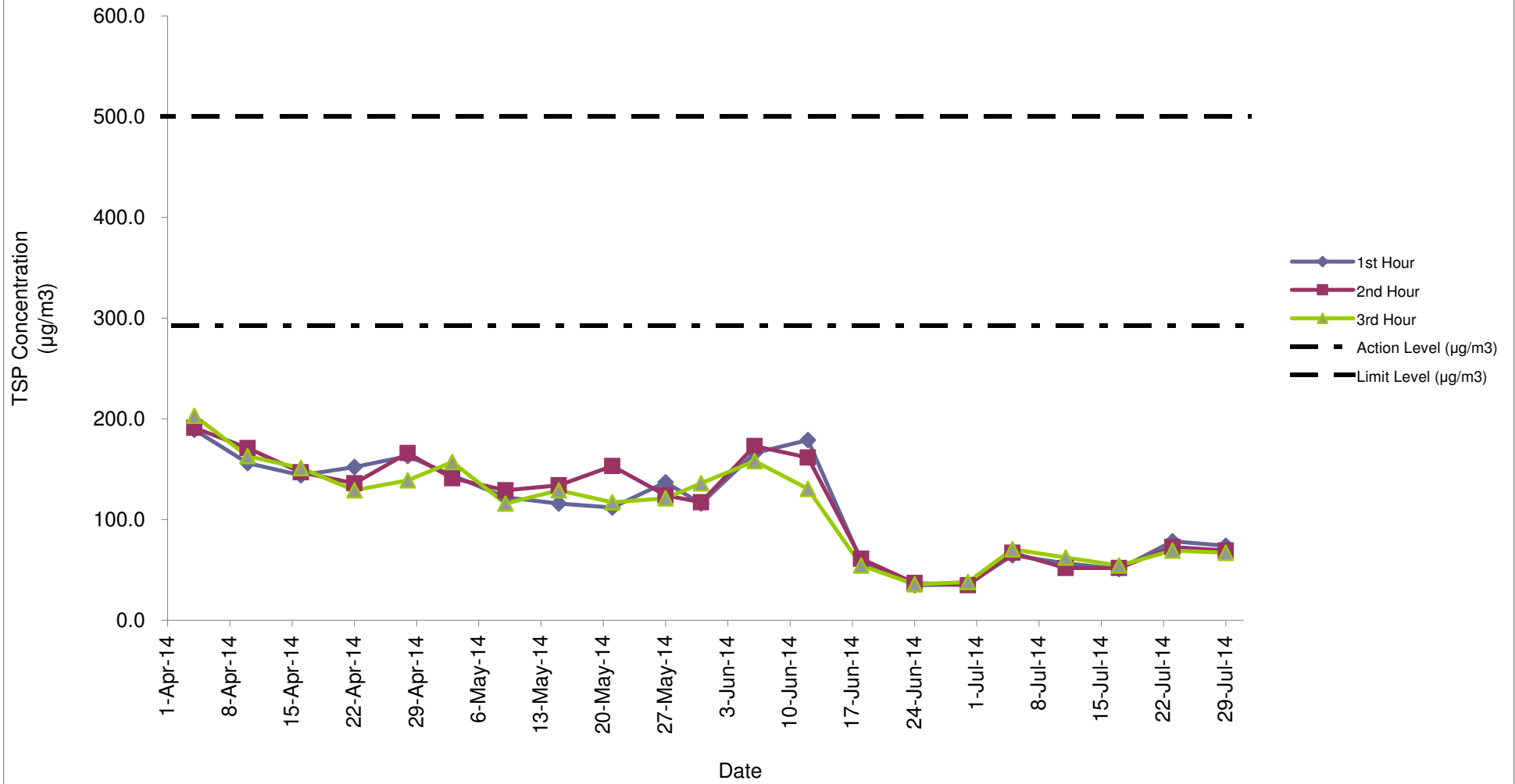
1-Hour TSP Monitoring Result at Station: SR77

| Date | Weather Condition | Time | Conc.(µg/m ³) | | | Action Level (µg/m3) | Limit Level (µg/m3) |
|-----------|-------------------|---------------|---------------------------|----------------------|----------------------|----------------------|---------------------|
| | | | 1 st Hour | 2 nd Hour | 3 rd Hour | | |
| 4-Apr-14 | Cloudy | 8:00 - 11:04 | 189.0 | 191.0 | 203.0 | 292.7 | 500.0 |
| 10-Apr-14 | Fine | 10:30 - 13:34 | 156.0 | 171.0 | 163.0 | 292.7 | 500.0 |
| 16-Apr-14 | Sunny | 11:01 - 14:05 | 144.0 | 147.0 | 151.0 | 292.7 | 500.0 |
| 22-Apr-14 | Sunny | 11:30 - 14:34 | 152.0 | 136.0 | 129.0 | 292.7 | 500.0 |
| 28-Apr-14 | Sunny | 11:00 - 14:04 | 163.0 | 166.0 | 139.0 | 292.7 | 500.0 |
| 3-May-14 | Fine | 10:30 - 13:34 | 144.0 | 141.0 | 157.0 | 292.7 | 500.0 |
| 9-May-14 | Rainy | 10:30 - 13:34 | 122.0 | 129.0 | 116.0 | 292.7 | 500.0 |
| 15-May-14 | Cloudy | 9:00 - 12:04 | 116.0 | 134.0 | 129.0 | 292.7 | 500.0 |
| 21-May-14 | Rainy | 14:30 - 17:34 | 112.0 | 153.0 | 117.0 | 292.7 | 500.0 |
| 27-May-14 | Fine | 10:30 - 13:34 | 137.0 | 124.0 | 121.0 | 292.7 | 500.0 |
| 31-May-14 | Fine | 10:30 - 13:34 | 116.0 | 117.0 | 136.0 | 292.7 | 500.0 |
| 6-Jun-14 | Cloudy | 14:30 - 17:34 | 166.0 | 173.0 | 158.0 | 292.7 | 500.0 |
| 12-Jun-14 | Fine | 9:00 - 12:04 | 178.9 | 161.6 | 130.4 | 292.7 | 500.0 |
| 18-Jun-14 | Cloudy | 9:00 - 12:00 | 58.9 | 61.2 | 54.2 | 292.7 | 500.0 |
| 24-Jun-14 | Rainy | 9:00 - 12:00 | 34.6 | 36.9 | 35.8 | 292.7 | 500.0 |
| 30-Jun-14 | Rainy | 9:00 - 12:00 | 35.8 | 34.6 | 38.1 | 292.7 | 500.0 |
| 5-Jul-14 | Rainy | 9:00 - 12:00 | 64.6 | 66.9 | 70.4 | 292.7 | 500.0 |
| 11-Jul-14 | Fine | 9:00 - 12:00 | 56.5 | 51.9 | 62.3 | 292.7 | 500.0 |
| 17-Jul-14 | Fine | 9:00 - 12:00 | 50.8 | 51.9 | 54.2 | 292.7 | 500.0 |
| 23-Jul-14 | Fine | 9:00 - 12:00 | 78.5 | 72.7 | 69.2 | 292.7 | 500.0 |
| 29-Jul-14 | Fine | 9:00 - 12:00 | 73.9 | 69.2 | 66.9 | 292.7 | 500.0 |

| Summary For the Reporting Quarter (May - Jul 2014) | |
|---|-------|
| Average | 96.6 |
| Minimum | 34.6 |
| Maximum | 178.9 |

Note: No major dust source observed during the monitoring period

1-Hour TSP Monitoring Result at station: SR77 (April - July 2014)



Project Name: Contract No. CV/2012/09 Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure works - Contract 3
Entrusted Portion of Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling - Stage 2

Noise Monitoring Result at SR77

| Date | Weather Condition | Start Time | End Time | Measured Noise Level (dB(A))* | | | Baseline Corrected Level, dB(A)** | Baseline Noise Level (dB(A)), Leq(30min) | Limit Level dB(A) | Exceedance (Y / N) |
|------------|-------------------|------------|----------|-------------------------------|------------|------------|-----------------------------------|--|-------------------|--------------------|
| | | | | L10(30min) | L90(30min) | Leq(30min) | | | | |
| 2014/04/04 | Cloudy | 8:00 | 8:30 | 70.5 | 72.5 | 63.5 | - | 67.8 | 75.0 | N |
| 2014/04/09 | Fine | 10:30 | 11:00 | 68.5 | 71.3 | 62.1 | - | 67.8 | 75.0 | N |
| 2014/04/16 | Sunny | 11:01 | 11:31 | 69.3 | 71.9 | 61.1 | - | 67.8 | 75.0 | N |
| 2014/04/22 | Sunny | 11:30 | 12:00 | 70.1 | 71.8 | 60.2 | - | 67.8 | 75.0 | N |
| 2014/04/28 | Sunny | 11:00 | 11:30 | 69.9 | 72.4 | 61.5 | - | 67.8 | 75.0 | N |
| 2014/05/09 | Rainy | 10:30 | 11:00 | 66.6 | 71.9 | 60.8 | - | 67.8 | 75.0 | N |
| 2014/05/15 | Cloudy | 9:00 | 9:30 | 65.5 | 70.5 | 58.5 | - | 67.8 | 75.0 | N |
| 2014/05/21 | Rainy | 14:30 | 15:00 | 63.6 | 70.1 | 60.2 | - | 67.8 | 75.0 | N |
| 2014/05/27 | Fine | 10:30 | 11:00 | 63.3 | 69.8 | 59.4 | - | 67.8 | 75.0 | N |
| 2014/06/06 | Cloudy | 14:30 | 15:00 | 62.5 | 70.5 | 59.5 | - | 67.8 | 75.0 | N |
| 2014/06/12 | Fine | 9:00 | 9:30 | 61.8 | 69.9 | 58.5 | - | 67.8 | 75.0 | N |
| 2014/06/18 | Cloudy | 13:00 | 13:30 | 61.8 | 68.6 | 59.8 | - | 67.8 | 75.0 | N |
| 2014/06/24 | Rainy | 11:00 | 11:30 | 62.4 | 70.6 | 58.8 | - | 67.8 | 75.0 | N |
| 2014/06/30 | Rainy | 14:30 | 15:00 | 63.1 | 69.3 | 58.5 | - | 67.8 | 75.0 | N |
| 2014/07/11 | Fine | 14:30 | 15:00 | 63.3 | 68.5 | 59.0 | - | 67.8 | 75.0 | N |
| 2014/07/17 | Fine | 9:00 | 9:30 | 63.6 | 68.9 | 58.9 | - | 67.8 | 75.0 | N |
| 2014/07/23 | Fine | 14:00 | 14:30 | 67.4 | 72.5 | 63.5 | - | 67.8 | 75.0 | N |
| 2014/07/29 | Fine | 9:30 | 10:00 | 72.1 | 73.5 | 64.0 | - | 67.8 | 75.0 | N |

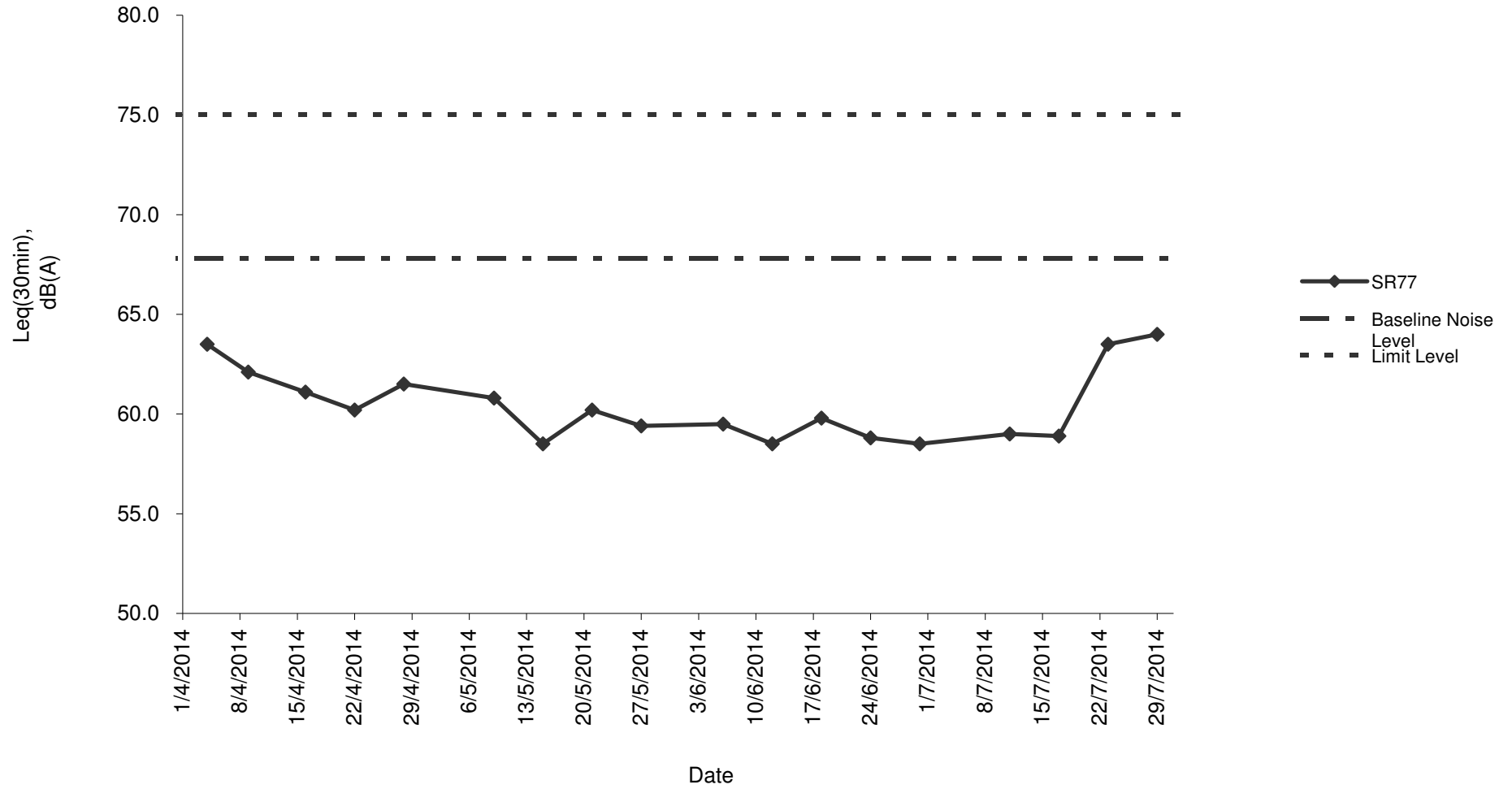
| Summary For the Reporting Quarter (May - Jul 2014) | |
|--|------|
| Average | 60.0 |
| Minimum | 58.5 |
| Maximum | 64.0 |

Remarks

* +3dB(A) Façade effect correction included

** Baseline corrected level is only calculated when measured noise level (Leq) > limit level.

**Noise monitoring result: SR77
(April - July 2014)**



Appendix F Waste Flow Table

Monthly Summary Waste Flow Table

| 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 | Soil | Soil Reused in the Contract | Soil Reused in other Projects | Soil Disposed as Public Fill | Imported Fill | Metals | Paper/ cardboard packaging (Note 3) | Plastics | Chemical Waste | General Refuse (Note 2) |
| Unit | (in '000m3) | (in '000m3) | (in '000m3) | (in '000m3) | (in '000m3) | (in '000m3) | (in '000m3) | (in '000m3) | (in '000m3) | (in '000m3) | (in '000m3) | (in '000m3) |
| May-14 | 3.190 | 0.450 | 2.740 | 0.192 | - | 2.548 | 0.500 | - | - | - | 0.020 | 0.195 |
| Jun-14 | 2.473 | 0.258 | 2.215 | 0.675 | - | 1.540 | 1.075 | - | - | - | 0.001 | 0.180 |
| Jul-14 | 3.829 | 0.233 | 3.596 | 0.502 | - | 3.094 | 0.747 | - | - | 0.005 | - | 0.165 |
| Total | 9.492 | 0.941 | 8.551 | 1.369 | - | 7.182 | 2.322 | - | - | 0.005 | 0.021 | 0.540 |

- Note:
1. Assume the density of soil fill is 2 ton/m3.
 2. Assume the density of rock and broken concrete is 2.5 ton/m3.
 3. Assume each truck of C&D wastes is 5m3.
 4. The inert C&D materials except slurry and bentonite are disposed at Tuen Mun 38.
 5. The slurry and bentonite are disposed at Tseung Kwun O 137.
 6. The non-inert C&D wastes are disposed at NENT.
 7. Assume the density of metal is 7,850 kg/m3.

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

Cumulative Complaint Log

| Complaint Log No. | Date of Complaint | Received From and Received By | Location of Complainant | Nature of Complaint | Outcome | Status |
|-------------------|-------------------|-------------------------------|---|--|---|-----------|
| C131126 | November 26, 2013 | Mr. Tony Hung from WWF | Mat Wat River (works sites for box culvert extension) | Suspected unauthorised discharge of water from a construction site to Ma Wat River, Tai Wo Service Road East, Tai Po | <ol style="list-style-type: none"> 1) It was found that the water leaving the end of the steel pipes was the diverted water from the upstream of the existing box culverts, instead of being discharged from the construction works sites. 2) An EM&A Programme is being undertaken to monitoring the environmental performance of the construction works, and the Contractor has also implemented appropriate mitigation measures to avoid silt-laden runoff discharging from the works sites into the river. 3) The complaint is considered an invalid complaint under this Project. | Completed |

Cumulative Log for Notifications of Summons

| Log No. | Date/Location | Subject | Status | Total Received in this reporting month | Total no. Received since project commencement |
|----------------|----------------------|----------------|---------------|---|--|
| | | | | | |

Cumulative log for Successful Prosecutions

| Log No. | Date/Location | Subject | Status | Total Received in this reporting month | Total no. Received since project commencement |
|----------------|----------------------|----------------|---------------|---|--|
| | | | | | |



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