# CONTRACT NO: CV/2012/07

# DEVELOPMENT AT ANDERSON ROAD - FOOTBRIDGE D AND ASSOCIATED WORKS AREA

## QUARTERLY ENVIRONMENTAL MONITORING & AUDIT REPORT

## -JANUARY 2015 TO MARCH 2015 -

**CLIENTS:**

**Lam-Po Wing Joint Venture**

**PREPARED BY:**

**Lam Environmental Services Limited**

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**CERTIFIED BY:**

Derek Lo
Environmental Team Leader

**DATE:**

24 April 2015

ENVIRON

Ref.: OAPANDSNEM00_0_1441L.15

24 April 2015

By Post and Fax: 2407 8382

Engineer's Representative
Ove Arup & Partners
Level 5, Festival Walk
80 Tat Chee Avenue
Kowloon Tong, Kowloon
Hong Kong

Attention: Mr. Dennis Leung

Dear Sir,

**Re: Contract No. CV/2012/07**
**Development at Anderson Road**
**Footbridge D and Associated Works Area**
**Quarterly EM&A Report for January 2015 to March 2015**

Reference is made to the Environmental Team's submission of the draft Quarterly EM&A Report for January 2015 to March 2015 received by e-mail on 24 April 2015 for our review and comment.

Please be informed that we have no adverse comment on the captioned submission.

Thank you very much for your kind attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,

David Yeung
Independent Environmental Checker

| | | | |
|---|---|---|---|
| c.c. | Lam | Attn.: Mr. Derek Lo | Fax: 2882 3331 |
| | LPWJV | Attn.: Mr. Tak-Leung Lo | Fax: 3171 7222 |

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## EXECUTIVE SUMMARY

i. This is the Environmental Monitoring and Audit (EM&A) Quarterly Report – January 2015 to March 2015 project "Development at Anderson Road – Footbridge D and Associated Works Area" (Hereafter called "this Project"). The construction works of this project was commenced on 20 July 2013. This is the 7th quarterly of EM&A report presenting the environmental monitoring findings and information recorded during the period 01 January 2015 to 31 March 2015.

***Table1.1 Major Construction Activities for the Reporting Period***

| January 2015 | February 2015 | March 2015 |
|---|---|---|
| • Piling works<br>• Construction of retaining wall | • Construction of pile<br>• Construction of Tower A<br>Construction of Φ 1500 drainage pipe | • Construction of Tower A (Portion C3)<br>• Construction of pile cap (Portion C2)<br>• Construction of Φ 1500 drainage pipe |

Noise Monitoring

ii. Noise monitoring during daytime was conducted at the stations NM1 and NM2 on a weekly basis in the reporting period. No exceedance was recorded in the reporting period.

Air Quality Monitoring

iii. Air quality monitoring has been conducted at station AQM1. No action or limit level exceedance was recorded in the reporting period.

Complaints, Notifications of Summons and Successful Prosecutions

iv. No complaint and notifications of summons or successful prosecutions were recorded in this reporting period.

Site Inspections and Audit

v. The Environmental Team (ET) conducted weekly site inspections for Contract no. CV/2012/07 in the reporting period. Major observations and recommendations made during the audit sessions were rectified by the Contractors. No non-conformance was identified during the site inspections.

# 1. Introduction

## 1.1 Scope of the Report

1.1.1. Lam Environmental Services Limited (LES) has been appointed to work as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for Development of Anderson Road.

1.1.2. This report presents the environmental monitoring and auditing work carried out in accordance to the Section 1.4 of EM&A Manual and "*Environmental Monitoring and Audit Requirements*" under Particular Specification Section 25.

1.1.3. The construction works of this project was commenced on 20 July 2013. This report documents the finding of EM&A works for this Project and during the period 1 January 2015 to 31 March 2015.

## 1.2 Structure of the Report

**Section 1** ***Introduction*** – details the scope and structure of the report.

**Section 2** ***Project Background*** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.

**Section3** ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.

**Section 4** ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.

**Section 5** ***Compliance Audit*** – summarizes the auditing of monitoring results and environmental site inspection, all exceedances environmental parameters.

**Section 6** ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution

**Section 7** ***Conclusion***

# 2. Project Background

## 2.1 Background

2.1.1. The main objective of the project "Development at Anderson Road – Footbridge D and Associated Works Area" (Hereafter called "this Project") is to construct a footbridge, Footbridge D, and associated lift towers across Shun On Road between the existing Shun Tin Estate and the future development platform.

2.1.2. For this project, Tin Wan House (NM1) and Ning Po No.2 College (NM2 and AQM1) are the designated monitoring station during the construction period. Owing to this contract is under the master project and on the other hand, the construction area is vicinity to the monitoring station (On Yat House) ID2 and (Sau Nga House) ID3 of the master project, so that the baseline noise and air quality monitoring will adopt the baseline data from those stations instead of conducting baseline monitoring. All the baseline data are referred to the baseline report from the public domain web site (www.anderson-road.com/main.htm).

2.1.3. The construction works of this project was commenced on 20 July 2013. During the construction phase of the project, air quality (dust) and noise impacts from the development site itself and the adjacent Anderson Road Quarry and other nearby construction sites are identified as the major environmental issues of concern. Besides, waste management is also identified in the EIA study as another environmental issue during the construction phase of the project that requires mitigation measures.

## 2.2 Scope of the Project and Site Description

2.2.1. The Project is located mainly near Shun Tin Estate and Ning Po No.2 College, as shown in ***Figure 2.1***.

2.2.2. The scope of the Project comprises:

- Construction of footbridge and associated lift towers between Shun On Road and future platform at +152mPD and across Shun On Road. In Conjunction with these footbridge works are the associated furniture, drainage system, irrigation system and traffic signs.
- Construction of drainage system for diversion of an existing stream on the slope adjoining Footbridge D.
- Site formation and associated slopeworks for Footbridge D adjacent to Shun On Road.

## 2.3 Project Organization and Contact Personnel

2.3.1. Civil Engineering and Development Department is the overall project controllers for this project. For the construction phase of the Project, Project Engineer, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.3.2. The proposed project organization and lines of communication with respect to environmental protection works are shown in ***Figure 2.2***. Key personnel and contact particulars are summarized in ***Table 2.1***:

***Table 2.1 Contact Details of Key Personnel***

| Party | Role | Post | Name | Contact No. | Contact Fax |
|---|---|---|---|---|---|
| Ove Arup | Engineer | Chief Resident Engineer | Dennis Leung | 2407 0300 | 2407 8382 |
| | | Resident Engineer | Kenneth Lee | 3656 3000 | 3656 1000 |
| Lam-Po Wing Joint Venture | Contractor under Contract no. CV/2012/07 | Project Manager | K.C. Wong | 2318 0281 | 3171 7222 |
| | | Site Agent | T.L. Lo | 2318 0281 | |
| | | Safety Officer | K.W. Lau | 2318 0281 | |
| | | Environmental Officer | K.I. Ip | 2318 0281 | |
| ENVIRON Hong Kong Limited | Independent Environmental Checker (IEC) | Independent Environmental Checker (IEC) | Mr. David Yeung | 3465 2888 | 3465 2899 |
| Lam Environmental Services Limited | Environmental Team (ET) | Environmental Team Leader (ETL) | Mr. Derek Lo | 2882 3939 | 2882 3331 |

**Hotline telephone number for the public to make enquiries:** (852) 5346 4647

## 3. Monitoring Requirements

### 3.1 Noise Monitoring

NOISE MONITORING STATIONS

3.1.1. The noise monitoring has been undertaken at the designated locations Tin Wan House (NM1) and Ning Po No.2 College (NM2). The detailed information of monitoring stations for the Project are listed and shown in ***Table 3.1*** and ***Figure 4.1***. ***Appendix 4.1*** shows the established Action/Limit Levels for the monitoring works.

***Table 3.1 Noise Monitoring Stations***

| Station ID | Monitoring Location |
|---|---|
| NM1 | G/F of Tin Wan House |
| NM2 | G/F of Ning Po No.2 College |

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

3.1.2. The construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level ($L_{eq}$). $L_{eq\ (30\ minutes)}$ shall be used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. For all other time periods, $L_{eq\ (5\ minutes)}$ shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. Supplementary information for data auditing, statistical results such as L10 and L90 shall also be obtained for reference.

3.1.3. Noise monitoring shall be carried out at all the designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities are underway:

- one set of measurements between 0700 and 1900 hours on normal weekdays.

3.1.4. If construction works are extended to include works during the hours of 1900 – 0700 as well as public holidays and Sundays, additional weekly impact monitoring shall be carried out during respective restricted hours periods. Applicable permits under NCO shall be obtained by the Contractor.

MONITORING EQUIPMENT

3.1.5. As referred to in the Technical Memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agree to within 1.0 dB.

3.1.6. Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

## 3.2 Air Monitoring

AIR QUALITY MONITORING STATIONS

3.2.1. The air monitoring has been conducted at the designated location Ning Po No.2 College (AQM1).The air monitoring stations for the Project are listed and shown in ***Table 3.2*** and ***Figure 4.1***. ***Appendix 4.1*** shows the established Action/Limit Levels for the monitoring works.

***Table 3.2 Air Monitoring Station***

| Station ID | Monitoring Location |
|---|---|
| AQM1 | Roof Top of Ning Po No.2 College |

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

3.2.2. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality. The 24-hour TSP levels shall be measured by following the standard high

volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.

3.2.3. All 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 any other local atmospheric factors affecting or affected by site conditions, etc., shall be recorded down in detail.

3.2.4. For regular impact monitoring, the sampling frequency of at least once in every six-days, shall be strictly observed at all the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six-days should be undertaken when the highest dust impact occurs.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

3.2.5. High volume samplers (HVSs) in compliance with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:

- 0.6 - 1.7 $m^3$ per minute adjustable flow range;
- equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
- installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
- capable of providing a minimum exposed area of 406 $cm^2$;
- 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;
- easily changeable filter; and
- capable of operating continuously for a 24-hour period.

3.2.6. Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually. The calibration data shall be properly documented for future reference by concerned parties such as the IEC. All the data should be converted into standard temperature and pressure equivalents.

LABORATORY MEASUREMENT / ANALYSIS

3.2.7. A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited.

3.2.8. If a site laboratory is set up or a non-HOKLAS accredited laboratory is retained for analysis, laboratory equipment shall be provided by the ER in consultation with the IC(E). Measurement performed by the laboratory shall be demonstrated to the satisfaction of the ER and the IC(E).

The IC(E) shall conduct regular audit to the measurement performed by the laboratory to ensure the accuracy of measurement results. The ET leader shall provide the ER with one copy of the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), and Appendix B for his reference.

3.2.9. Filter paper of size 8" x 10" shall be labelled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24-hours and be pre-weighed before use for the sampling.

3.2.10. After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.

3.2.11. All the collected samples shall be kept in a good condition for 6 months prior to disposal.

## 4. Monitoring Results

4.0.1. The environmental monitoring will be implemented based on the sensitive receivers which would be mostly affected. Overall layout showing the work area, latest status of work commencement and monitoring stations are shown in ***Figure 2.1*** and ***Figure 4.1***.

### 4.1 Noise Monitoring Results

4.1.1. The noise monitoring results for Contract no. CV/2012/07 are summarized in ***Table 4.1*** below:

***Table 4.1 Summary of Noise Monitoring Results at NM1 and NM2***

| Date | Time | Location | Leq (dB) |
|---|---|---|---|
| 9-Jan-15 | 8:45 | NM1 | 64.7 |
| | 9:50 | NM2 | 63.4 |
| 15-Jan-15 | 8:50 | NM1 | 60.4 |
| | 10:00 | NM2 | 62.1 |
| 21-Jan-15 | 13:00 | NM1 | 60.1 |
| | 13:40 | NM2 | 65.2 |
| 27-Jan-15 | 10:00 | NM1 | 62.9 |
| | 11:00 | NM2 | 60.7 |
| 2-Feb-15 | 8:45 | NM1 | 63.9 |
| | 9:55 | NM2 | 63.2 |
| 13-Feb-15 | 13:50 | NM1 | 63.4 |
| | 14:30 | NM2 | 62.0 |
| 18-Feb-15 | 13:15 | NM1 | 64.3 |
| | 14:20 | NM2 | 65.2 |

| | | | |
|---|---|---|---|
| 24-Feb-15 | 10:00 | NM1 | 60.9 |
| | 11:00 | NM2 | 65.3 |
| 6-Mar-15 | 8:30 | NM1 | 64.5 |
| | 9:40 | NM2 | 63.8 |
| 12-Mar-15 | 8:55 | NM1 | 63.2 |
| | 10:00 | NM2 | 64.1 |
| 18-Mar-15 | 9:30 | NM1 | 69.7 |
| | 10:40 | NM2 | 63.5 |
| 24-Mar-15 | 8:30 | NM1 | 61.4 |
| | 9:50 | NM2 | 62.3 |
| 30-Mar-15 | 9:40 | NM1 | 63.2 |
| | 10:30 | NM2 | 62.1 |
| Limit Level | | | 65 / 70 /75* |

*Note :*

- *70dB(A) and 65 dB(A) for schools during normal teaching periods and school examination periods, respectively.*

4.1.2. Day time period noise monitoring was conducted at the Tin Wan House (NM1) and Ning Po No.2 College (NM2). In the reporting period, public examination is undertaken at Ning Po No.2 College (NM2) on 30 and 31 Mar 2015. Therefore, the noise Limited Level during that date would be reduced to 65dB(A).

4.1.3. Noise monitoring results measured in this reporting period are reviewed and summarized. No action level exceedance was recorded in the reporting period. Details of noise monitoring results and graphical presentation can be referred in ***Appendix 5.2***.

## 4.2 Air Monitoring Results

4.2.1. The air monitoring results are summarized in ***Table 4.2*** and ***Table 4.3*** below. No exceedance was recorded in the reporting period.

***Table 4.2 Summary of Air Monitoring Results at AQM1 - 24 hr TSP Monitoring***

| Date | Time | TSP Level, ($\mu g/m^3$) |
|---|---|---|
| 2-Jan-15 | 8:00 | 102 |
| 8-Jan-15 | 8:00 | 116 |
| 14-Jan-15 | 8:00 | 51 |
| 20-Jan-15 | 8:00 | 125 |
| 26-Jan-15 | 8:00 | 83 |
| 31-Jan-15 | 8:00 | 86 |
| 6-Feb-15 | 8:00 | 116 |
| 12-Feb-15 | 8:00 | 123 |
| 17-Feb-15 | 8:00 | 159 |
| 23-Feb-15 | 8:00 | 120 |

| | | |
|---|---|---|
| 27-Feb-15 | 8:00 | 130 |
| 5-Mar-15 | 8:00 | 58 |
| 11-Mar-15 | 8:00 | 77 |
| 17-Mar-15 | 8:00 | 63 |
| 23-Mar-15 | 8:00 | 165 |
| 28-Mar-15 | 8:00 | 70 |
| **Action Level** | | **200** |
| **Limit Level:** | | **260** |

***Table 4.3 Summary of Air Monitoring Results at AQM1 - 1 hr TSP Monitoring***

| Date | Time | TSP Level, ($\mu g/m^3$) |
|---|---|---|
| 3-Jan-15 | 8:45 | 184 |
| 3-Jan-15 | 9:49 | 196 |
| 3-Jan-15 | 10:55 | 189 |
| 9-Jan-15 | 8:15 | 95 |
| 9-Jan-15 | 9:35 | 121 |
| 9-Jan-15 | 10:05 | 180 |
| 15-Jan-15 | 8:30 | 60 |
| 15-Jan-15 | 9:37 | 38 |
| 15-Jan-15 | 10:42 | 30 |
| 21-Jan-15 | 8:40 | 189 |
| 21-Jan-15 | 9:48 | 191 |
| 21-Jan-15 | 13:00 | 188 |
| 27-Jan-15 | 8:30 | 101 |
| 27-Jan-15 | 9:34 | 83 |
| 27-Jan-15 | 10:45 | 135 |
| 2-Feb-15 | 8:30 | 103 |
| 2-Feb-15 | 9:41 | 134 |
| 2-Feb-15 | 10:47 | 147 |
| 7-Feb-15 | 8:24 | 154 |
| 7-Feb-15 | 9:34 | 175 |
| 7-Feb-15 | 10:47 | 119 |
| 13-Feb-15 | 9:20 | 182 |
| 13-Feb-15 | 10:35 | 171 |
| 13-Feb-15 | 13:00 | 176 |
| 18-Feb-15 | 13:00 | 98 |
| 18-Feb-15 | 14:05 | 82 |
| 18-Feb-15 | 15:10 | 86 |
| 24-Feb-15 | 13:00 | 133 |
| 24-Feb-15 | 14:10 | 106 |
| 24-Feb-15 | 15:15 | 96 |
| 28-Feb 15 | 8:40 | 86 |
| 28-Feb-15 | 9:43 | 71 |
| 28-Feb-15 | 10:55 | 80 |
| 6-Mar-15 | 8:15 | 122 |
| 6-Mar-15 | 9:25 | 72 |
| 6-Mar-15 | 10:40 | 57 |

| | | |
|---|---|---|
| 12-Mar-15 | 8:25 | 68 |
| 12-Mar-15 | 9:40 | 41 |
| 12-Mar-15 | 10:50 | 17 |
| 18-Mar-15 | 9:00 | 48 |
| 18-Mar-15 | 10:05 | 171 |
| 18-Mar-15 | 13:00 | 176 |
| 24-Mar-15 | 8:10 | 135 |
| 24-Mar-15 | 9:20 | 115 |
| 24-Mar-15 | 10:35 | 104 |
| 30-Mar-15 | 8:20 | 7 |
| 30-Mar-15 | 9:21 | 15 |
| 30-Mar-15 | 10:30 | 14 |
| **Action Level** | | **197** |
| **Limit Level:** | | **500** |

4.2.2. Air monitoring results measured in this reporting period are reviewed and summarized. No exceedance was recorded in reporting period. Details of air monitoring results can be referred in ***Appendix 5.3***.

## 4.3 Waste Monitoring Results

4.3.1. Inert and non-inert C&D waste were disposed of in this reporting period. Details of the waste flow table are summarized in ***Table 4.4.***

***Table 4.4 Details of Waste Disposal for Contract no. CV/2012/07***

| Waste Type | Quantity this quarter | Cumulative Quantity-to-Date | Disposal / Dumping Grounds |
|---|---|---|---|
| Inert C&D materials disposed, 000m$^3$ | 0.5208 | 8.29673 | TKO137 |
| Inert C&D materials recycled, 000m$^3$ | 0 | 0 | N/A |
| Non-inert C&D materials disposed, 000m$^3$ | 0 | 0 | N/A |
| Non-inert C&D materials recycled, kg | 0 | 0 | N/A |
| Chemical waste disposed, kg | 0 | 0 | N/A |
| General refuse,m$^3$ | 0.0066 | 0.01476 | NENT |

Remark: Amount of General refuse was rectified

## 5. Compliance Audit

5.0.1. The Event Action Plan for construction noise, air quality and water quality are presented in ***Appendix 6.1***.

### 5.1 Noise Monitoring

5.1.1. No exceedance was recorded in the reporting period.

### 5.2 Air Monitoring

5.2.1. No exceedance was recorded in the TSP monitoring in the reporting period.

### 5.3 Environmental Site Audit

5.3.1. There was no non-compliance from the site audits in the reporting period. During environmental site inspections conducted during the reporting period, minor deficiencies were noted.

### 5.4 Review of the Reasons for and the Implications of Non-compliance

5.4.1. There was no non-compliance from the site audits in the reporting period. The observations and recommendations made in each individual site audit session were presented in Section 8.

### 5.5 Summary of action taken in the event of and follow-up on non-compliance

5.5.1. There was no particular action taken since no project-related non-compliance was recorded from the site audits and environmental monitoring in the reporting period.

## 6. Complaints, Notification of Summons and Prosecution

6.0.1. No complaint and notification of summons or successful prosecutions were recorded in this reporting period.

6.0.2. The details of cumulative complaint log and updated summary of complaints are presented in ***Appendix 8.1***.

6.0.3. Cumulative statistic on complaints and successful prosecutions are summarized in ***Table 6.1*** and ***Table 6.2*** respectively.

***Table 6.1 Cumulative Statistics on Complaints***

| Reporting Period | No. of Complaints |
|---|---|
| January 2015 – March 2015 | 0 |
| **Project-to-Date** | **1** |

***Table 6.2 Cumulative Statistics on Successful Prosecutions***

| Environmental Parameters | Cumulative No. Brought Forward | No. of Successful Prosecutions this quarter (Offence Date) | Cumulative No. Project-to-Date |
|---|---|---|---|
| Air | - | 0 | 0 |
| Noise | - | 0 | 0 |
| Waste | - | 0 | 0 |
| **Total** | **-** | **0** | **0** |

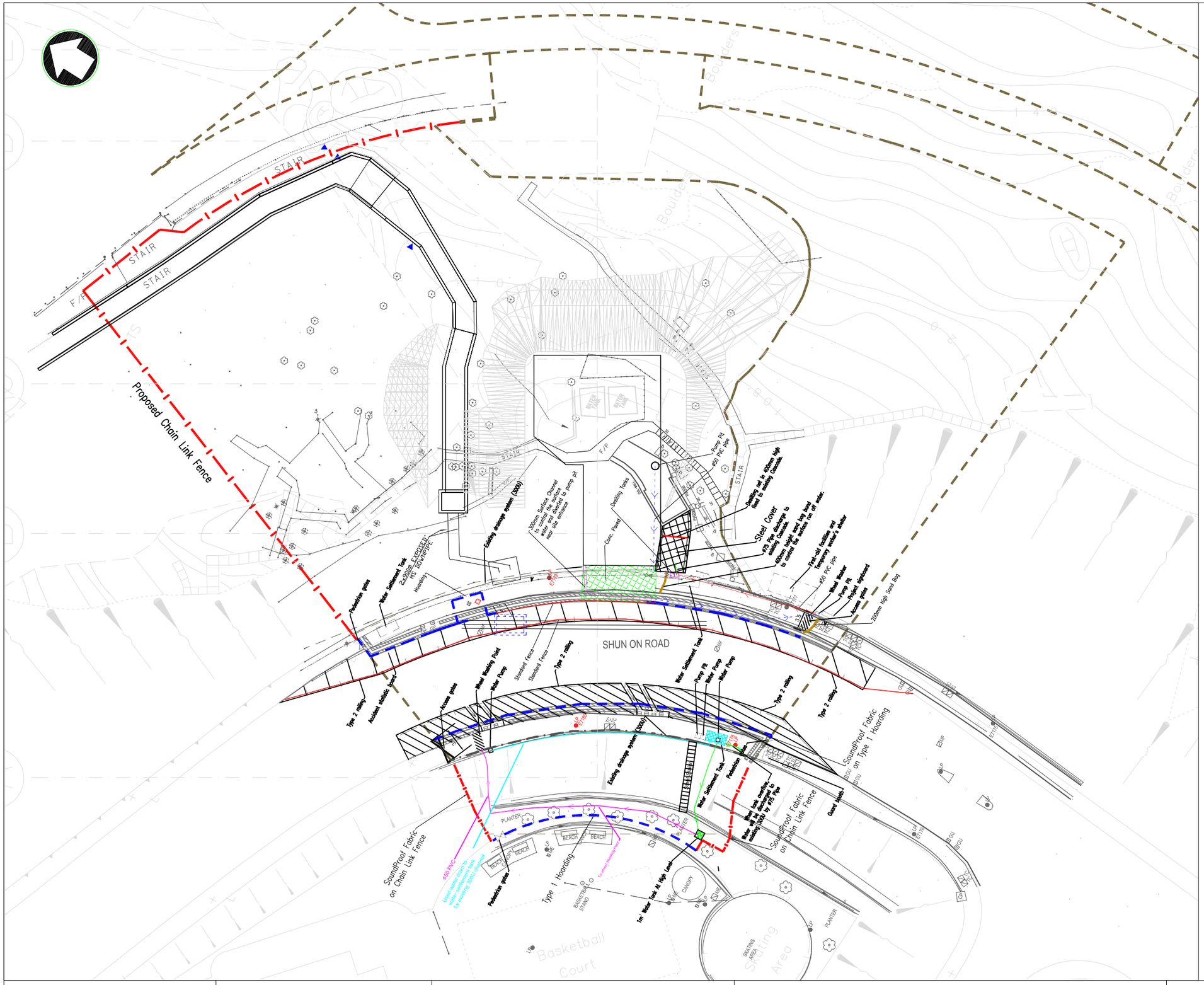
## 7. Conclusion

7.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.

7.0.2. No construction air and noise monitoring results that triggered the Limit Level was recorded. No complaint of air and noise were received by the ARUP and the contractor. Furthermore, no notification of summons or successful prosecution was received in this reporting period.

***Figure 2.1***

***Project Layout***




NOTES:

1. This drawing shall be read in conjunction with Drawing 24711/1052.
2. The location of fencing and hoarding is indicative only. The exact location is approved on site by Engineer.
3. For Detail of Access gate refer to CEDD Standard Drawing No. C1007.
4. Dimensions Are in Meters Unless Otherwise Shown.
5. The surface water inside Portion C3 will be collected by a pump pit and pump into water settlement tank for recycle purpose.
   In case the water inside the settlement tank is overflow, a ø75 pipe will discharge the overflow water into existing 300U on slope toe.

Legend

- Proposed Chain Link Fence
- Proposed Safety Fence (Type A)
- Proposed Hoarding (Type I)
- Site Boundary

ARUP 奧雅納工程顧問 Ove Arup & Partners Hong Kong Limited

CEDD 土木工程拓展署 Civil Engineering and Development Department

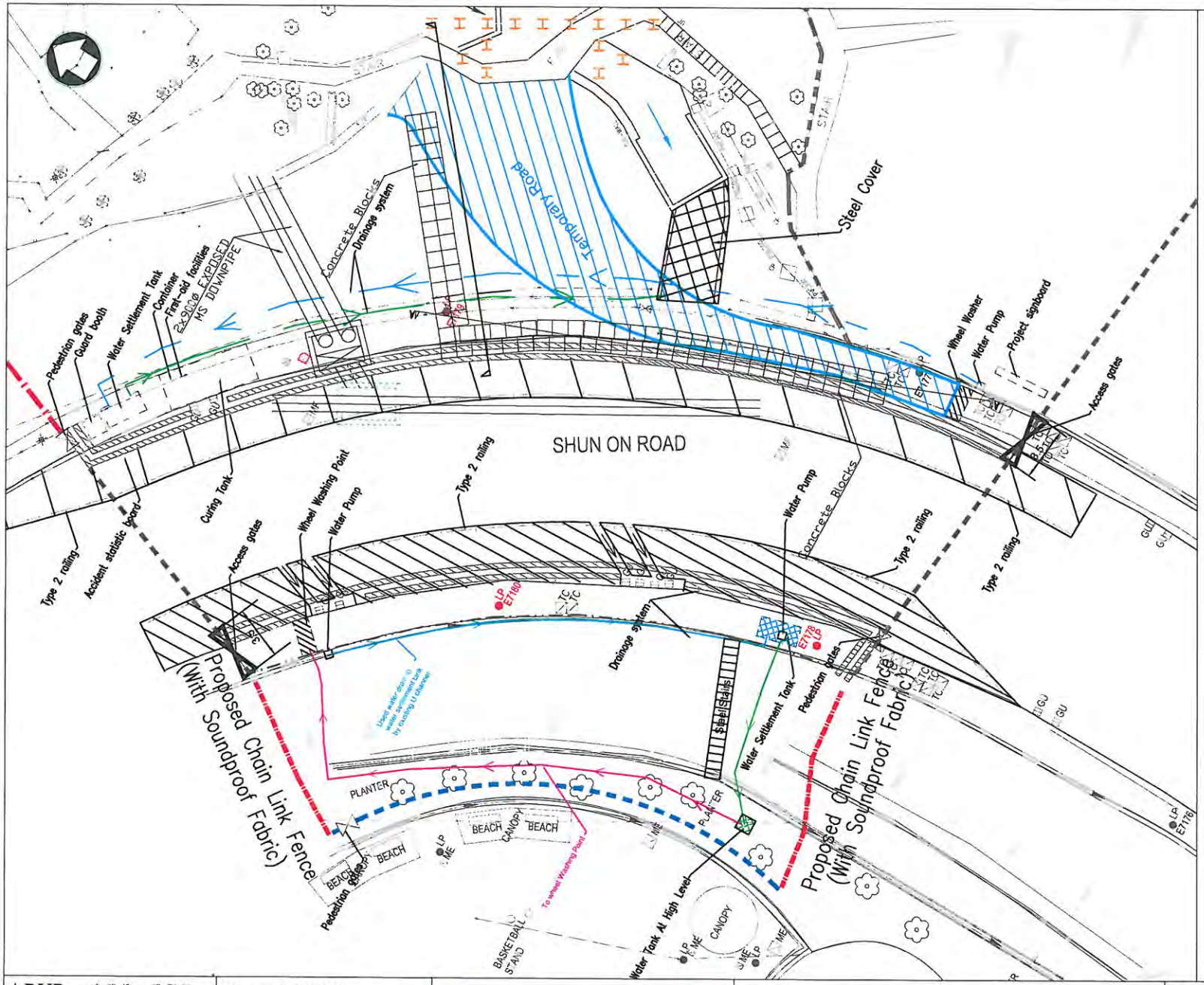
Contract No. CV/2012/07
Development at Anderson Road – Footbridge D and Associated Works

Lam-Po Wing Joint Venture

DRAWING Title.

# Site Establishment Plan

| | | | |
|---|---|---|---|
| SCALE | 1:500 @ A3 | DATE | 30 Sept. 2013 |
| CHECK | HUNG | DRAWN | Bobby |
| JOB NO. | CV/2012/07 | DRAWING NO. | SK011 |
| | | REV | I |

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Legend

- Proposed Chain Link Fence
- Proposed Safety Fence (Type A)
- Proposed Hoarding (Type I)
- Site Boundary

ARUP 奧雅納工程顧問 Ove Arup & Partners Hong Kong Limited

CEDD 土木工程拓展署 Civil Engineering and Development Department

Contract No. CV/2012/07
Development at Anderson Road – Footbridge D and Associated Works

Lam-Po Wing Joint Venture

DRAWING Title.
Wheel Washing System

| | | | |
|---|---|---|---|
| SCALE | 1:250 @ A3 | PRINT DATE | 20 Nov. 2013 |
| CHECK | HUNG | DATE | 20 Nov. 2013 |
| JOB NO. | CV/2012/07 | DRAWN | Bobby |
| | | DRAWING NO. | SK024 (Sheet 1/1) |
| | | REV | A |

***Figure 2.2***

***Project Organization Chart***

## Project Organization Chart

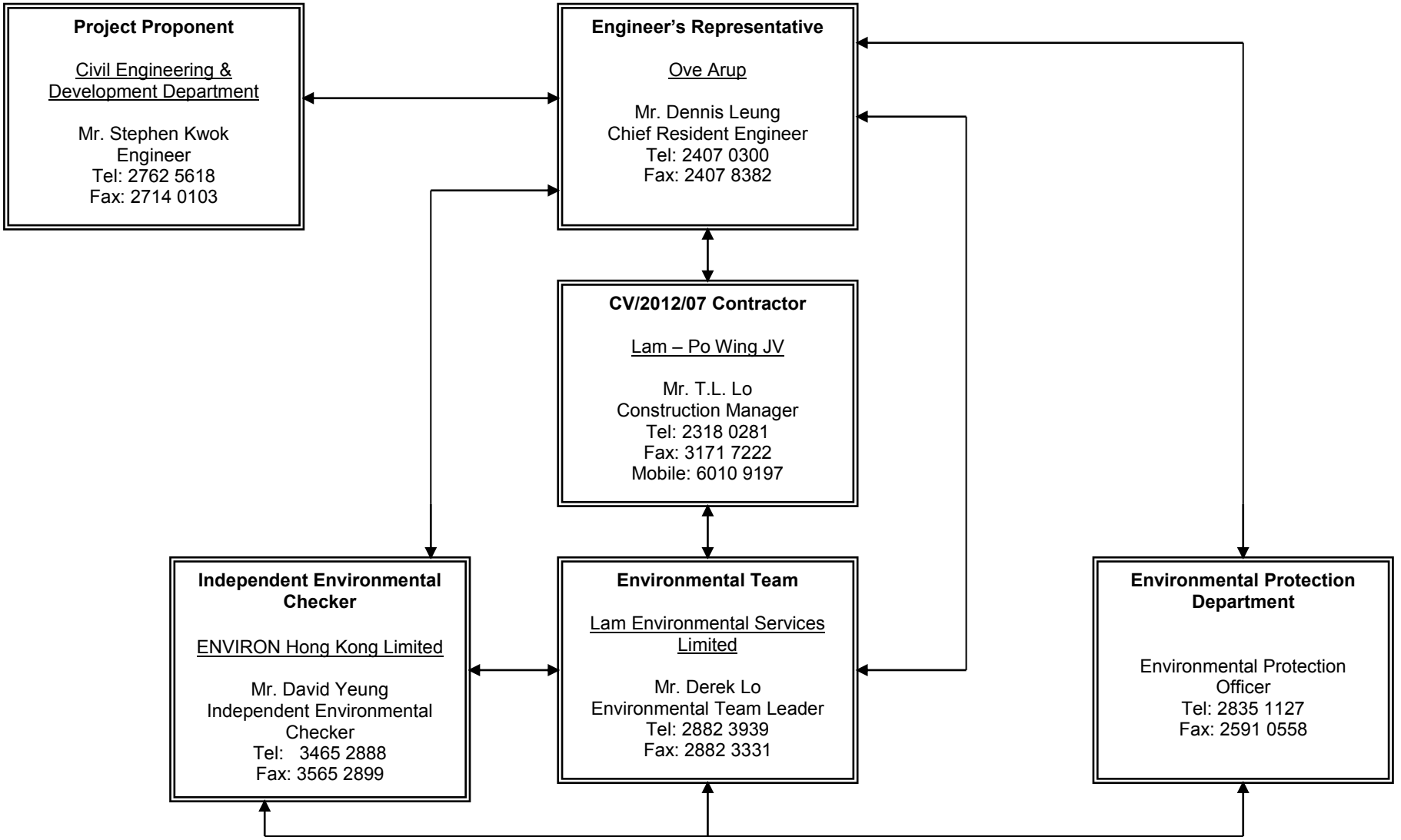

***Figure 4.1***

***Locations of Environmental Monitoring Stations***

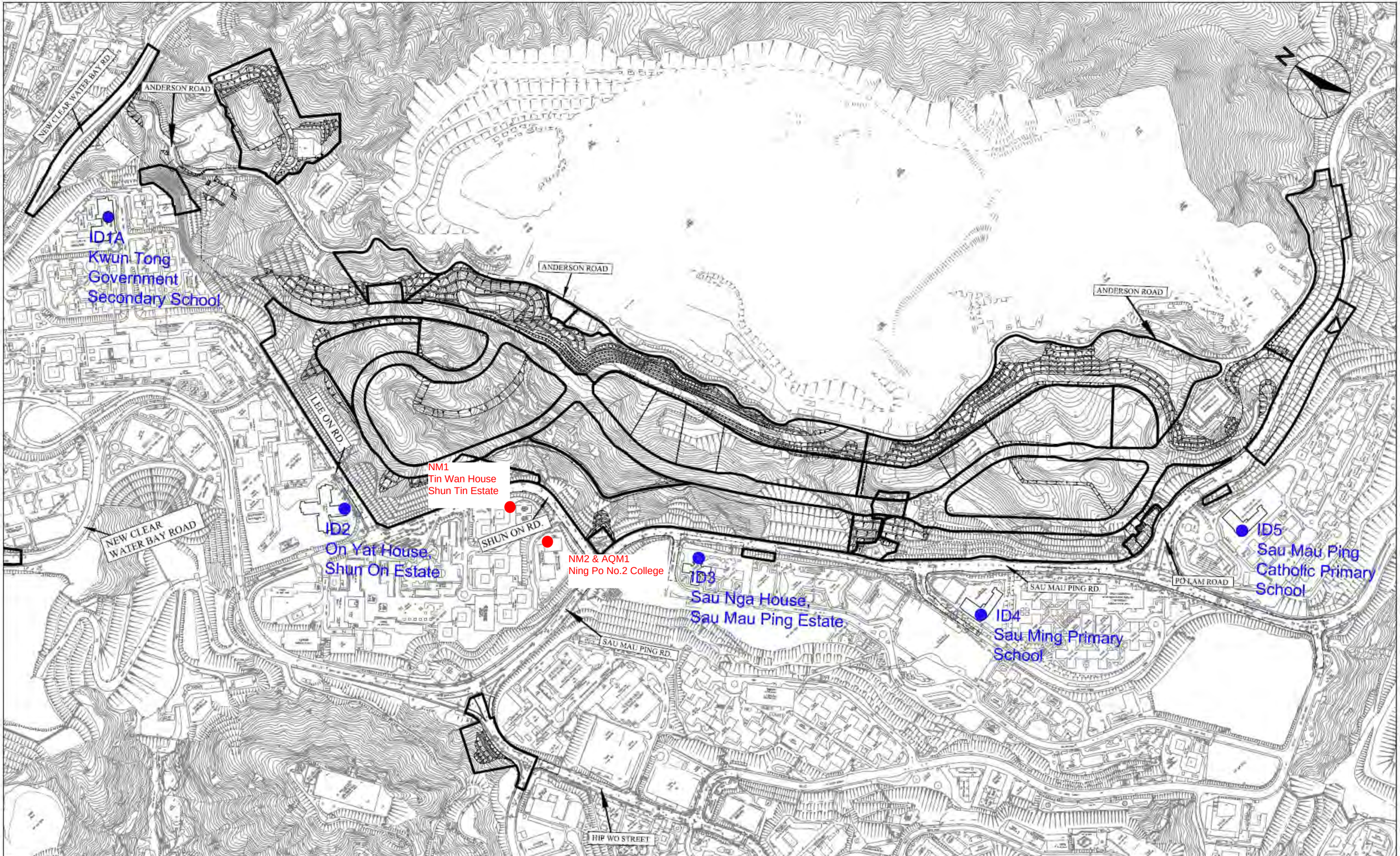


**Figure 4.1. Environmental Monitoring Location**

***Appendix 3.1***

***Environmental Mitigation Implementation Schedule***

## *Environmental Mitigation Implementation Schedule*

Implementation Schedule for Construction Dust Control

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location (duration/ completion of measures) | Funding Agent | Implementation Agent | Implementation Stages** | | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|
| | | | | | | D | C | |
| S2.7 | S1, S2.8 | *Site Practice*<br>• Mean vehicle speed of haulage trucks at 10 km/hr.<br>• Twice daily watering of all open site areas.<br>• Regular watering (once every 1 hour) of all site roads and access roads with frequent truck movement.<br>• Tarpaulin covering of all dusty vehicle loads transported to, form and between site locations.<br>• Establishment and use of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary.<br>• Suitable side and tailboards on haulage vehicles.<br>• Watering of temporary stockpiles.<br><br>*Blasting*<br>• Use of select aggregate and fines to stem the charge with drill holes and watering of blast face.<br>• Use of vaccum extraction drilling methods.<br>• Carefully sequenced blasting.<br><br>*Crushing*<br>• Fabric filters installed for the crushing plant.<br>• Water sprays on the crusher.<br><br>*Loading and Unloading Points, and conyeyor Belt System*<br>• Water sprays at all fixed loading and unloading points (at the crusher and conveyor belts).<br>• The loading point at the crusher is enclosed with dust curtains are used for controlling dust.<br>• When transferring materials from conveyor belt or crusher to the dump trucks, chutes or dust curtains are used for controlling dust.<br>• Cover the conveyor belts with steel roof and canvas sides. | All Construction sites (late 2007 to 2016) | CEDD | Lam – Po Wing JV | √ | √ | TM on EIA Process, APCO, Air Pollution Control (Construction Dust) Regulation |

* All recommendations and requirements are summarized from approved EIA resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project,

** D=Design, C=Construction

Implementation Schedule for Construction Noise Control

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location (duration/ completion of measures) | Funding Agent | Implementation Agent | Implementation Stages** | | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|
| | | | | | | D | C | |
| S3.7 | S1, S3.7 | *Site Formation*<br>• Silenced powered mechanical equipment (PME) for most equipment5 (including drill rig, backhoe, dump truck, breaker and crane) and the decrease of percentage on time usage of drill rig among the Central Area form 50% to 40% is prosed.<br>• Temporary movable noise barrier shall be used to shield the noise emanating from the drilling rig in order to provide adequate shielding for the affected NSRs. | All Construction sites (late 2007 to 2016) | CEDD | Lam – Po Wing JV | √ | √ | TM on EIA Process, NCO, TM on Noise from Construction Work other than Percussive Pilling, ProPECC Note PN2/93 |

* All recommendations and requirements are summarized from approved EIA resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project,

** D=Design, C=Construction

Implementation Schedule for Water Quality Control

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location (duration/ completion of measures) | Funding Agent | Implementation Agent | Implementation Stages** | | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|
| | | | | | | D | C | |
| S6.4 | S1 | *Construction Phase*<br>• All active working areas should be bounded to retain storm water with sufficient retention time to ensure that suspended solids are not discharged from the site in concentrations above those specified in the TM for the Victor Harbour (Phase I) WCZ. All fuel storage areas should be bounded with drainage directed to an oil interceptor.<br>• Separate treatment facilities may be required for effluent from site offices, toilets (unless chemical toilets are used) and canteens.<br>• Discharged wastewater from the construction sites to surface water and /or public drainage systems should be controlled through licensing. Discharges should follow fully the terms and conditions in the licences.<br>• Relevant practice for dealing with various typr of construction discharges provided in EPD's ProPECC Note 1/94 should be adopted. | All Construction sites (late 2007 to 2016) | CEDD | Lam – Po Wing JV | √ | √ | TM on EIA Process, WPCO, ProPECC Note PN 1/94 |

* All recommendations and requirements are summarized from approved EIA resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project,

** D=Design, C=Construction

Implementation Schedule for Construction Waste Management

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location (duration/ completion of measures) | Funding Agent | Implementation Agent | Implementation Stages** | | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|
| | | | | | | D | C | |
| S8.4 | S1,S4 | *Waste Disposal*<br>• Different types of wastes should be segregated, stored, transported and disposed of proper practice of waste management.<br>• Sorting of wastes should be done on-site. Different types of wastes should be segregated and stored in different stockpiles, containers or skips to enhance recycling of materials and proper disposal of wastes.<br>• Excavated spoil should be used as much as possible to minimize off-site fill material requirements and disposal of spoil.<br>• During road transportation of excavated spoil, vehicles should be covered to avoid dust impact. Wheel washing facilities should be installed at all site exits together with regular qatering of the site access roads.<br>• Chemical waste should be recycled on-site or removed by licenced companies. It should be handled according to the Code of practice on the packaging, Labelling and Storage of Chemical Wastes. When off-site disposal is required, it should be collected and delivered by licenced contractors to Tsing Yi Chemical Waste Treatment Facility and disposed of in accordance with the Chemical Waste (General) Regulation.<br>• Necessary mitigation measures should be adopted to prevent the uncontrolled disposal of chemical and hazardous waste into air, soil, surface waters and ground waters. | All Construction sites (late 2007 to 2016) | CEDD | Lam – Po Wing JV | √ | √ | TM on EIA Process, WDO, DGO, Waste Disposal (Chemical Waste) (General) Regulation |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | *Waste Storage*<br>• Chemical material storage areas should be bounded, constructed of impervious materials, and have the capacity to contain 120 percent of the total volume of the containers. Indoor storage areas must have sufficient ventilation to prevent the build-up of fumes, and must be capable of evacuating the space in the event of an accidental release. Outdoor storage areas must be covered with a canopy or contain provisions for the safe removal of rainwater. In both cases, storage areas must not be connected to the foul or stormwater sewer system.<br>• Dangerous materials as defined under the DGO, including fuel, oil and lubricants, should be stored and properly labeled on site in accordance with the requirements in the DGO. If transportation of hazardous materials is necessary, hazardous materials, chemical wastes and fuel should be packed or stored in containers or vessels of suitable design and construction to prevent leakage, spillage or escape.<br>• Human waste should be discharged into septic tanks provided by the contractors and removed regularly by a hygiene services company. Refuse containers such as open skips should be provided at every work site for use by the workforce; On-site refuse collection points must also be provided. | | | | | | |

* All recommendations and requirements are summarized from approved EIA resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project,

** D=Design, C=Construction

***Appendix 4.1***

***Action and Limit Level***

## Action and Limit Level

### *Action and Limit Level for Noise Monitoring*

| Time Period | Action Level | Limit Level |
|---|---|---|
| 07:00 – 19:00 hours on normal weekdays | When one documented complaint is received. | 75 dB(A)/ 70 dB(A)/ 65 db(A)[Note 1] |

*Note 1:*

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

### *Action and Limit Level for Air Monitoring*

| Monitoring Location | 1-hour TSP Level in $\mu g/m^3$ | | 24-hour TSP Level in $\mu g/m^3$ | |
|---|---|---|---|---|
| | Action Level | Limit Level | Action Level | Limit Level |
| AQM1 | 197 | 500 | 200 | 260 |

***Appendix 4.2***

***Copies of Calibration Certificates***

Lam Environmental Services Limited

# Calibration Data for High Volume Sampler (TSP Sampler)

| | | | | | |
|---|---|---|---|---|---|
| **Location** | : | Ning Po No.2 College | **Calbration Date** | : | 17-Dec-14 |
| **ID** | : | AQM1 | **Calbration Due Date** | : | 17-Feb-15 |

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

| **Ambient Condition** | | | | | |
|---|---|---|---|---|---|
| **Temperature, $T_a$** | 286 | Kelvin | **Pressure, $P_a$** | 1027 | mmHg |

| **Orifice Transfer Standard Information** | | | | | |
|---|---|---|---|---|---|
| **Equipment No.** | **EL086** | **Slope, $m_c$** | 1.99175 | **Intercept, bc** | -0.00041 |
| **Last Calibration Date** | 14-Jul-14 | $(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ | | | |
| **Next Calibration Date** | 14-Jul-15 | $= m_c \times Q_{std} + b_c$ | | | |

| **Calibration of TSP** | | | | | | |
|---|---|---|---|---|---|---|
| **Calibration Point** | **Manometer Reading H (inches of water)** (up) | (down) | (difference) | **$Q_{std}$** ($m^3$ / min.) **X-axis** | **Continuous Flow Recorder, W** (CFM) | **IC** $(W(P_a/1013.3x298/T_a)^{1/2}/35.31)$ **Y-axis** |
| **1** | 6.8 | 6.8 | 13.6 | 1.9029 | 57 | 58.5755 |
| **2** | 5.0 | 5.0 | 10.0 | 1.6318 | 47 | 48.2991 |
| **3** | 4.2 | 4.2 | 8.4 | 1.4956 | 40 | 41.1056 |
| **4** | 2.5 | 2.5 | 5.0 | 1.1539 | 30 | 30.8292 |
| **5** | 1.3 | 1.3 | 2.6 | 0.8321 | 22 | 22.6081 |

By Linear Regression of Y on X

Slope, m = 33.6306 Intercept, b = -6.9091

Correlation Coefficient* = 0.9931

Calibration Accepted = Yes/~~No~~**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks :

| | | | | | |
|---|---|---|---|---|---|
| **Calibrated by** | : | Henry Lau | **Checked by** | : | Derek Lo |
| **Date** | : | 17-Dec-14 | **Date** | : | 17-Dec-14 |

Lam Environmental Services Limited

# Calibration Data for High Volume Sampler (TSP Sampler)

| | | | | | |
|---|---|---|---|---|---|
| **Location** | : | Ning Po No.2 College | **Calbration Date** | : | 13-Feb-15 |
| **ID** | : | AQM1 | **Calbration Due Date** | : | 13-Apr-15 |

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

| **Ambient Condition** | | | | |
|---|---|---|---|---|
| **Temperature, $T_a$** | 286 Kelvin | **Pressure, $P_a$** | 1027 | mmHg |

| **Orifice Transfer Standard Information** | | | | | |
|---|---|---|---|---|---|
| **Equipment No.** | **EL086** | **Slope, $m_c$** | 1.99175 | **Intercept, bc** | -0.00041 |
| **Last Calibration Date** | 14-Jul-14 | $(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ | | | |
| **Next Calibration Date** | 14-Jul-15 | $= m_c \times Q_{std} + b_c$ | | | |

| **Calibration of TSP** | | | | | | |
|---|---|---|---|---|---|---|
| **Calibration Point** | **Manometer Reading H (inches of water)** | | | **$Q_{std}$** ($m^3$ / min.) | **Continuous Flow Recorder, W** | **IC** $(W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31)$ |
| | (up) | (down) | (difference) | **X-axis** | (CFM) | **Y-axis** |
| **1** | 6.6 | 6.6 | 13.2 | 1.8747 | 54 | 55.4926 |
| **2** | 5.4 | 5.4 | 10.8 | 1.6958 | 47 | 48.2991 |
| **3** | 4.2 | 4.2 | 8.4 | 1.4956 | 42 | 43.1609 |
| **4** | 2.7 | 2.7 | 5.4 | 1.1992 | 30 | 30.8292 |
| **5** | 1.7 | 1.7 | 3.4 | 0.9516 | 22 | 22.6081 |

By Linear Regression of Y on X

Slope, m = 35.6226 Intercept, b = -11.3384

Correlation Coefficient* = 0.9983

Calibration Accepted = Yes/~~No~~**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

| | | | | | |
|---|---|---|---|---|---|
| **Calibrated by** | : | LuLu Mar | **Checked by** | : | Derek Lo |
| **Date** | : | 13-Feb-15 | **Date** | : | 13-Feb-15 |

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AIR POLLUTION MONITORING EQUIPMENT

# ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Jul 15, 2013 Rootsmeter S/N 0438320 Ta (K) - 300
Operator Tisch Orifice I.D. - 0005 Pa (mm) - 759.46

| 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 | 1.3910 | 3.2 | 2.00 |
| 2 | NA | NA | 1.00 | 0.9830 | 6.4 | 4.00 |
| 3 | NA | NA | 1.00 | 0.8800 | 7.9 | 5.00 |
| 4 | NA | NA | 1.00 | 0.8380 | 8.8 | 5.50 |
| 5 | NA | NA | 1.00 | 0.6930 | 12.7 | 8.00 |

## DATA TABULATION

| Vstd | (x axis) Qstd | (y axis) | | Va | (x axis) Qa | (y axis) |
|---|---|---|---|---|---|---|
| 0.9884 | 0.7106 | 1.4090 | | 0.9958 | 0.7159 | 0.8888 |
| 0.9843 | 1.0013 | 1.9926 | | 0.9916 | 1.0087 | 1.2570 |
| 0.9822 | 1.1161 | 2.2278 | | 0.9895 | 1.1244 | 1.4054 |
| 0.9811 | 1.1708 | 2.3365 | | 0.9884 | 1.1795 | 1.4740 |
| 0.9760 | 1.4084 | 2.8180 | | 0.9832 | 1.4188 | 1.7777 |
| Qstd slope (m) = | | 2.01968 | | Qa slope (m) = | | 1.26469 |
| intercept (b) = | | -0.02746 | | intercept (b) = | | -0.01732 |
| coefficient (r) = | | 0.99999 | | coefficient (r) = | | 0.99999 |
| 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

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 - Jul 14, 2014 Rootsmeter S/N 0438320 Ta (K) - 298
Operator Tisch Orifice I.D. - 0005 Pa (mm) - 749.3

| 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 | 1.3870 | 3.2 | 2.00 |
| 2 | NA | NA | 1.00 | 0.9830 | 6.4 | 4.00 |
| 3 | NA | NA | 1.00 | 0.8760 | 7.9 | 5.00 |
| 4 | NA | NA | 1.00 | 0.8340 | 8.8 | 5.50 |
| 5 | NA | NA | 1.00 | 0.6860 | 12.7 | 8.00 |

## DATA TABULATION

| Vstd | (x axis) Qstd | (y axis) | | Va | (x axis) Qa | (y axis) |
|---|---|---|---|---|---|---|
| 0.9817 | 0.7078 | 1.4042 | | 0.9957 | 0.7179 | 0.8919 |
| 0.9775 | 0.9944 | 1.9859 | | 0.9915 | 1.0086 | 1.2613 |
| 0.9754 | 1.1135 | 2.2203 | | 0.9894 | 1.1294 | 1.4101 |
| 0.9743 | 1.1683 | 2.3286 | | 0.9882 | 1.1849 | 1.4790 |
| 0.9692 | 1.4128 | 2.8084 | | 0.9830 | 1.4330 | 1.7837 |
| Qstd slope (m) = | | 1.99175 | | Qa slope (m) = | | 1.24720 |
| intercept (b) = | | -0.00041 | | intercept (b) = | | -0.00026 |
| coefficient (r) = | | 0.99991 | | coefficient (r) = | | 0.99991 |
| 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. : C142113
證書編號

**ITEM TESTED / 送檢項目** ( Job No. / 序引編號 : IC14-0855 ) Date of Receipt / 收件日期 : 28 March 2014

| | | |
|---|---|---|
| Description / 儀器名稱 | : | Sound Level Meter (EN04) |
| Manufacturer / 製造商 | : | Cesva |
| Model No. / 型號 | : | SC-20e |
| Serial No. / 編號 | : | T217501 |
| Supplied By / 委託者 | : | Honkei Technology Hong Kong Limited<br>Unit 7, 18/F., Treasure Centre, 42 Hung To Road,<br>Kwun 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** : 4 April 2014

**TEST RESULTS / 測試結果**

The results apply to the particular unit-under-test only.
All results are within 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
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : K C Lee, Project Engineer

Certified By 核證 : K M Wu, Engineer

Date of Issue 簽發日期 : 7 April 2014



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 – 校正及檢測實驗所
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

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

2. Self-calibration using the laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

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

4. Test equipment :

| Equipment ID | Description | Certificate No. |
|---|---|---|
| CL280 | 40 MHz Arbitrary Waveform Generator | C140016 |
| CL281 | Multifunction Acoustic Calibrator | DC130171 |

5. Test procedure : MA101N.

6. 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) |
|---|---|---|---|---|
| Time Weighting | Frequency Weighting | Level (dB) | Freq. (kHz) | |
| $L_F$ | A | 94.00 | 1 | 95.0 |

6.1.1.2 After Self-calibration

| UUT Setting | | Applied Value | | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|---|---|---|---|---|---|
| Time Weighting | Frequency Weighting | Level (dB) | Freq. (kHz) | | |
| $L_F$ | A | 94.00 | 1 | 94.0 | ± 0.7 |

6.1.2 Linearity

| UUT Setting | | Applied Value | | UUT Reading (dB) |
|---|---|---|---|---|
| Time Weighting | Frequency Weighting | Level (dB) | Freq. (kHz) | |
| $L_F$ | A | 94.00 | 1 | 94.0 (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.

6.2 Time Weighting

6.2.1 Continuous Signal

| UUT Setting | | Applied Value | | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|---|---|---|---|---|---|
| Time Weighting | Frequency Weighting | Level (dB) | Freq. (kHz) | | |
| $L_F$ | A | 94.00 | 1 | 94.0 | Ref. |
| $L_S$ | | | | 94.0 | ± 0.1 |

# Certificate of Calibration
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6.2.2 Tone Burst Signal (2 kHz)

| UUT Setting | | Applied Value | | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|---|---|---|---|---|---|
| Time Weighting | Frequency Weighting | Level (dB) | Burst Duration | | |
| $L_F$ | A | 106.00 | Continuous | 106.0 | Ref. |
| $L_F$ Maximum | | | 200 ms | 105.0 | -1.0 ± 1.0 |
| $L_S$ | | | Continuous | 106.0 | Ref. |
| $L_S$ Maximum | | | 500 ms | 102.0 | -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) |
|---|---|---|---|---|---|
| Time Weighting | Frequency Weighting | Level (dB) | Freq. | | |
| $L_F$ | A | 94.00 | 31.5 Hz | 54.3 | -39.4 ± 1.5 |
| | | | 63 Hz | 67.7 | -26.2 ± 1.5 |
| | | | 125 Hz | 77.7 | -16.1 ± 1.0 |
| | | | 250 Hz | 85.3 | -8.6 ± 1.0 |
| | | | 500 Hz | 90.7 | -3.2 ± 1.0 |
| | | | 1 kHz | 94.0 | Ref. |
| | | | 2 kHz | 95.3 | +1.2 ± 1.0 |
| | | | 4 kHz | 95.0 | +1.0 ± 1.0 |
| | | | 8 kHz | 92.8 | -1.1 (+1.5 ; -3.0) |
| | | | 12.5 kHz | 88.0 | -4.3 (+3.0 ; -6.0) |

6.3.2 C-Weighting

| UUT Setting | | Applied Value | | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|---|---|---|---|---|---|
| Time Weighting | Frequency Weighting | Level (dB) | Freq. | | |
| $L_F$ | C | 94.00 | 31.5 Hz | 90.8 | -3.0 ± 1.5 |
| | | | 63 Hz | 93.1 | -0.8 ± 1.5 |
| | | | 125 Hz | 93.8 | -0.2 ± 1.0 |
| | | | 250 Hz | 94.0 | 0.0 ± 1.0 |
| | | | 500 Hz | 94.0 | 0.0 ± 1.0 |
| | | | 1 kHz | 94.0 | Ref. |
| | | | 2 kHz | 93.9 | -0.2 ± 1.0 |
| | | | 4 kHz | 93.2 | -0.8 ± 1.0 |
| | | | 8 kHz | 90.9 | -3.0 (+1.5 ; -3.0) |
| | | | 12.5 kHz | 86.0 | -6.2 (+3.0 ; -6.0) |



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6.4 Time Averaging

| UUT Setting | | | Applied Value | | | | | UUT Reading (dB) | IEC 60804 Type 1 Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| Time Weighting | Frequency Weighting | Integrating Time | Freq. (kHz) | Burst Duration (ms) | Burst Duty Factor | Burst Level (dB) | Equivalent Level (dB) | | |
| LeqT | A | 10 sec. | 4 | 1 | 1/10 | 110.0 | 100 | 100.0 | ± 0.5 |
| | | | | | $1/10^2$ | | 90 | 90.0 | ± 0.5 |
| | | 60 sec. | | | $1/10^3$ | | 80 | 80.0 | ± 1.0 |
| | | 5 min. | | | $1/10^4$ | | 70 | 69.9 | ± 1.0 |

Remarks : - UUT Microphone Model No. : C-130 & S/N : 12624

- 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.



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c/o 香港新界屯門興安里一號青山灣機樓四樓
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Fax : (852) 2555 7533
HOKLAS 028

# CERTIFICATE OF CALIBRATION

**Certificate No.:** 14CA0311 02 **Page:** 1 **of** 2

## Item tested

| | |
|---|---|
| Description: | Acoustical Calibrator (Class 1L) |
| Manufacturer: | CESVA,SPAIN |
| Type/Model No.: | CB-5 |
| Serial/Equipment No.: | 0035092 |
| Adaptors used: | Yes |

## Item submitted by

| | |
|---|---|
| Customer: | Pilot Testing Ltd. |
| Address of Customer: | - |
| Request No.: | - |
| Date of receipt: | 11-Mar-2014 |

## Date of test: 13-Mar-2014

## Reference equipment used in the calibration

| Description: | Model: | Serial No. | Expiry Date: | Traceable to: |
|---|---|---|---|---|
| Lab standard microphone | B&K 4180 | 2341427 | 17-Apr-2014 | SCL |
| Preamplifier | B&K 2673 | 2239857 | 16-Apr-2014 | CEPREI |
| Measuring amplifier | B&K 2610 | 2346941 | 24-Apr-2014 | CEPREI |
| Signal generator | DS 360 | 61227 | 15-Apr-2014 | CEPREI |
| Digital multi-meter | 34401A | US36087050 | 17-Dec-2014 | CEPREI |
| Audio analyzer | 8903B | GB41300350 | 15-Apr-2014 | CEPREI |
| Universal counter | 53132A | MY40003662 | 15-Apr-2014 | CEPREI |

## Ambient conditions

| | |
|---|---|
| Temperature: | 22 ± 1 °C |
| Relative humidity: | 60 ± 10 % |
| Air pressure: | 1000 ± 10 hPa |

## Test specifications

1, 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.

2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.

3, 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:** 14-Mar-2014 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

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

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# CERTIFICATE OF CALIBRATION

(Continuation Page)

**Certificate No.:** 14CA0311 02 **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.

(Output level in dB re 20 μPa)

| Frequency Shown Hz | Output Sound Pressure Level Setting dB | Measured Output Sound Pressure Level dB | Estimated Expanded Uncertainty dB |
|---|---|---|---|
| 1000 | 94.00 | 93.92 | 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 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 = 1000.9 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 = 0.9 %**

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:** 13-Mar-2014

**Checked by:** Lam Tze Wai **Date:** 14-Mar-2014

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.

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HKAS 028 CAL

# CERTIFICATE OF CALIBRATION

**Certificate No.:** 14CA1201 04 **Page:** 1 **of** 2

## Item tested

| | |
|---|---|
| Description: | Acoustical Calibrator (Class 1) |
| Manufacturer: | Rion Co., Ltd. |
| Type/Model No.: | NC-73 |
| Serial/Equipment No.: | 10707358 |
| Adaptors used: | - |

## Item submitted by

| | |
|---|---|
| Curstomer: | Lam Geotechnics Ltd. |
| Address of Customer: | - |
| Request No.: | - |
| Date of receipt: | 01-Dec-2014 |

**Date of test:** 10-Dec-2014

## Reference equipment used in the calibration

| Description: | Model: | Serial No. | Expiry Date: | Traceable to: |
|---|---|---|---|---|
| Lab standard microphone | B&K 4180 | 2412857 | 13-May-2015 | SCL |
| Preamplifier | B&K 2673 | 2239857 | 10-Apr-2015 | CEPREI |
| Measuring amplifier | B&K 2610 | 2346941 | 08-Apr-2015 | CEPREI |
| Signal generator | DS 360 | 61227 | 09-Apr-2015 | CEPREI |
| Digital multi-meter | 34401A | US36087050 | 01-Dec-2015 | CEPREI |
| Audio analyzer | 8903B | GB41300350 | 07-Apr-2015 | CEPREI |
| Universal counter | 53132A | MY40003662 | 11-Apr-2015 | CEPREI |

## Ambient conditions

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

## Test specifications

1, 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.

2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.

3, 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:** 11-Dec-2014 **Company Chop:**

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

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# CERTIFICATE OF CALIBRATION

(Continuation Page)

**Certificate No.:** 14CA1201 04 **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.

(Output level in dB re 20 μPa)

| Frequency Shown Hz | Output Sound Pressure Level Setting dB | Measured Output Sound Pressure Level dB | Estimated Expanded Uncertainty dB |
|---|---|---|---|
| 1000 | 94.00 | 94.09 | 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 = 0.001 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 = 993.19 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 = 0.9 %**

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:** 10-Dec-2014

**Checked by:** Lam Tze Wai **Date:** 11-Dec-2014

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 5.2***

***Noise Monitoring Results and Graphical Presentations***

Contract No. CV/2012/07
Development at Anderson Road -
Footbridge D and Associated Works Area

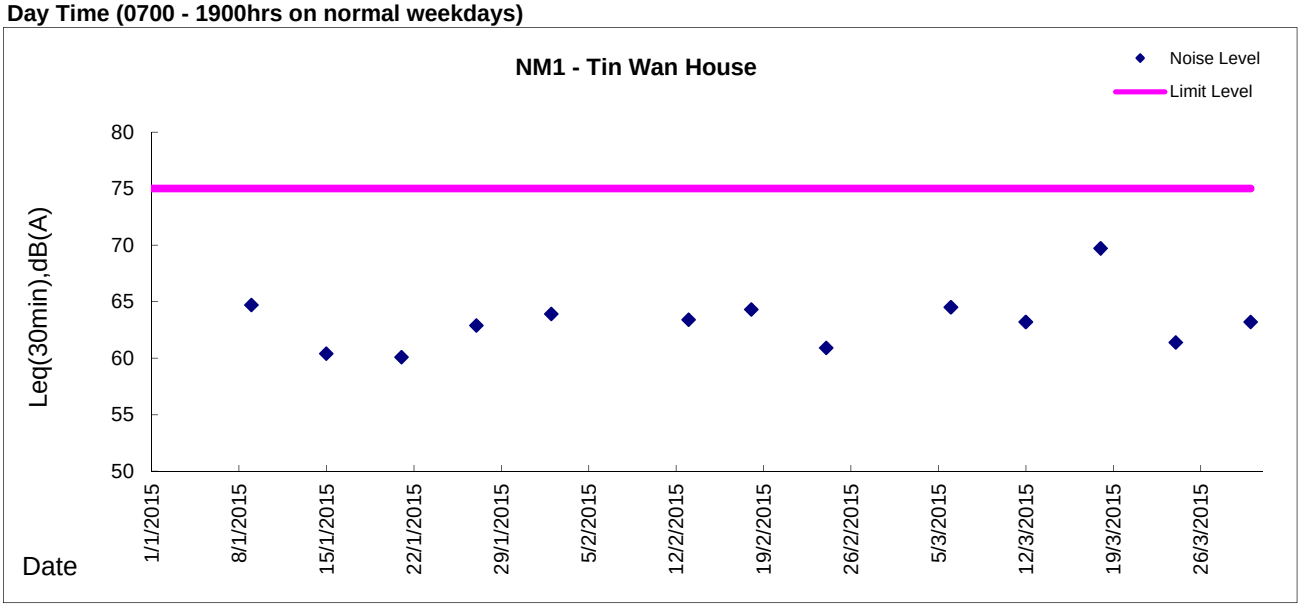
**JOB NO :** CS_J2013-02_CV201207
**CLIENT :** LPWJV

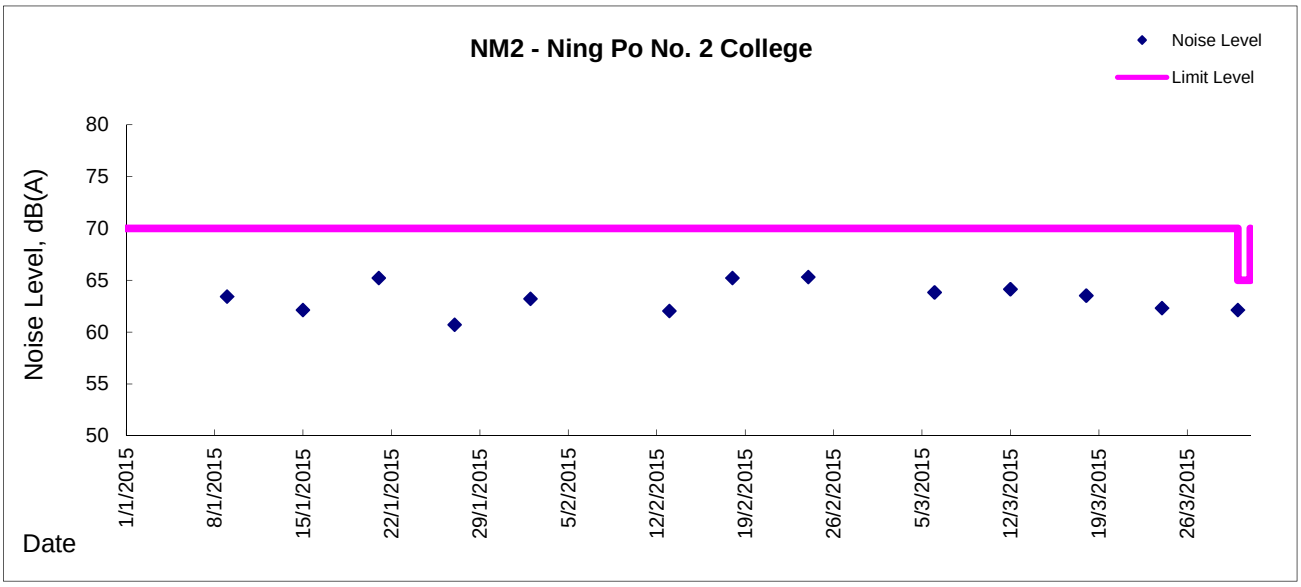
| Daytime(07:00-19:00) | | | | | |
|---|---|---|---|---|---|
| Date | Time | Location | Leq (dB) | L10 (dB) | L90 (dB) |
| 9-Jan-15 | 8:45 | NM1 | 64.7 | 68.3 | 55.6 |
| | 9:50 | NM2 | 63.4 | 67.5 | 56.1 |
| 15-Jan-15 | 8:50 | NM1 | 60.4 | 63.2 | 58.9 |
| | 10:00 | NM2 | 62.1 | 64.3 | 59.4 |
| 21-Jan-15 | 13:00 | NM1 | 60.1 | 62.7 | 55.4 |
| | 13:40 | NM2 | 65.2 | 68.6 | 57.1 |
| 27-Jan-15 | 10:00 | NM1 | 62.9 | 64.8 | 59.8 |
| | 11:00 | NM2 | 60.7 | 63.2 | 53.7 |
| 2-Feb-15 | 8:45 | NM1 | 63.9 | 68.5 | 60.1 |
| | 9:55 | NM2 | 63.2 | 65.3 | 57.8 |
| 13-Feb-15 | 13:50 | NM1 | 63.4 | 67.5 | 61.0 |
| | 14:30 | NM2 | 62.0 | 65.6 | 59.8 |
| 18-Feb-15 | 13:15 | NM1 | 64.3 | 67.2 | 59.3 |
| | 14:20 | NM2 | 65.2 | 68.1 | 58.4 |
| 24-Feb-15 | 10:00 | NM1 | 60.9 | 61.1 | 50.8 |
| | 11:00 | NM2 | 65.3 | 66.7 | 50.5 |
| 6-Mar-15 | 8:30 | NM1 | 64.5 | 67.3 | 62.8 |
| | 9:40 | NM2 | 63.8 | 66.6 | 58.1 |
| 12-Mar-15 | 8:55 | NM1 | 63.2 | 65.4 | 58.8 |
| | 10:00 | NM2 | 64.1 | 66.4 | 59 |
| 18-Mar-15 | 9:30 | NM1 | 69.7 | 74.5 | 52.3 |
| | 10:40 | NM2 | 63.5 | 65.8 | 57.1 |
| 24-Mar-15 | 8:30 | NM1 | 61.4 | 63.2 | 58.2 |
| | 9:50 | NM2 | 62.3 | 64.5 | 58.9 |
| 30-Mar-15 | 9:40 | NM1 | 63.2 | 66.7 | 60.1 |
| | 10:30 | NM2 | 62.1 | 65.4 | 59.9 |

NM1 - Tin Wan House
NM2 - Ning Po No. 2 College

**Graphic Presentation of Noise Monitoring Result**

**Day Time (0700 - 1900hrs on normal weekdays)**



***Appendix 5.3***

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

*Location: AQM1-Ning Po No.2 College*

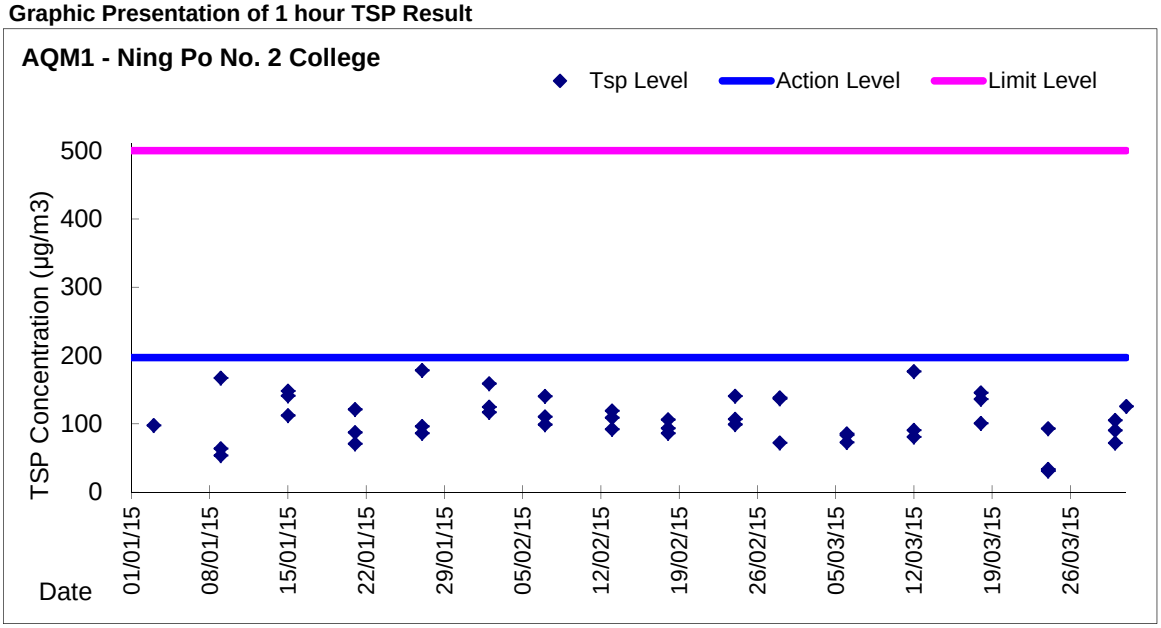
Report on 24-hour TSP monitoring
Action Level ( $\mu$ g/m3) - 200
Limit Level ( $\mu$ g/m3) - 260

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, $m^3$/min | | | Total Volume, $m^3$ | TSP Level, $\mu g/m^3$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Initial | Final | Initial | Final | | Initial, $Q_{si}$ | Final, $Q_{sf}$ | Average | | |
| 2-Jan-15 | 8:00 | Fine | 010067 | 2.7663 | 2.9336 | 2490.73 | 2514.73 | 24.00 | 1.14 | 1.14 | 1.14 | 1639 | 102 |
| 8-Jan-15 | 8:00 | Fine | 010734 | 2.7208 | 2.9492 | 2517.73 | 2541.73 | 24.00 | 1.37 | 1.37 | 1.37 | 1975 | 116 |
| 14-Jan-15 | 8:00 | Fine | 010632 | 2.7763 | 2.8839 | 2544.73 | 2568.73 | 24.00 | 1.46 | 1.46 | 1.46 | 2103 | 51 |
| 20-Jan-15 | 8:00 | Cloudy | 010636 | 2.7690 | 3.0042 | 2571.73 | 2595.73 | 24.00 | 1.31 | 1.31 | 1.31 | 1886 | 125 |
| 26-Jan-15 | 8:00 | Fine | 010105 | 2.7627 | 2.9254 | 2598.74 | 2622.74 | 24.00 | 1.36 | 1.36 | 1.36 | 1962 | 83 |
| 31-Jan-15 | 8:00 | Rainy | 010603 | 2.7569 | 2.9341 | 2625.74 | 2649.74 | 24.00 | 1.43 | 1.43 | 1.43 | 2060 | 86 |
| 6-Feb-15 | 8:00 | Fine | 010619 | 2.7887 | 3.0301 | 2652.74 | 2676.74 | 24.00 | 1.41 | 1.49 | 1.45 | 2082 | 116 |
| 12-Feb-15 | 8:00 | Cloudy | 010620 | 2.8036 | 3.0448 | 2679.74 | 2703.74 | 24.00 | 1.36 | 1.36 | 1.36 | 1964 | 123 |
| 17-Feb-15 | 8:00 | Fine | 010657 | 2.7735 | 3.0788 | 2706.97 | 2730.97 | 24.00 | 1.33 | 1.33 | 1.33 | 1920 | 159 |
| 23-Feb-15 | 8:00 | Cloudy | 011207 | 2.7177 | 2.9504 | 2749.83 | 2773.83 | 24.00 | 1.35 | 1.35 | 1.35 | 1943 | 120 |
| 27-Feb-15 | 8:00 | Cloudy | 010741 | 2.7286 | 2.9861 | 2776.83 | 2800.83 | 24.00 | 1.38 | 1.38 | 1.38 | 1985 | 130 |
| 5-Mar-15 | 8:00 | Cloudy | 011117 | 2.7229 | 2.8397 | 2803.83 | 2827.85 | 24.02 | 1.41 | 1.41 | 1.41 | 2031 | 58 |
| 11-Mar-15 | 8:00 | Cloudy | 011121 | 2.7291 | 2.8852 | 2830.85 | 2854.85 | 24.00 | 1.41 | 1.41 | 1.41 | 2034 | 77 |
| 17-Mar-15 | 8:00 | Cloudy | 011125 | 2.7407 | 2.8673 | 2857.85 | 2881.85 | 24.00 | 1.40 | 1.40 | 1.40 | 2011 | 63 |
| 23-Mar-15 | 8:00 | Cloudy | 011421 | 2.7558 | 3.0898 | 2884.85 | 2908.85 | 24.00 | 1.40 | 1.41 | 1.40 | 2022 | 165 |
| 28-Mar-15 | 8:00 | Cloudy | 011479 | 2.7593 | 2.9002 | 2911.85 | 2935.84 | 23.99 | 1.40 | 1.40 | 1.40 | 2014 | 70 |

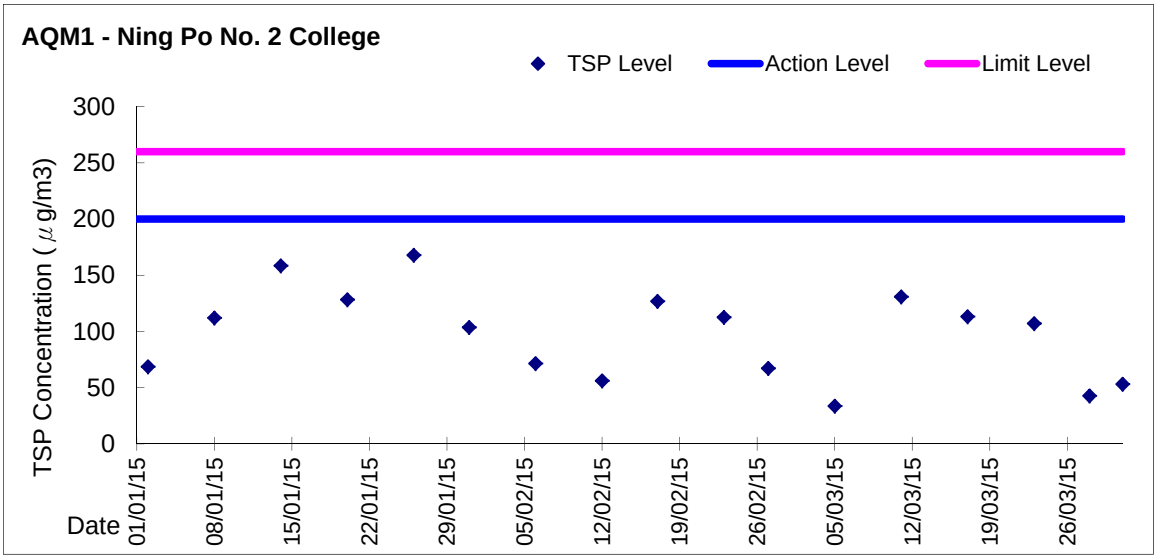
Report on 1-hour TSP monitoring
Action Level ( $\mu$ g/m3) - 197
Limit Level ( $\mu$ g/m3) - 500

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, $m^3$/min | | | Total Volume, $m^3$ | TSP Level, $\mu g/m^3$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Initial | Final | Initial | Final | | Initial, $Q_{si}$ | Final, $Q_{sf}$ | Average | | |
| 3-Jan-15 | 8:45 | Fine | 010737 | 2.7269 | 2.7427 | 2514.73 | 2515.73 | 1.00 | 1.43 | 1.43 | 1.43 | 86 | 184 |
| 3-Jan-15 | 9:49 | Fine | 010733 | 2.7149 | 2.7331 | 2515.73 | 2516.73 | 1.00 | 1.54 | 1.54 | 1.54 | 93 | 196 |
| 3-Jan-15 | 10:55 | Fine | 010101 | 2.7633 | 2.7795 | 2516.73 | 2517.73 | 1.00 | 1.43 | 1.43 | 1.43 | 86 | 189 |
| 9-Jan-15 | 8:15 | Fine | 010629 | 2.7827 | 2.7902 | 2541.73 | 2542.73 | 1.00 | 1.31 | 1.31 | 1.31 | 79 | 95 |
| 9-Jan-15 | 9:35 | Fine | 010630 | 2.7835 | 2.793 | 2542.73 | 2543.73 | 1.00 | 1.31 | 1.31 | 1.31 | 79 | 121 |
| 9-Jan-15 | 10:05 | Fine | 010631 | 2.7828 | 2.797 | 2543.73 | 2544.73 | 1.00 | 1.31 | 1.31 | 1.31 | 79 | 180 |
| 15-Jan-15 | 8:30 | Fine | 010633 | 2.7849 | 2.7898 | 2568.73 | 2569.73 | 1.00 | 1.37 | 1.37 | 1.37 | 82 | 60 |
| 15-Jan-15 | 9:37 | Fine | 010634 | 2.7823 | 2.7856 | 2569.73 | 2570.73 | 1.00 | 1.43 | 1.43 | 1.43 | 86 | 38 |
| 15-Jan-15 | 10:42 | Fine | 010635 | 2.782 | 2.7845 | 2570.73 | 2571.73 | 1.00 | 1.37 | 1.37 | 1.37 | 82 | 30 |
| 21-Jan-15 | 8:40 | Cloudy | 010102 | 2.7663 | 2.7818 | 2595.73 | 2596.73 | 1.00 | 1.37 | 1.37 | 1.37 | 82 | 189 |
| 21-Jan-15 | 9:48 | Cloudy | 010103 | 2.7586 | 2.7749 | 2596.73 | 2597.73 | 1.00 | 1.42 | 1.42 | 1.42 | 85 | 191 |
| 21-Jan-15 | 13:00 | Cloudy | 010104 | 2.749 | 2.7644 | 2597.73 | 2598.73 | 1.00 | 1.37 | 1.37 | 1.37 | 82 | 188 |
| 27-Jan-15 | 8:30 | Fine | 010637 | 2.7863 | 2.7942 | 2622.74 | 2623.74 | 1.00 | 1.30 | 1.30 | 1.30 | 78 | 101 |
| 27-Jan-15 | 9:34 | Fine | 010638 | 2.8087 | 2.8155 | 2623.74 | 2624.74 | 1.00 | 1.36 | 1.36 | 1.36 | 82 | 83 |
| 27-Jan-15 | 10:45 | Fine | 010602 | 2.7398 | 2.7504 | 2624.74 | 2625.74 | 1.00 | 1.30 | 1.30 | 1.30 | 78 | 135 |
| 2-Feb-15 | 8:30 | Fine | 010604 | 2.7416 | 2.7497 | 2649.74 | 2650.74 | 1.00 | 1.31 | 1.31 | 1.31 | 79 | 103 |
| 2-Feb-15 | 9:41 | Fine | 010617 | 2.7825 | 2.7935 | 2650.74 | 2651.74 | 1.00 | 1.37 | 1.37 | 1.37 | 82 | 134 |
| 2-Feb-15 | 10:47 | Fine | 010618 | 2.7953 | 2.8074 | 2651.74 | 2652.74 | 1.00 | 1.37 | 1.37 | 1.37 | 82 | 147 |
| 7-Feb-15 | 8:24 | Fine | 010110 | 2.7537 | 2.7661 | 2676.74 | 2677.74 | 1.00 | 1.34 | 1.34 | 1.34 | 80 | 154 |
| 7-Feb-15 | 9:34 | Fine | 010736 | 2.7218 | 2.7360 | 2677.74 | 2678.74 | 1.00 | 1.34 | 1.37 | 1.35 | 81 | 175 |
| 7-Feb-15 | 10:47 | Fine | 010735 | 2.7364 | 2.7460 | 2678.74 | 2679.74 | 1.00 | 1.34 | 1.34 | 1.34 | 80 | 119 |
| 13-Feb-15 | 9:20 | Cloudy | 010654 | 2.7822 | 2.7971 | 2703.74 | 2704.74 | 1.00 | 1.36 | 1.36 | 1.36 | 82 | 182 |
| 13-Feb-15 | 10:35 | Cloudy | 010655 | 2.7600 | 2.7796 | 2704.74 | 2705.74 | 1.00 | 1.36 | 1.36 | 1.36 | 82 | 171 |
| 13-Feb-15 | 13:00 | Cloudy | 010656 | 2.7899 | 2.8098 | 2705.74 | 2706.74 | 1.00 | 1.36 | 1.36 | 1.36 | 82 | 176 |
| 18-Feb-15 | 13:00 | Fine | 011204 | 2.718 | 2.7259 | 2730.97 | 2731.97 | 1.00 | 1.33 | 1.36 | 1.35 | 81 | 98 |
| 18-Feb-15 | 14:05 | Fine | 011205 | 2.7180 | 2.7246 | 2731.97 | 2732.97 | 1.00 | 1.31 | 1.36 | 1.33 | 80 | 82 |
| 18-Feb-15 | 15:10 | Fine | 011206 | 2.723 | 2.7300 | 2732.97 | 2733.97 | 1.00 | 1.33 | 1.36 | 1.35 | 81 | 86 |
| 24-Feb-15 | 13:00 | Cloudy | 010738 | 2.7273 | 2.7381 | 2773.83 | 2774.83 | 1.00 | 1.35 | 1.35 | 1.35 | 81 | 133 |
| 24-Feb-15 | 14:10 | Cloudy | 010739 | 2.7464 | 2.7550 | 2774.83 | 2775.83 | 1.00 | 1.35 | 1.35 | 1.35 | 81 | 106 |
| 24-Feb-15 | 15:15 | Cloudy | 010740 | 2.7410 | 2.7489 | 2775.83 | 2776.83 | 1.00 | 1.38 | 1.38 | 1.38 | 83 | 96 |
| 28-Feb-15 | 8:40 | Cloudy | 011114 | 2.709 | 2.7163 | 2800.83 | 2801.83 | 1.00 | 1.41 | 1.43 | 1.42 | 85 | 86 |
| 28-Feb-15 | 9:43 | Cloudy | 011115 | 2.7229 | 2.7289 | 2802.83 | 2803.83 | 1.00 | 1.41 | 1.41 | 1.41 | 84 | 71 |
| 28-Feb-15 | 10:55 | Cloudy | 011116 | 2.7242 | 2.7310 | 2803.83 | 2804.83 | 1.00 | 1.41 | 1.43 | 1.42 | 85 | 80 |
| 6-Mar-15 | 8:15 | Cloudy | 011118 | 2.7338 | 2.7441 | 2827.85 | 2828.85 | 1.00 | 1.41 | 1.41 | 1.41 | 84 | 122 |
| 6-Mar-15 | 9:25 | Cloudy | 011119 | 2.7301 | 2.7362 | 2828.85 | 2829.85 | 1.00 | 1.41 | 1.41 | 1.41 | 84 | 72 |
| 6-Mar-15 | 10:40 | Cloudy | 011120 | 2.7196 | 2.7244 | 2829.85 | 2830.85 | 1.00 | 1.41 | 1.41 | 1.41 | 84 | 57 |
| 12-Mar-15 | 8:25 | Cloudy | 011122 | 2.7458 | 2.7516 | 2854.85 | 2855.85 | 1.00 | 1.41 | 1.41 | 1.41 | 85 | 68 |
| 12-Mar-15 | 9:40 | Cloudy | 011123 | 2.7372 | 2.7407 | 2855.85 | 2856.85 | 1.00 | 1.41 | 1.41 | 1.41 | 85 | 41 |
| 12-Mar-15 | 10:50 | Cloudy | 011124 | 2.7376 | 2.7390 | 2856.85 | 2857.85 | 1.00 | 1.41 | 1.41 | 1.41 | 85 | 17 |
| 18-Mar-15 | 9:00 | Cloudy | 011418 | 2.7738 | 2.7778 | 2881.85 | 2882.85 | 1.00 | 1.40 | 1.40 | 1.40 | 84 | 48 |
| 18-Mar-15 | 10:05 | Cloudy | 011419 | 2.7481 | 2.7512 | 2882.85 | 2883.85 | 1.00 | 1.40 | 1.40 | 1.40 | 84 | 171 |
| 18-Mar-15 | 13:00 | Cloudy | 011420 | 2.7524 | 2.7558 | 2883.85 | 2884.85 | 1.00 | 1.40 | 1.40 | 1.40 | 84 | 176 |
| 24-Mar-15 | 8:10 | Cloudy | 011476 | 2.7532 | 2.7646 | 2908.85 | 2909.85 | 1.00 | 1.41 | 1.41 | 1.41 | 84 | 135 |
| 24-Mar-15 | 9:20 | Cloudy | 011477 | 2.7655 | 2.7752 | 2909.85 | 2910.85 | 1.00 | 1.41 | 1.41 | 1.41 | 84 | 115 |
| 24-Mar-15 | 10:35 | Cloudy | 011478 | 2.7743 | 2.7831 | 2910.85 | 2911.85 | 1.00 | 1.41 | 1.41 | 1.41 | 84 | 104 |
| 30-Mar-15 | 8:20 | Cloudy | 011480 | 2.7636 | 2.7642 | 2935.84 | 2936.84 | 1.00 | 1.34 | 1.34 | 1.34 | 81 | 7 |
| 30-Mar-15 | 9:21 | Cloudy | 011481 | 2.7586 | 2.7598 | 2936.84 | 2937.84 | 1.00 | 1.34 | 1.34 | 1.34 | 81 | 15 |
| 30-Mar-15 | 10:30 | Cloudy | 011482 | 2.7778 | 2.7789 | 2937.84 | 2938.84 | 1.00 | 1.34 | 1.34 | 1.34 | 81 | 14 |

**Graphic Presentation of 1 hour TSP Result**




**Graphic Presentation of 24 hour TSP Result**



***Appendix 6.1***

***Event Action Plans***

## Event/Action Plan for Construction Noise

| EVENT | ACTION | | | |
|---|---|---|---|---|
| | ET | IC(E) | ER | CONTRACTOR |
| Exceedance for Action Level | 1. Notify IC(E) and Contractor;<br>2. Carry out investigation;<br>3. Report the results of investigation to IC(E) and Contractor;<br>4. Discuss with Contractor and formulate remedial measures;;<br>5. Increase monitoring frequency to check mitigation effectiveness. | 1. Review the analysed results submitted by ET;<br>2. Review the proposed remedial measures by the Contractor and advise ER accordingly;<br>3. Supervise the implementation of remedial measures. | 1. Confirm receipt of notification of failure in writing;<br>2. Notify Contractor;<br>3. Require Contractor to propose remedial measures for the analysed noise problem;<br>4. Ensure remedial measures are properly implemented. | 1. Submit noise mitigation proposals to IC(E);<br>2. Implement noise mitigation proposals. |
| Exceedance for Limited Level | 1. Notify IC(E), ER, EPD and Contractor;<br>2. Identify sources;<br>3. Repeat measurements to confirm finding;<br>4. Increase monitoring frequency;<br>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;<br>6. Inform IC(E), ER and EPD the causes and actions taken for the exceedances;<br>7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results;<br>8. If exceedance stops, cease additional monitoring. | 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;<br>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly. | 1. Confirm receipt of notification of failure in writing;<br>2. Notify Contractor;<br>3. Require Contractor to propose remedial measures for the analysed noise problem;<br>4. Ensure remedial measures are properly implemented;<br>5. If exceedance continues, consider what portion of the work is responsible and instruct Contractor to stop that portion of work until the exceedance is abated. | 1. Take immediate action to avoid further exceedance;<br>2. Submit proposals for remedial actions to IC(E) within 3 working days of notification;<br>3. Implement the agreed proposals;<br>4. Resubmit proposals if problem still not under control;<br>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

## Event / Action Plan for Construction Air Quality

| EVENT | ACTION | | | |
|---|---|---|---|---|
| | ET | IC(E) | ER | CONTRACTOR |
| **ACTION LEVEL** | | | | |
| 1. Exceedance for one sample | 1. Identify source;<br>2. Inform IC(E) and ER;<br>3. Repeat measurement to confirm finding;<br>4. Increase monitoring frequency to daily. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method. | 1. Notify Contractor. | 1. Rectify any unacceptable practice;<br>2. Amend working methods if appropriate. |
| 2. Exceedance for two or more consecutive samples | 1. Identify source;<br>2. Inform IC(E) and ER;<br>3. Repeat measurements to confirm findings;<br>4. Increase monitoring frequency to daily;<br>5. Discuss with IC(E) and Contractor for remedial actions required;<br>6. If exceedance continues, arrange meeting with IC(E) and ER;<br>7. If exceedance stops, cease additional monitoring. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss with ET and Contractor on possible remedial measures;<br>4. Advise the ER on the effectiveness of the proposed remedial measures;<br>5. Supervise Implementation of remedial measures. | 1. Confirm receipt of notification of failure in writing;<br>2. Notify Contractor;<br>3. Ensure remedial measures properly implemented. | 1. Submit proposals for remedial actions to IC(E) within 3 working days of notification;<br>2. Implement the agreed proposals;<br>3. Amend proposal if appropriate. |
| **LIMITED LEVEL** | | | | |
| 1. Exceedance for one sample | 1. Identify source;<br>2. Inform ER, Contractor and EPD;<br>3. Repeat measurement to confirm finding;<br>4. Increase monitoring frequency to daily;<br>5. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results. | 1. Check monitoring data submitted by ET;<br>2. Check Contractor's working method;<br>3. Discuss with ET and Contractor on possible remedial measures;<br>4. Advise the ER on the effectiveness of the proposed remedial measures;<br>5. Supervise implementation of remedial measures. | 1. Confirm receipt of notification of failure in writing;<br>2. Notify Contractor;<br>3. Ensure remedial measures properly implemented. | 1. Take immediate action to avoid further exceedance;<br>2. Submit proposals for remedial actions to IEC within 3 working days of notification;<br>3. Implement the agreed proposals;<br>4. Amend proposal if appropriate. |
| 2. Exceedance for two or more consecutive samples | 1. Notify IEC, ER, Contractor and EPD;<br>2. Identify source;<br>3. Repeat measurement to confirm findings;<br>4. Increase monitoring frequency to daily;<br>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;<br>6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken;<br>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;<br>8. If exceedance stops, cease additional monitoring. | 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;<br>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;<br>3. Supervise the implementation of remedial measures. | 1. Confirm receipt of notification of failure in writing;<br>2. Notify Contractor;<br>3. In consolidation with the IC(E), agree with the Contractor on the remedial measures to be implemented;<br>4. Ensure remedial measures properly implemented;<br>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | 1. Take immediate action to avoid further exceedance;<br>2. Submit proposals for remedial actions to IC(E) within 3 working days of notification;<br>3. Implement the agreed proposals;<br>4. Resubmit proposals if problem still not under control;<br>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

***Appendix 6.2***

***Summary for Notification of Exceedance _Air and Noise***

| Ref. No. | Date | Time | Location | Measured TSP Level | Unit | Action Level | Limit Level | Follow-up action |
|---|---|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

| Ref. No. | Date | Time | Location | Construction Noise Level | Unit | Action Level | Limit Level | Follow-up action |
|---|---|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | | N/A | N/A | N/A |

***Appendix 8.1***

***Complaint Log***

## *Environmental Complaints Log*

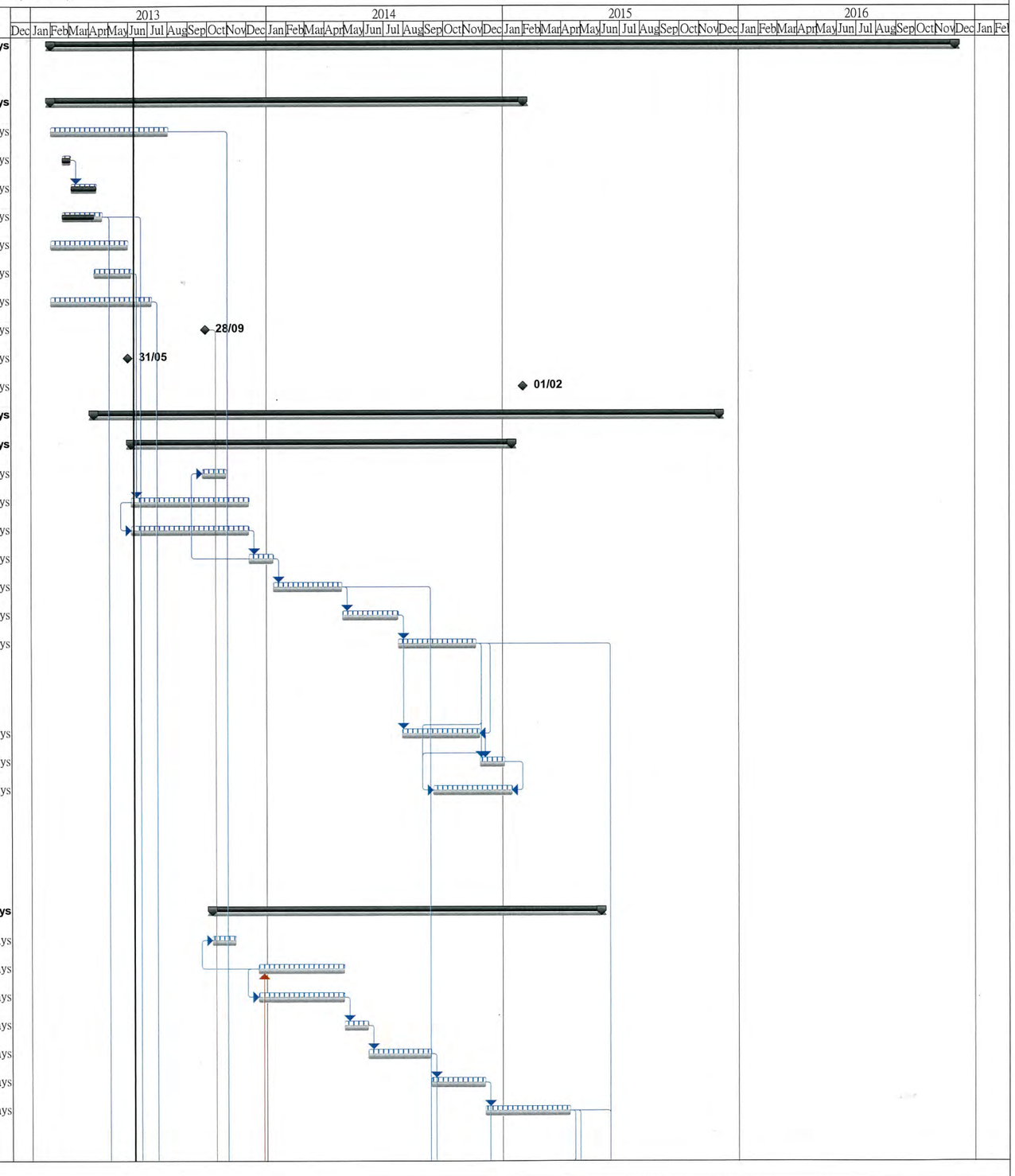
| Complaint Log No. | Date of Complaint | Received From and Received By | Location of Complainant | Nature of Complaint | Outcome | Status |
|---|---|---|---|---|---|---|
| 140813 | 13 Aug 2014 | Resident complained via hotline by RE | The slope opposite to Tin Wan House, Shun Tin Estate, Kowloon | Noise was emanated from the construction site at the slope opposite to Tin Wan House, Shun Tin Estate, Kowloon at around 1620 hrs on 13 Aug 2014 and requested follow up action by relevant department. | 1) RSS notified ET on 15 Aug 2014<br>2) ET confirmed with site staff the major noise generating construction activities undertaken at works area at the slope opposite to Tin Wan House including slope works<br>3) After reviewing the noise monitoring data at monitoring stations (NM1 - Tin Wan House and NM2 - Ning Po No.2 College), no limit level exceedances were recorded during routine noise monitoring event on 14 Aug 2014. As similar construction works activities conducted on 13 Aug 2014 was continued across the above monitoring period, the noise emanated from the construction activities under Contract CV/2012/07 was considered to comply with the statutory requirement.<br>4) In addition, weekly environmental site inspection was conducted on 12 Aug 2014 at around 10:00. According to the inspection record, no particular observation regarding noise impact was recorded and the mitigation measures including erection of temporary noise barrier was observed in place. | Closed |

***Appendix 9.1***

***Construction Programme***

# Master Programme For Contract No. CV/2012/07
## Development at Anderson Road - Footbridge D and Associated Works
## (Rev. 2)

| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors | Total Slack |
|---|---|---|---|---|---|---|---|---|
| 1 | **1** | **Development at Anderson Road - Footbridge D and Associated Works** | **1119 days** | **Thu 31/01/13** | **Wed 30/11/16** | | | **0 days** |
| 2 | **1.1** | PRELIMINARY WORK | **578 days** | **Thu 31/01/13** | **Sun 01/02/15** | | | **541 days** |
| 3 | 1.1.1 | Application of XP, Site Access from Highways | 140 days | Thu 31/01/13 | Wed 31/07/13 | | 88 | 889 days |
| 4 | 1.1.2 | Tree Survey | 12 days | Mon 18/02/13 | Sat 02/03/13 | | 5 | 0 days |
| 5 | 1.1.3 | Transplant | 30 days | Mon 04/03/13 | Thu 11/04/13 | 4 | | 0 days |
| 6 | 1.1.4 | Air & noise baseline monitoring | 50 days | Mon 18/02/13 | Sat 20/04/13 | | 46,47 | 8 days |
| 7 | 1.1.5 | Record Survey, Condition Survey and Setting Out | 90 days | Thu 31/01/13 | Thu 30/05/13 | | | 1029 days |
| 8 | 1.1.6 | Erect Fencing and Hoarding As Directed | 48 days | Mon 08/04/13 | Tue 04/06/13 | | 16 | 491 days |
| 9 | 1.1.7 | Design and material submission | 120 days | Thu 31/01/13 | Sat 06/07/13 | | 38,79 | 128 days |
| 10 | 1.1.8 | Handover of Portion A, B & C1 | 0 days | Sat 28/09/13 | Sat 28/09/13 | | 61 | 109 days |
| 11 | 1.1.9 | Handover of Portion E1 | 0 days | Fri 31/05/13 | Fri 31/05/13 | | | 1029 days |
| 12 | 1.1.10 | Handover of Portion E2 | 0 days | Sun 01/02/15 | Sun 01/02/15 | | | 541 days |
| 13 | **1.2** | **Section 1** | **781 days** | **Mon 08/04/13** | **Tue 01/12/15** | | | **20 days** |
| 14 | **1.2.1** | **Lift Tower D-A** | **475 days** | **Wed 05/06/13** | **Wed 14/01/15** | | | **491 days** |
| 15 | 1.2.1.1 | Method statement and material submission | 30 days | Mon 23/09/13 | Tue 29/10/13 | 18SS-60 days | | 905 days |
| 16 | 1.2.1.2 | Excavation for Raft footing | 150 days | Wed 05/06/13 | Tue 03/12/13 | 8 | 17SS | 491 days |
| 17 | 1.2.1.3 | Rock Joint Mapping for founding material of raft footing | 150 days | Wed 05/06/13 | Tue 03/12/13 | 16SS | 18 | 491 days |
| 18 | 1.2.1.4 | Construct Raft footing | 30 days | Wed 04/12/13 | Fri 10/01/14 | 17 | 19,15SS-60 days | 491 days |
| 19 | 1.2.1.5 | Construct RC Lift Tower and Retaining Wall | 80 days | Sat 11/01/14 | Sat 26/04/14 | 18 | 20,41 | 491 days |
| 20 | 1.2.1.6 | Erect Steelwork for Lift Shaft | 70 days | Mon 28/04/14 | Tue 22/07/14 | 19 | 21,22 | 491 days |
| 21 | 1.2.1.7 | Installation of Lift | 100 days | Wed 23/07/14 | Wed 19/11/14 | 20 | 22FF+5 days,23,24FS-60 days,54 | 491 days |
| 22 | 1.2.1.8 | M&E Installation | 100 days | Tue 29/07/14 | Tue 25/11/14 | 20,21FF+5 days | 23,24FS-60 days | 550 days |
| 23 | 1.2.1.9 | T & C of M&E Equipment | 30 days | Wed 26/11/14 | Fri 02/01/15 | 21,22 | 24FF+7 days | 553 days |
| 24 | 1.2.1.10 | Finishing and Metal Works | 100 days | Mon 15/09/14 | Wed 14/01/15 | 21FS-60 days,22FS-60 days,23FF+7 days | | 550 days |
| 25 | **1.2.2** | **Lift Tower D-B** | **480 days** | **Tue 08/10/13** | **Mon 01/06/15** | | | **439 days** |
| 26 | 1.2.2.1 | Method statement and material submission | 30 days | Tue 08/10/13 | Tue 12/11/13 | 27SS-60 days | | 893 days |
| 27 | 1.2.2.2 | Excavation for Raft footing | 100 days | Wed 18/12/13 | Tue 29/04/14 | 74 | 28SS,26SS-60 days | 379 days |
| 28 | 1.2.2.3 | Rock Joint Mapping for founding material of raft footing | 100 days | Wed 18/12/13 | Tue 29/04/14 | 27SS | 29 | 379 days |
| 29 | 1.2.2.4 | Construct Raft footing | 30 days | Wed 30/04/14 | Thu 05/06/14 | 28 | 30 | 379 days |
| 30 | 1.2.2.5 | Construct RC Lift Tower and Retaining Wall | 80 days | Fri 06/06/14 | Wed 10/09/14 | 29 | 31,41 | 379 days |
| 31 | 1.2.2.6 | Erect Steelwork for Lift Shaft | 70 days | Thu 11/09/14 | Wed 03/12/14 | 30 | 32,33 | 379 days |
| 32 | 1.2.2.7 | Installation of Lift | 100 days | Thu 04/12/14 | Mon 13/04/15 | 31 | 33FF,34,35FS-60 days,54 | 379 days |




Date: Mon 10/06/13
Prepared By: T.L. Lo

Baseline Milestone ◇ Task Milestone ◆ Baseline
Baseline Summary Critical Task Summary Progress

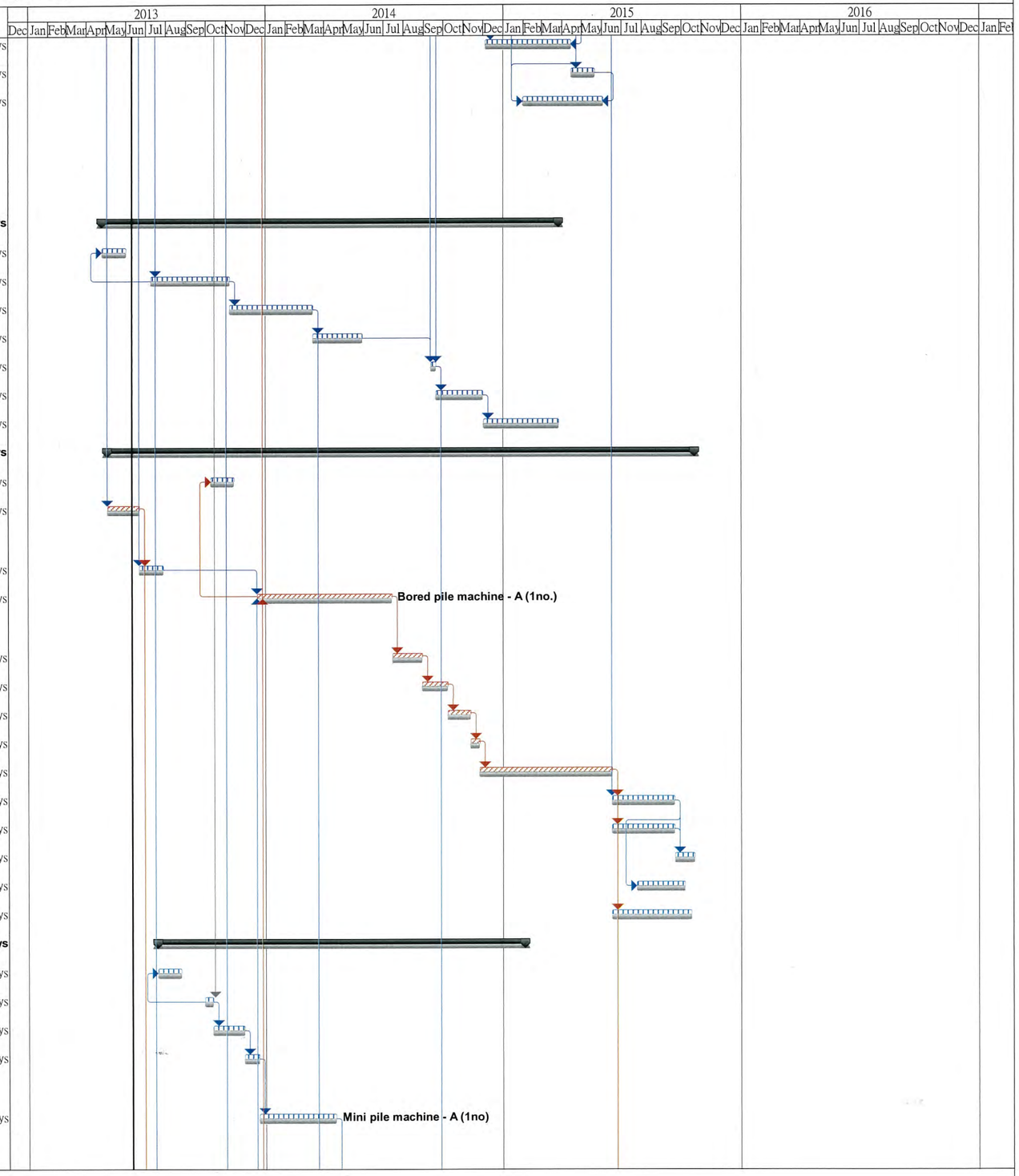
Assume Contract Start On 31-Jan-2013
and Finish On 30-Nov-2016 (1399 days)
Duration as shown by week day

Lam - Po Wing Joint Venture

Landscape & Establishment Work Not Shown For Clarity

# Master Programme For Contract No. CV/2012/07
## Development at Anderson Road - Footbridge D and Associated Works
## (Rev. 2)

| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors | Total Slack |
|---|---|---|---|---|---|---|---|---|
| 33 | 1.2.2.8 | M&E Installation | 100 days | Thu 04/12/14 | Mon 13/04/15 | 32FF,31 | 34,35FS-60 days | 443 days |
| 34 | 1.2.2.9 | T & C of M&E Equipment | 30 days | Tue 14/04/15 | Tue 19/05/15 | 32,33 | 35FF+7 days | 446 days |
| 35 | 1.2.2.10 | Finishing and Metal Works | 100 days | Fri 30/01/15 | Mon 01/06/15 | 32FS-60 days,33FS-60 days,34FF+7 days | | 443 days |
| 36 | **1.2.3** | **Bridge Deck D-AB** | **563 days** | **Wed 24/04/13** | **Wed 25/03/15** | | | **188 days** |
| 37 | 1.2.3.1 | Method statement and material submission | 30 days | Wed 24/04/13 | Thu 30/05/13 | 38SS-60 days | | 1029 days |
| 38 | 1.2.3.2 | Ordering of Material | 100 days | Mon 08/07/13 | Tue 05/11/13 | 9 | 39,37SS-60 days | 128 days |
| 39 | 1.2.3.3 | Fabrication of Steel work off site | 100 days | Wed 06/11/13 | Thu 13/03/14 | 38 | 40,80 | 128 days |
| 40 | 1.2.3.4 | Connecting the Bridge on site | 60 days | Fri 14/03/14 | Wed 28/05/14 | 39 | 41 | 582 days |
| 41 | 1.2.3.5 | Erecting Steel bridge frame | 7 days | Thu 11/09/14 | Thu 18/09/14 | 40,30,19 | 89,42 | 496 days |
| 42 | 1.2.3.6 | Irrigation system installation | 60 days | Fri 19/09/14 | Sat 29/11/14 | 41 | 43 | 496 days |
| 43 | 1.2.3.7 | Roofing and finishing works on bridge | 90 days | Mon 01/12/14 | Wed 25/03/15 | 42 | | 496 days |
| 44 | **1.2.4** | **Lift Tower D-C** | **726 days** | **Thu 02/05/13** | **Tue 20/10/15** | | | **0 days** |
| 45 | 1.2.4.1 | Method statement and material submission | 30 days | Tue 08/10/13 | Tue 12/11/13 | 48SS-60 days | | 893 days |
| 46 | 1.2.4.2 | Predrill & determine F/L (included all necessary preparation and test) | 40 days | Thu 02/05/13 | Wed 19/06/13 | 6 | 47,70,73 | 0 days |
| 47 | 1.2.4.3 | Demolish the exixting structure | 30 days | Thu 20/06/13 | Fri 26/07/13 | 46,6 | 48 | 120 days |
| 48 | 1.2.4.4 | Construct Pre-bored H pile (60 no) (included all necessary preparation and test) | 160 days | Wed 18/12/13 | Sat 12/07/14 | 47,72,74 | 49,45SS-60 days | 0 days |
| 49 | 1.2.4.5 | Pile Testing | 40 days | Mon 14/07/14 | Thu 28/08/14 | 48 | 50 | 0 days |
| 50 | 1.2.4.6 | Construct pile cap | 30 days | Fri 29/08/14 | Mon 06/10/14 | 49 | 51 | 0 days |
| 51 | 1.2.4.7 | Construct superstructure to level 103.8 | 30 days | Tue 07/10/14 | Mon 10/11/14 | 50 | 52 | 0 days |
| 52 | 1.2.4.8 | Backfilling above pile cap | 12 days | Tue 11/11/14 | Mon 24/11/14 | 51 | 53 | 0 days |
| 53 | 1.2.4.9 | Construct superstructure level 103.8~158.05 | 160 days | Tue 25/11/14 | Mon 15/06/15 | 52 | 54,58,55,82 | 0 days |
| 54 | 1.2.4.10 | Installation of Lift | 80 days | Tue 16/06/15 | Sat 19/09/15 | 53,21,32 | 56,57FS-49 days | 327 days |
| 55 | 1.2.4.11 | M&E Installation | 80 days | Tue 16/06/15 | Sat 19/09/15 | 53 | 56 | 327 days |
| 56 | 1.2.4.12 | T & C of M&E Equipment | 24 days | Mon 21/09/15 | Tue 20/10/15 | 54,55 | | 327 days |
| 57 | 1.2.4.13 | Roofing Connection Tower D-B & D-C | 60 days | Fri 24/07/15 | Mon 05/10/15 | 54FS-49 days | | 340 days |
| 58 | 1.2.4.14 | Finishing and Metal Works | 100 days | Tue 16/06/15 | Thu 15/10/15 | 53 | | 331 days |
| 59 | **1.2.5** | **Pier D-D** | **450 days** | **Thu 18/07/13** | **Mon 02/02/15** | | | **169 days** |
| 60 | 1.2.5.1 | Method statement and material submission | 30 days | Thu 18/07/13 | Thu 22/08/13 | 61SS-60 days | | 960 days |
| 61 | 1.2.5.2 | Slope Cutting | 10 days | Sat 28/09/13 | Thu 10/10/13 | 10 | 62,60SS-60 days | 109 days |
| 62 | 1.2.5.3 | Working platform for mini pile | 40 days | Fri 11/10/13 | Wed 27/11/13 | 61 | 63 | 109 days |
| 63 | 1.2.5.4 | Predrill & determine F/L (included all necessary preparation and test) | 20 days | Thu 28/11/13 | Fri 20/12/13 | 62 | 64 | 109 days |
| 64 | 1.2.5.5 | Construct mini pile (30 nos) (included all necessary preparation and test) | 90 days | Sat 21/12/13 | Thu 17/04/14 | 63 | 65 | 109 days |




Date: Mon 10/06/13
Prepared By: T.L. Lo

Baseline Milestone ◇ Task Milestone ◆ Baseline
Baseline Summary Critical Task Summary Progress

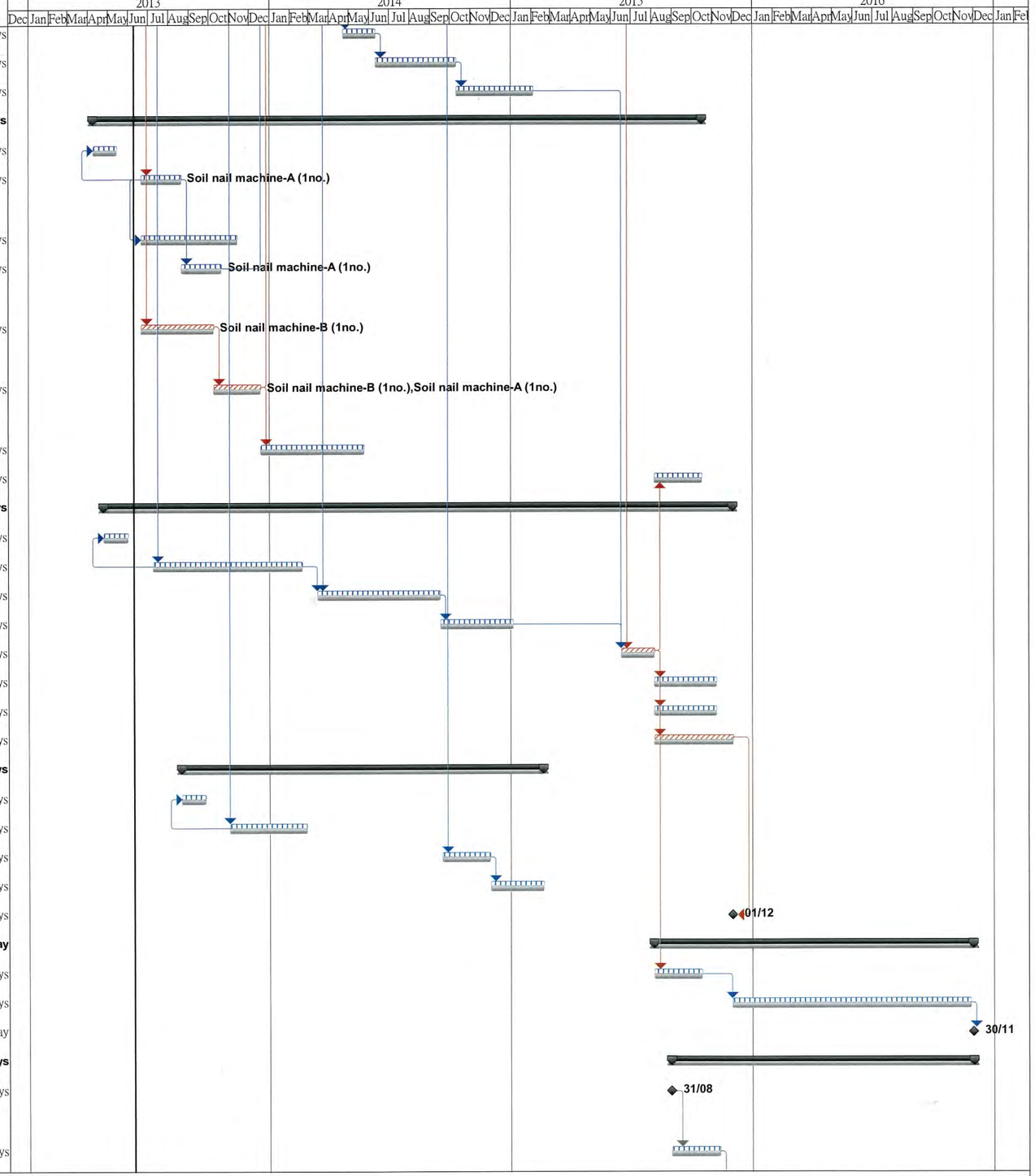
Assume Contract Start On 31-Jan-2013
and Finish On 30-Nov-2016 (1399 days)
Duration as shown by week day

Lam - Po Wing Joint Venture

Landscape & Establishment Work Not Shown For Clarity

# Master Programme For Contract No. CV/2012/07
## Development at Anderson Road - Footbridge D and Associated Works
## (Rev. 2)

| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors | Total Slack |
|---|---|---|---|---|---|---|---|---|
| 65 | 1.2.5.6 | Pile Testing | 40 days | Tue 22/04/14 | Mon 09/06/14 | 64 | 66 | 109 days |
| 66 | 1.2.5.7 | Construct pile cap | 100 days | Tue 10/06/14 | Thu 09/10/14 | 65 | 67 | 109 days |
| 67 | 1.2.5.8 | Construct pier to level 152.1 | 90 days | Fri 10/10/14 | Mon 02/02/15 | 66 | 82 | 109 days |
| 68 | **1.2.6** | **Slope Works** | **742 days** | **Mon 08/04/13** | **Thu 15/10/15** | | | **60 days** |
| 69 | 1.2.6.1 | Method statement and material submission | 30 days | Mon 08/04/13 | Mon 13/05/13 | 70SS-60 days | | 1043 days |
| 70 | 1.2.6.2 | Slope Cutting, Soil Nail and Raking Drain (Row D-F) (included all necessary preparation and test) 31nos | 50 days | Thu 20/06/13 | Mon 19/08/13 | 46 | 71SS,72,69SS-60 days | 50 days |
| 71 | 1.2.6.3 | Construct Cascade and down pipe | 120 days | Thu 20/06/13 | Tue 12/11/13 | 70SS | | 893 days |
| 72 | 1.2.6.4 | Slope Cutting, Soil Nail and Raking Drain (Row C-A) (included all necessary preparation and test) 40nos | 50 days | Tue 20/08/13 | Sat 19/10/13 | 70 | 48 | 50 days |
| 73 | 1.2.6.5 | Slope Cutting, Soil Nail and Raking Drain (Row S-L) (included all necessary preparation and test) 103nos | 90 days | Thu 20/06/13 | Mon 07/10/13 | 46 | 74 | 0 days |
| 74 | 1.2.6.6 | Slope Cutting, Soil Nail and Raking Drain (Row K-G) (included all necessary preparation and test) 102nos | 60 days | Tue 08/10/13 | Tue 17/12/13 | 73 | 75,27,48 | 0 days |
| 75 | 1.2.6.7 | Construction of Inspection Access to Slope | 120 days | Wed 18/12/13 | Fri 23/05/14 | 74 | | 743 days |
| 76 | 1.2.6.8 | Constructio of Footpath (Portion B) | 60 days | Wed 05/08/15 | Thu 15/10/15 | 82 | | 331 days |
| 77 | **1.2.7** | **Bridge Deck D-CE** | **767 days** | **Wed 24/04/13** | **Tue 01/12/15** | | | **208 days** |
| 78 | 1.2.7.1 | Method statement and material submission | 30 days | Wed 24/04/13 | Thu 30/05/13 | 79SS-60 days | | 1029 days |
| 79 | 1.2.7.2 | Ordering of Material | 180 days | Mon 08/07/13 | Tue 18/02/14 | 9 | 80,78SS-60 days | 148 days |
| 80 | 1.2.7.3 | Fabrication of Steel work off site | 150 days | Fri 14/03/14 | Mon 15/09/14 | 79,39 | 81 | 128 days |
| 81 | 1.2.7.4 | Connecting the Bridge on site | 90 days | Tue 16/09/14 | Sat 03/01/15 | 80 | 82 | 128 days |
| 82 | 1.2.7.5 | Erecting Steel bridge frame | 40 days | Tue 16/06/15 | Tue 04/08/15 | 81,67,53 | 83,85,93,76,84 | 0 days |
| 83 | 1.2.7.6 | M&E Installation | 78 days | Wed 05/08/15 | Fri 06/11/15 | 82 | | 313 days |
| 84 | 1.2.7.7 | Irrigation system installation | 78 days | Wed 05/08/15 | Fri 06/11/15 | 82 | | 313 days |
| 85 | 1.2.7.8 | Roofing and finishing works on bridge | 99 days | Wed 05/08/15 | Tue 01/12/15 | 82 | 91FF | 0 days |
| 86 | **1.2.8** | **Drainage Works at Shun On Road** | **437 days** | **Tue 20/08/13** | **Wed 18/02/15** | | | **526 days** |
| 87 | 1.2.8.1 | Method statement and material submission | 30 days | Tue 20/08/13 | Tue 24/09/13 | 88SS-60 days | | 933 days |
| 88 | 1.2.8.2 | DN1500 drainage construction | 90 days | Fri 01/11/13 | Tue 25/02/14 | 3 | 87SS-60 days | 813 days |
| 89 | 1.2.8.3 | DN375 and DN225 Drainage construction | 60 days | Fri 19/09/14 | Sat 29/11/14 | 41 | 90 | 526 days |
| 90 | 1.2.8.4 | Road Works and Reinstatement Works | 60 days | Mon 01/12/14 | Wed 18/02/15 | 89 | | 526 days |
| 91 | 1.2.9 | Completion of Section 1 | 0 days | Tue 01/12/15 | Tue 01/12/15 | 85FF | | 0 days |
| 92 | **1.3** | **Section 2** | **390 days** | **Wed 05/08/15** | **Wed 30/11/16** | | | **1 day** |
| 93 | 1.3.1 | Landscape Softworks for Footbridge D | 60 days | Wed 05/08/15 | Thu 15/10/15 | 82 | 94 | 42 days |
| 94 | 1.3.2 | Establishment Works for Footbridge D | 289 days | Tue 01/12/15 | Fri 25/11/16 | 93 | 95 | 4 days |
| 95 | 1.3.3 | Completion of Section 2 | 0 days | Wed 30/11/16 | Wed 30/11/16 | 94 | | 1 day |
| 96 | **1.4** | **Section 3** | **369 days** | **Mon 31/08/15** | **Wed 30/11/16** | | | **0 days** |
| 97 | 1.4.1 | Notified by The Engineer for commencing (Subject to Excision) | 0 days | Mon 31/08/15 | Mon 31/08/15 | | 98 | 0 days |
| 98 | 1.4.2 | Landscape Softworks for Footbridge D | 60 days | Mon 31/08/15 | Wed 11/11/15 | 97 | 99 | 20 days |




Date: Mon 10/06/13
Prepared By: T.L. Lo

Baseline Milestone ◇ Task Milestone ◆ Baseline
Baseline Summary Critical Task Summary Progress

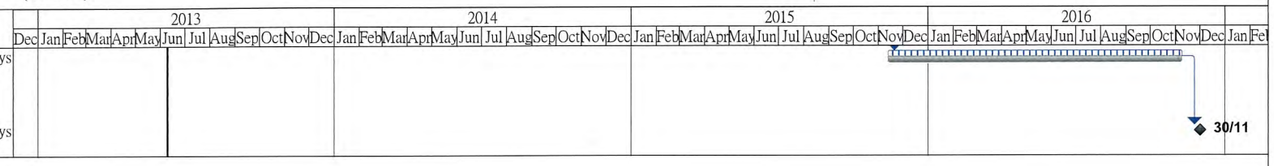
Assume Contract Start On 31-Jan-2013
and Finish On 30-Nov-2016 (1399 days)
Duration as shown by week day

Lam - Po Wing Joint Venture

Landscape & Establishment Work Not Shown For Clarity

# Master Programme For Contract No. CV/2012/07
## Development at Anderson Road - Footbridge D and Associated Works
## (Rev. 2)

| ID | WBS | Task Name | Duration | Start | Finish | Predecessors | Successors | Total Slack |
|---|---|---|---|---|---|---|---|---|
| 99 | 1.4.3 | Landscape Softworks and Establishment Works for Footbridge A, B and C | 289 days | Thu 12/11/15 | Mon 07/11/16 | 98 | 100 | 20 days |
| 100 | 1.4.4 | Completion of Section 3 | 0 days | Wed 30/11/16 | Wed 30/11/16 | 99 | | 0 days |




Date: Mon 10/06/13
Prepared By: T.L. Lo

Baseline Milestone ◇ Task Milestone ◆ Baseline
Baseline Summary Critical Task Summary Progress

Assume Contract Start On 31-Jan-2013
and Finish On 30-Nov-2016 (1399 days)
Duration as shown by week day

Lam - Po Wing Joint Venture

Landscape & Establishment Work Not Shown For Clarity