# Tai Shue Wan Development at Ocean Park

Baseline Monitoring Report

December 2014

Ocean Park Corporation

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Ocean Park Corporation

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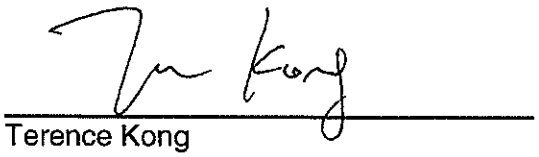
**Pursuant to Condition 3.3 of Environmental Permit No. EP-387/2014, this Baseline Monitoring Report has been reviewed and certified by the Environmental Team Leader (ETL) and verified by the Independent Environmental Checker (IEC).**

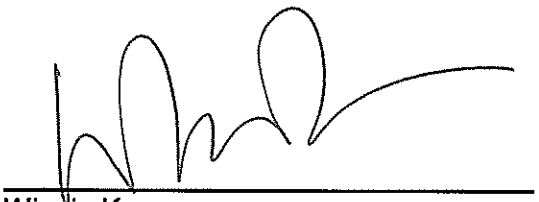
**Certified by:**



Terence Kong
Environmental Team Leader (ETL)
Mott MacDonald Hong Kong Limited

Date 15 December 2014

**Verified by:**



Winnie Ko
Independent Environmental Checker (IEC)
ERM-Hong Kong, Ltd

Date 16 December 2014

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## Figures



## Tables

# Executive Summary

In September 2014, Mott MacDonald Hong Kong Limited (MMHK) was commissioned by Ocean Park Corporation (OPC) to undertake the Environmental Team (ET) Services for baseline monitoring (including environmental monitoring and audit (EM&A)) for the Tai Shue Wan Development (The Project).

The Environmental Impact Assessment (EIA) Report (including the EM&A Manual) for the Project was approved by the Environmental Protection Department (EPD) on 27 August 2014. The Environmental Permit (EP) for the Project was issued by EPD on the same day.

This Baseline Monitoring Report presents the noise monitoring works conducted from 27 November to 10 December 2014 at monitoring station NM1A and from 24 October 2014 to 7 November 2014 at monitoring station NM2, the landscape and visual baseline review conducted on 21 October 2014, detailed vegetation survey undertaken from 8 August 2014 to 5 September 2014, and ardeid inspections undertaken on 8 August 2014 and 5 September 2014. This report aims to establish the baseline levels of noise, to update the Landscape Resources (LRs) and to view the ecological condition prior to construction works in accordance with the EM&A Manual.

## Baseline Noise Monitoring

Baseline noise monitoring was carried out prior to the construction period. The locations of monitoring stations were proposed in accordance with the EM&A Manual.

The monitoring was conducted from 27 November to 10 December 2014 at monitoring station NM1A and from 24 October 2014 to 7 November 2014 at monitoring station NM2. The noise measurement results indicated that the noise sensitive receiver (NSR) is exposed to various existing noise sources and the background noise levels are relatively low to moderate.

## Landscape and Visual Baseline Review

Landscape and visual baseline review was carried out on 21 October 2014. No significant change was observed from the baseline review when compared with the EIA report, except for the health deterioration since EIA stage of one Landscape Resource (LR). However, amendments in the design of the landscape and visual mitigation measures are not considered necessary because its health deterioration is caused by a natural event. Also, protective measures and monitoring proposed for this LR as an ecological mitigation in Section 10.7.1.4 of the approved EIA report are considered appropriate and sufficient to protect this LR.

## Detailed Vegetation Survey

Detailed vegetation survey was undertaken from 8 August 2014 to 5 September 2014 within the Project site boundary by a qualified ecologist with more than 5 years of experience in flora study. Two groups of *Platycodon grandiflorus* were identified within the Project area. Direct impact on these two groups of *Platycodon grandiflorus* due to the Project is not anticipated. Nevertheless, preventive measures were recommended to avoid potential impact from construction activities such as material storage. Also, monthly monitoring of the identified *Platycodon grandiflorus* throughout the construction phase is recommended. No flora species of conservation interest other than *Platycodon grandiflorus* was recorded within the

Project area; no additional protective / preventive / mitigation measure for flora species of conservation interest is required.

### Active Ardeid Nest Inspections

Ardeid inspections were undertaken on 8 August 2014 and 5 September 2014 at daytime by a qualified ecologist with more than 5 years of experience in ardeid monitoring. No active ardeid nest was observed on trees within the indicative boundary of roosting site of ardeids. Neither ardeid breeding activities nor presence of egret were observed at or in the vicinity of the roosting location.

# 1 Introduction

## 1.1 Background

In September 2014, Mott MacDonald Hong Kong Limited (MMHK) was commissioned by Ocean Park Corporation (OPC) to undertake the Environmental Team (ET) Services (including environmental monitoring and audit (EM&A)) for the Tai Shue Wan Development (The Project). The Project will redevelop the existing theme park areas at Tai Shue Wan into a Water Park to enhance the attractiveness of Ocean Park into a world-class theme park and provide a must-see destination to visitors. The tentative construction programme is provided in **Appendix A**. All construction activities should be carried out in accordance with implementation schedule for environmental mitigation measures in **Appendix B**.

## 1.2 Purpose of the Report

This Baseline Monitoring Report is required under the approved EM&A Manual and is submitted to fulfil Condition 3.3 of the Environmental Permit (EP) No. 487/2014 for the "Tai Shue Wan Development at Ocean Park", which was issued by the Environmental Protection Department (EPD) on 27 August 2014. A layout plan of the Project is provided in **Figure 1.1**.

The purpose of this report is to establish the baseline levels of noise, to update the Landscape Resources (LRs) and to view the ecological condition prior to construction works in accordance with the EM&A Manual.

These levels are intended as the basis for assessing environmental impact and compliance during construction phase of the Project. This report presented the baseline monitoring requirements, methodologies and results of baseline measurements in accordance with the requirements, where applicable, in the EM&A Manual.

This Baseline Monitoring Report presents the noise monitoring works conducted from 27 November to 10 December 2014 at monitoring station NM1A and from 24 October 2014 to 7 November 2014 at monitoring station NM2 , the landscape and visual baseline review conducted on 21 October 2014, detailed vegetation survey undertaken from 8 August 2014 to 5 September 2014, and ardeid inspections undertaken on 8 August 2014 and 5 September 2014.

## 1.3 Structure of the Report

The structure of the report is as follows:

- Section 1 - Introduction, background, purpose and structure of the report
- Section 2 - Noise with description of the baseline noise quality monitoring requirements, methodology and results
- Section 3 - Landscape and Visual with description of the baseline review and results
- Section 4 - Ecological baseline monitoring with description of the methodology and findings
- Section 5 - Revisions for inclusion in the EM&A Manual
- Section 6 - Comments and Conclusions

# 2 Noise

## 2.1 Monitoring Requirements

Following the requirements in the EM&A Manual for noise, baseline noise monitoring has been carried out prior to the commencement of the construction works. No construction activities in the vicinity of the monitoring station were undertaken during the baseline monitoring. Continuous baseline noise monitoring for the A-weighted levels $L_{eq}$, $L_{10}$ and $L_{90}$ was carried out daily for a period of at least two weeks. The baseline monitoring was conducted during daytime (0700-1900 hours) from 27 November to 10 December 2014 (14 consecutive days) at monitoring station NM1A and continuously (24 hours) from 24 October 2014 to 7 November 2014 (14 consecutive days) at monitoring station NM2. The schedule on the baseline monitoring was submitted to the Engineer's Representative (ER) for approval before the monitoring started.

## 2.2 Monitoring Equipment

Integrating Sound Level Meters were used for noise monitoring. They were Type 1 sound level meters capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level ($L_{eq}$) and percentile sound pressure level ($L_x$). They complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). **Table 2.1** summarizes the noise monitoring equipment models used.

Table 2.1: Noise Monitoring Equipment

| Monitoring Location | Equipment Model | |
|---|---|---|
| | Integrating Sound Level Meter | Calibrator |
| NM1A | Rion NL-31 (Serial no. 01262786) | Castle GA607 (Serial no. 040162) |
| NM2 | Rion NL-31 (Serial no. 00320533) | Rion NC-73 (Serial no. 10486660) |

## 2.3 Monitoring Parameters, Frequency and Duration

**Table 2.2** summarizes the monitoring parameters, frequency and duration of noise monitoring. It was proposed that the baseline noise in A-weighted levels $L_{eq}$, $L_{10}$ and $L_{90}$ were recorded in a 30-minute interval between 0700-1900 during the monitoring periods at the designated monitoring stations shown in **Figure 2.1**. For the rest of the time (0700-1900 on holidays, 1900-2300 and 2300-0700 of all days), the noise level was measured in a 5-minute interval. The baseline noise monitoring schedule is provided in **Appendix B**.

Table 2.2: Noise Monitoring Parameters, Period and Frequency

| Time Period | Parameters |
|---|---|
| Daytime on normal weekdays (0700-1900 hrs) | $L_{eq}$, $L_{90}$ & $L_{10}$ (30 min) |

| Time Period | Parameters |
|---|---|
| Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs) | $L_{eq}$, $L_{90}$ & $L_{10}$ (5 min) |
| All days during the night-time (2300-0700 hrs of the next day) | |

## 2.4 Monitoring Locations

Two monitoring stations (NM1 and NM2) were proposed in the EM&A Manual. Due to rejection of station set up at NM1, alternative location NM1A at a slope near the VSA was proposed and agreed by the IEC and approved by EPD on 10 December 2014. The revised proposal for alternative monitoring station for noise is provided in **Appendix J**. The locations of the monitoring stations are described in **Table 2.3** and shown in **Figure 2.1**. The same monitoring stations will be used during impact monitoring.

Table 2.3: Location of Noise Monitoring Station

| Monitoring Station Code | Location in EM&A Manual | Proposed Alternative Location | Type of measurement | Type of noise monitoring |
|---|---|---|---|---|
| NM1A | Victoria Shanghai Academy (VSA) | Slope near the VSA | Free field | Baseline and Impact |
| NM2 | Hong Kong Juvenile Care Centre (HKJCC) | Not applicable | Facade | Baseline and Impact |

## 2.5 Monitoring Methodology

### Field Monitoring

- The microphone of the Sound Level Meter was set at least 1.2 m above the ground.
- Free Field measurement was made at NM1A while Facade measurement was made at NM2.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting: A
  - time weighting: Fast
  - time measurement: 30-minute intervals (0700-1900 on normal weekdays) and 5-minute intervals (0700-1900 on holidays, 1900-2300 and 2300-0700 of all days)
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1 kHz. If the difference in the calibration level before and after measurement was more than 1 dB, the measurement would be considered invalid and has to be repeated after re-calibration or repair of the equipment.
- During the monitoring period, the $L_{eq}$, $L_{10}$ and $L_{90}$ were recorded. In addition, any site observations and noise sources were recorded on a standard record sheet.
- A correction of +3 dB(A) was made to the free field measurements.
- Noise measurements were not made in fog, rain, wind with a steady speed exceeding 5 $ms^{-1}$ or wind with gusts exceeding 10 $ms^{-1}$.

### Maintenance and Calibration

- The microphone head of the sound level meter and calibrator is cleaned with soft cloth at quarterly intervals.
- The meter and calibrator are sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.
- Calibration records are shown in **Appendix C**.

### Weather Condition

- The wind data during the monitoring period was recorded and provided in **Appendix F**.

## 2.6 Results and Observations

In accordance with Section 3.2.3 of the EM&A Manual, a correction of +3 dB(A) was made to all free-field measurements obtained at NM1A. The noise monitoring results are summarized in **Table 2.4**. Detailed noise monitoring results are presented in **Appendix E**.

Table 2.4: Summary of Baseline Noise Monitoring Results

| Time Period & Monitoring Locations | Mean & Range of Noise Levels, dB(A) | | |
|---|---|---|---|
| | $L_{eq}$ (30mins), dB(A) | $L_{10}$, dB(A) | $L_{90}$, dB(A) |
| **Normal weekdays, 0700 - 1900 hrs** | | | |
| NM1A | 59<br>(52 – 63) | 61<br>(54 – 65) | 56<br>(47 – 59) |
| | | | |
| NM2 | 59<br>(50 – 67) | 61<br>(52 – 70) | 56<br>(47 – 60) |
| | $L_{eq}$ (5mins), dB(A) | $L_{10}$, dB(A) | $L_{90}$, dB(A) |
| **Holidays, 0700 - 1900 hrs** | | | |
| NM1A | 55<br>(47 – 61) | 58<br>(49 – 65) | 51<br>(45 – 58) |
| **Normal weekdays, 1900 - 2300 hrs and Holidays, 0700 - 2300 hrs** | | | |
| NM2 | 54<br>(45 – 60) | 56<br>(47 – 62) | 52<br>(43 – 58) |
| **All days, 2300 - 0700 hrs of the next day** | | | |
| NM2 | 51<br>(40 – 59) | 52<br>(41 – 62) | 49<br>(40 – 55) |

At NM1A, the measured average baseline noise levels ($L_{eq}$, 30 min) between 0700 and 1900 hours on normal weekdays ranged from 52 to 63 dB(A); and the $L_{eq}$ (5 min) noise levels during daytime (0700 to 1900 hrs) on holidays ranged from 47 to 61 dB(A).

At NM2, the measured average baseline noise levels ($L_{eq}$, 30 min) between 0700 and 1900 hours on normal weekdays ranged from 50 to 67 dB(A); the $L_{eq}$ (5 min) noise levels during evening time (1900 to 2300 hrs) on normal weekdays and daytime and evening time (0700 to 2300 hrs) on holidays ranged from 45 to 60 dB(A); and the $L_{eq}$ (5 min) noise levels during nighttime (2300 to 0700 hrs of the next day) on all days ranged from 40 to 59 dB(A).

The weather condition during the monitoring period was mainly fine. The major sources of background noise at NM1A were from shipyards, factories, typhoon shelter and road traffic at Shum Wan Road, while at NM2 the major background noise source was road traffic at Nam Long Shan Road. No major construction activities in the Project were undertaken during baseline monitoring period, and therefore the baseline noise monitoring data is representative of the baseline condition for the Project. The wind data during the monitoring period is provided in **Appendix F**.

The noise monitoring results show that the two NSRs are exposed to various existing noise sources and the background noise levels at low to moderate levels. Although the average noise level at NM1A and NM2 during daytime on normal weekdays can comply with the noise criterion of 70 dB(A) for schools, some of the noise levels at NM2 were exceeding the noise criterion of 65 dB(A) for school examination periods. It should be noted that the higher noise levels recorded at NM2 at daytime should be a result of noise from HKJCC itself (school bells and noise from the students).

Moreover, even during restricted hours, some noise levels at NM1A and NM2 continued to reach about 60 dB(A). This may indicate that both NSRs are periodically exposed to traffic noise throughout the evening, night and holiday daytime periods. Furthermore, NM1A may also be exposed to some noisy human activities from nearby shipyards.

## 2.7 Action and Limit Levels

The Action and Limit Levels (AL levels) for noise ($L_{eq}$ (30 mins)) have been proposed in the EM&A Manual. The Area Sensitivity Rating of the Noise Sensitive Receivers was considered with reference to the Table 1 in the “Technical Memorandum on Noise from Construction Work other than Percussive Piling” (TM).

The Action and Limit Levels are tabulated in **Table 2.5**.

Table 2.5: Action and Limit Levels for Construction Noise

| Monitoring Location | Time Period | Action Level | Limit Level |
|---|---|---|---|
| **NM1A** | 0700-1900 hours on normal weekdays | When one documented complaint is received | 70 dB(A) * |
| **NM2** | 0700-1900 hours on normal weekdays | When one documented complaint is received | 65 dB(A) during examination periods |

Note: * Limit Level adjusted to 70 dB(A) for schools and 65 dB(A) during school examination periods. This is also applicable to NM1A as the alternative noise monitoring location to VSA (categorized as educational use in the approved EIA report).

## 2.8 Event and Action Plan

In case the Action and Limit Levels are not complied with during construction stage, the Event and Action Plan below should be followed:

Table 2.6: Event and Action Plan for Construction Noise

| Event | Action | | | |
|---|---|---|---|---|
| | Environmental Team Leader (ETL) | Independent Environmental Checker (IEC) | Engineer's Representative (ER) | Contractor |
| **Action Level** | 1. Notify ER, IEC and Contractor;<br>2. Carry out investigation;<br>3. Report the results of investigation to the IEC, ER and Contractor;<br>4. Discuss with the IEC and Contractor on remedial measures required;<br>5. Increase monitoring frequency to check mitigation effectiveness. | 1. Review the investigation results submitted by the ET;<br>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;<br>3. Advise the ER on the effectiveness of the proposed remedial measures. | 1. Confirm receipt of notification of failure in writing;<br>2. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>3. Supervise the implementation of remedial measures. | 1. Submit noise mitigation proposals to IEC and ER;<br>2. Implement noise mitigation proposals. |
| **Limit Level** | 1. Inform IEC, ER, Contractor and EPD;<br>2. Repeat measurements to confirm findings;<br>3. Increase monitoring frequency;<br>4. Identify source and investigate the cause of exceedance;<br>5. Carry out analysis of Contractor's working procedures;<br>6. Discuss with the IEC, Contractor and ER on remedial measures required;<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. | 1. Confirm receipt of notification of failure in writing;<br>2. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;<br>3. Supervise the implementation of remedial measures;<br>4. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. | 1. Take immediate action to avoid further exceedance;<br>2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification;<br>3. Implement the agreed proposals;<br>4. Submit further proposal if problem still not under control;<br>5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated. |

# 3 Landscape and Visual

## 3.1 Purpose of Baseline Review

Following the requirements in the EM&A Manual for landscape and visual, a baseline review has been carried out on 21 October 2014 prior to the commencement of the construction works. The purpose of the review was:

- to check the status of the landscape resources within, and immediately adjacent to, the construction sites and works areas;
- to determine whether any change has occurred to the status of the landscape resources since the EIA;
- to determine whether amendments in the design of the landscape and visual mitigation measures are required for those changes; and
- to recommend any necessary amendments to the design of the landscape and visual mitigation measures.

## 3.2 Landscape and Visual Monitoring

No construction activities in the vicinity of the Project site were undertaken during the baseline review. Please refer to **Appendix G** for the further details of the baseline review and findings.

## 3.3 Results and Observations

By reviewing relevant information from the approved EIA report and undertaking a site visit on 21 October 2014, it is confirmed that the baseline landscape condition of the areas within, and immediately adjacent to, the construction site and works area does not have any significant change since the EIA stage, except for the health deterioration of one Landscape Resource (LR). However, amendments in the design of the landscape and visual mitigation measures are not considered necessary because its health deterioration is caused by a natural event. Also, protective measures and monitoring proposed for this LR as an ecological mitigation in Section 10.7.1.4 of the approved EIA report are considered appropriate and sufficient to protect this LR. The visual views of these areas from Visual Sensitive Receivers (VSRs) are therefore expected to have also remained similar.

## 3.4 Event and Action Plan

Should non-compliance of the landscape and visual impacts occur, actions in accordance with the Event and Action Plan below shall be carried out.

Table 3.1: Event and Action Plan for Landscape and Visual Impact – Construction Phase

| Event | Action | | | |
|---|---|---|---|---|
| | Environmental Team Leader (ETL) | Independent Environmental Checker (IEC) | Engineer's Representative (ER) | Contractor |
| **Action Level –** Non-conformity on one occasion | 1. Identify source<br>2. Inform the IEC and the ER | 1. Check report<br>2. Check the Contractor's working | 1. Notify the Contractor<br>2. Ensure remedial | 1. Amend working methods<br>2. Rectify damage |

| Event | Action | | | |
|---|---|---|---|---|
| | Environmental Team Leader (ETL) | Independent Environmental Checker (IEC) | Engineer's Representative (ER) | Contractor |
| | 3. Discuss remedial actions with the IEC, the ER and the Contractor<br>4. Monitor remedial action until rectification has been completed | method<br>3. Discuss with the ER and the Contractor on possible remedial measures<br>4. Advise the ER on effectiveness of proposed remedial measures | measures are properly implemented | and undertake remedial measures or any necessary replacement |
| **Limit Level –** Repeated Non-conformity | 1. Identify source<br>2. Inform the IEC and the ER<br>3. Increase monitoring (site audit) frequency<br>4. Discuss remedial actions with the IEC, the ER and the Contractor<br>5. Monitor remedial actions until rectification has been completed<br>6. If exceedance stops, cease additional monitoring (site audit) | 1. Check report<br>2. Check the Contractor's working method<br>3. Discuss with the ER and the Contractor on possible remedial measures<br>4. Advise the ER on effectiveness of proposed remedial measures<br>5. Supervise implementation of remedial measures | 1. Notify the Contractor<br>2. Ensure remedial measures are properly implemented | 1. Amend working methods<br>2. Rectify damage and undertake remedial measures or any necessary replacement |

# 4 Ecology

## 4.1 Detailed Vegetation Survey

A detailed vegetation survey was undertaken from 8 August 2014 to 5 September 2014 within the Project boundary by actively searching for individuals of *Platycodon grandiflorus*. The vegetation survey was carried out by a qualified ecologist with more than 5 years of experience in flora study.

Since all flora species of conservation interest identified in the EIA report were found in either shrubland, tall shrubland or grassland within the Study Area, particular attention was paid to these habitat types during the detailed vegetation survey to actively search for any flora species of conservation interest.

The number and condition of *Platycodon grandiflorus* identified were recorded. The locations of the identified individuals of *Platycodon grandiflorus* were recorded with a Global Positioning System (GPS) device. Should other flora species of conservation interest be encountered during the detailed vegetation survey, their number, locations and condition were also recorded.

A Detailed Vegetation Survey Report was prepared in accordance with Condition 2.6 of the Environmental Permit for the project and submitted to EPD on 18 September 2014. In the detailed vegetation survey, two groups of *Platycodon grandiflorus* were identified within the Project area. Direct impact on these two groups of *Platycodon grandiflorus* due to the Project is not anticipated. As a preventive measure, it is recommended to erect and maintain a temporary protective fence surrounding these two groups of *Platycodon grandiflorus* to avoid potential impact from construction activities such as material storage. Also, monthly monitoring of the identified *Platycodon grandiflorus* throughout the construction phase is recommended to make sure that they are not affected by the construction works of the Project.

In the detailed vegetation survey, no flora species of conservation interest other than *Platycodon grandiflorus* was recorded within the Project area. No additional protective / preventive / mitigation measure for flora species of conservation interest is required.

In accordance with Condition 2.6 of the Environmental Permit and Section 8.3.1.1 of the EM&A Manual, the Vegetation Survey Report was prepared and submitted to EPD on 18 September 2014 for retention. The Vegetation Survey Report is attached in **Appendix H**.

## 4.2 Active Ardeid Nest Inspections

Ardeid inspections were undertaken on 8 August 2014 and 5 September 2014 at daytime, before commencement of site clearance works at the existing roosting location. The inspections were conducted by a qualified ecologist with more than 5 years of experience in ardeid monitoring. Condition of the roosting site of ardeids was recorded with photographs taken.

No active ardeid nest was observed on trees within the indicative boundary of roosting site of ardeids. Neither ardeid breeding activities nor presence of egret were observed at or in the vicinity of the roosting location.

In accordance with Condition 2.9 (b) of the Environmental Permit and Section 8.3.1.2 of the EM&A Manual, Ardeid Inspection Report was prepared and submitted to EPD on 18 September 2014 for retention. The Ardeid Inspection Report is attached in **Appendix I**.

# 5 Revisions for inclusion in the EM&A Manual

## 5.1 Revisions to be Included

Alternative monitoring proposal for noise, including an alternative location NM1A and revised continuous noise monitoring frequency, was agreed by IEC and approved by EPD and is presented in **Appendix J**.

No other revision is required for the EM&A Manual.

# 6 Comments and Conclusions

Baseline monitoring was carried out prior to the commencement of construction works in accordance with the requirements in the EM&A Manual for the Project. The weather during the baseline period was generally fine.

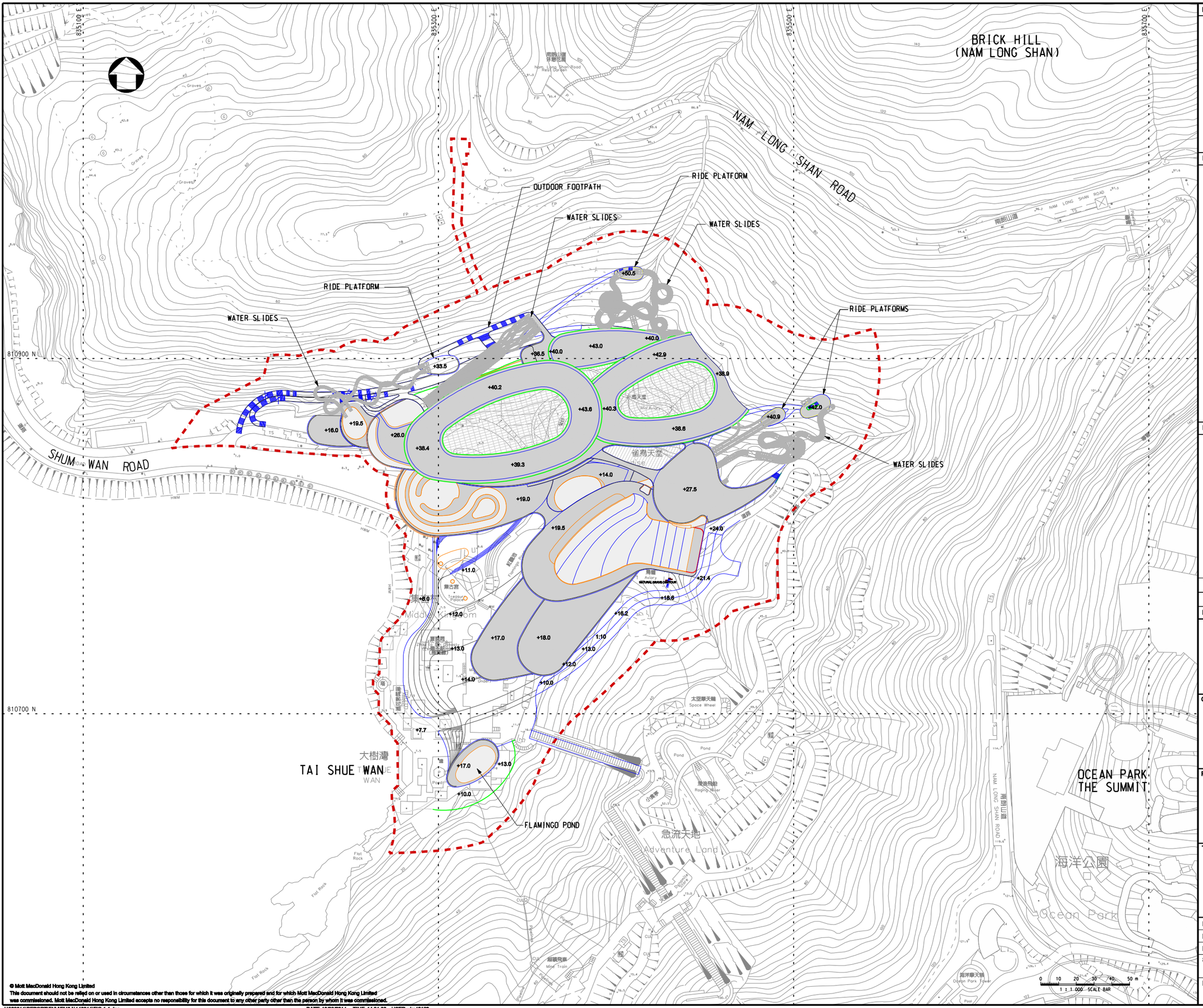
Noise monitoring was carried out at monitoring station NM1A and NM2 for 14 consecutive days. The major sources of background noise at NM1A were from shipyards, factories, typhoon shelter and road traffic at Shum Wan Road, while at NM2 the major background noise source was road traffic at Nam Long Shan Road. School bells and noise from the students in HKJCC also contributed to the noise source. No major construction activities in the Project were undertaken during baseline monitoring period. Therefore, the measured results are considered representative of the ambient background noise conditions prior to the commencement of works.

In addition, a landscape and visual baseline review was undertaken on 21 October 2014. Status of the 9 LRs within and in close proximity of the Project Area has been verified. No noticeable change has occurred to the status of 8 of the LRs since the EIA. Amendments in the design of the landscape and visual mitigation measures are therefore not required for these 8 LRs. For *LR3.1 – Floral species of conservation interest*, the health condition of the observed *Platycodon grandiflorus* has deteriorated since the EIA. However, amendments in the design of the landscape and visual mitigation measures are not necessary because its health deterioration is caused by a natural event. Also, protective measures and monitoring proposed for this LR as an ecological mitigation in Section 10.7.1.4 of the approved EIA report are considered appropriate and sufficient to protect this LR. The Landscape and Visual Baseline Review Report is attached **in Appendix G**.

Furthermore, a Detailed Vegetation Survey Report was prepared in accordance with Condition 2.6 of the Environmental Permit for the project and submitted to EPD on 18 September 2014. In the detailed vegetation survey, two groups of *Platycodon grandiflorus* were identified within the Project area. Direct impact on these two groups of *Platycodon grandiflorus* due to the Project is not anticipated. As a preventive measure, it is recommended to erect and maintain a temporary protective fence surrounding these two groups of *Platycodon grandiflorus* to avoid potential impact from construction activities such as material storage. Also, monthly monitoring of the identified *Platycodon grandiflorus* throughout the construction phase is recommended to make sure that they are not affected by the construction works of the Project. In the detailed vegetation survey, no flora species of conservation interest other than *Platycodon grandiflorus* was recorded within the Project area. No additional protective / preventive / mitigation measure. The Vegetation Survey Report is attached in **Appendix H**.

Moreover, the Ardeid Inspection Report was prepared in accordance with Condition 2.9 (b) of the Environmental Permit for the Project and submitted to EPD on 18 September 2014 for retention. Site inspection of ardeid nest was undertaken on 8 August 2014 and 5 September 2014, before commencement of site clearance works at the existing roosting location. The ardeid inspection confirmed that no active ardeid nest was present at the area around the indicative boundary of the ardeids roosting site. The Ardeid Inspection Report is attached in **Appendix I**.

In conclusion, the Contractor is advised to be aware of any site practices that may give rise to significant pollution to the existing environment. Implementation of necessary remedial measures should be instigated to rectify the potential impact on sensitive receivers located in the vicinity of the construction area.




**Notes**

**Key to symbols**

PROJECT BOUNDARY

**Reference drawings**

| Rev | Date | Drawn | Description | Ch'k'd | App'd |
|---|---|---|---|---|---|
| P2 | MAR 14 | MING | GENERAL REVISION | HY | AFK |
| P1 | FEB 14 | MING | FIRST ISSUE | HY | AFK |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**Client**

Ocean Park Hong Kong 香港海洋公園

**Project**

TAI SHUE WAN DEVELOPMENT AT OCEAN PARK

**Title**

PROJECT LAYOUT PLAN

| | | | | | |
|---|---|---|---|---|---|
| Designed | HY | | Eng check | FW | |
| Drawn | MING | | Coordination | FW | |
| Dwg check | HY | | Approved | AFK | |

| Scale at A1 | Status | Rev |
|---|---|---|
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Drawing Number

FIGURE 1.1




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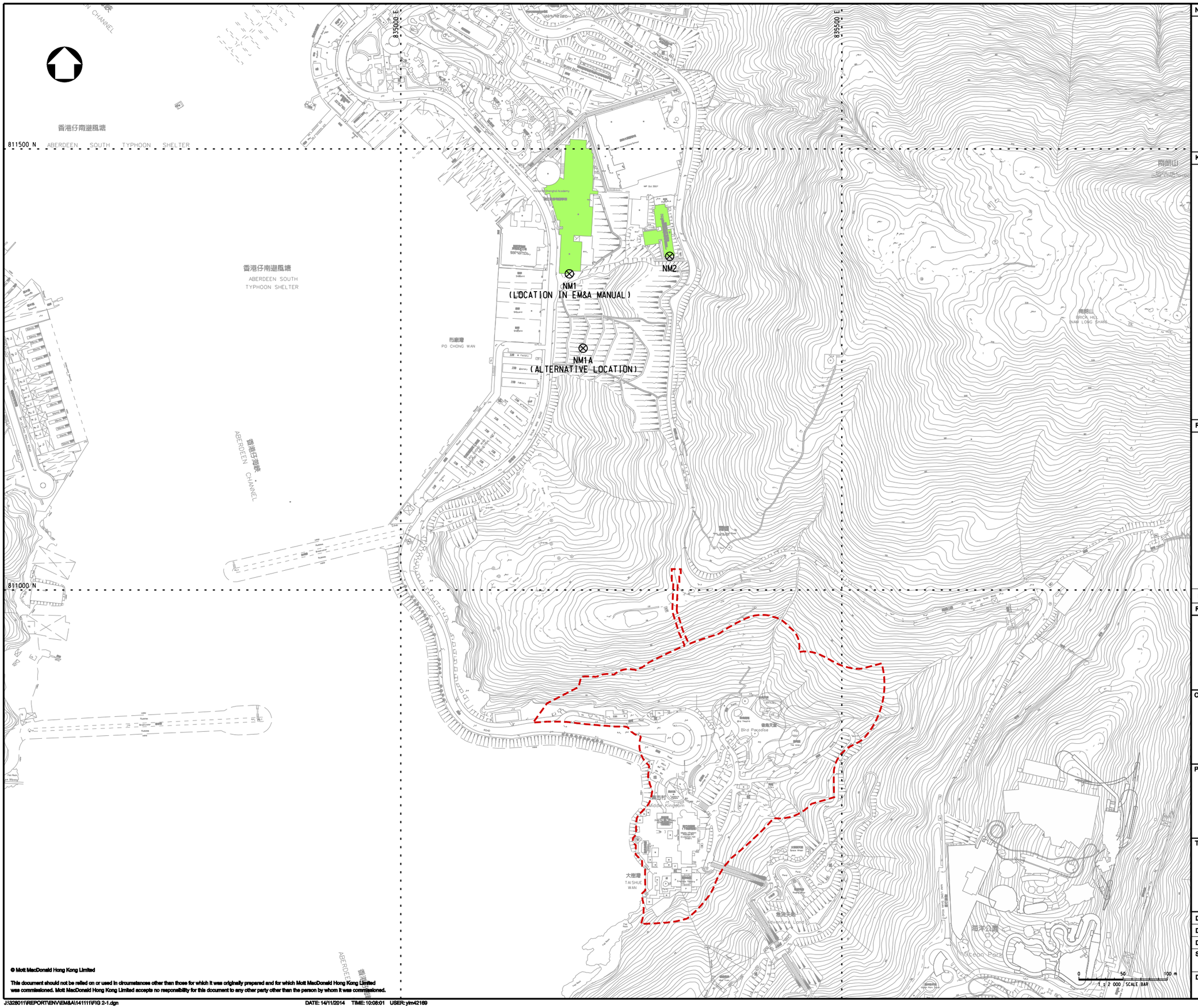


**Notes**

**Key to symbols**

PROJECT BOUNDARY

CONSTRUCTION NOISE MONITORING STATION

**Reference drawings**

| Rev | Date | Drawn | Description | Ch'k'd | App'd |
|---|---|---|---|---|---|
| P1 | NOV 14 | MING | FIRST ISSUE | BW | AFK |


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**Client**

Ocean Park Hong Kong 香港海洋公園

**Project**

TAI SHUE WAN DEVELOPMENT AT OCEAN PARK

**Title**

LOCATIONS OF CONSTRUCTION NOISE MONITORING STATIONS

| | | | | | |
|---|---|---|---|---|---|
| Designed | BW | | Eng check | FW | |
| Drawn | MING | | Coordination | FW | |
| Dwg check | BW | | Approved | AFK | |
| Scale at A1 | 1:2000 | Status | PRE | Rev | P1 |

Drawing Number

FIGURE 2.1

# Appendices

# Appendix A. Construction Programme

# Appendix A - Tentative Construction Programme

| Construction Activity | Duration (month) | 2015 Q1 | | | 2015 Q2 | | | 2015 Q3 | | | 2015 Q4 | | | 2016 Q1 | | | 2016 Q2 | | | 2016 Q3 | | | 2016 Q4 | | | 2017 Q1 | | | 2017 Q2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EVA, slope stabilization & site formation works | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Foundation | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Main building construction | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Superstructure | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Glass curtain wall installation | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Water rides installation | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Interior fitting out | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# Appendix B. Implementation Status for Environmental Mitigation Measures

# Appendix B. Implementation Schedule for Environmental Mitigation Measures

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| **Cat.1 Key/specific proposed mitigation measure** | | | | | | | | | |
| **Noise Impact (Construction)** | | | | | | | | | |
| 5.7 | 3.2 | **Selecting Quiet Plant**<br>The actual SWL of quiet plant is less than the value specified in GW-TM for the same piece of equipment. It should be noted that the silenced PME taken from EPD's Quality Powered Mechanical Equipment (QPME) Inventory. | Within Project area / Duration of the construction phase / Prior to commencement of operation | Contractor appointed by OPC | | ✓ | | | EIAO and Noise Control Ordinance |
| 5.7 | 3.2 | **Use of Movable Barriers**<br>Movable noise barriers can be very effective in screening noise from particular items of plant when constructing the Project. Noise barriers located along the active works area close to the noise generating component of a PME could produce at least 10 dB(A) screening for stationary plant and 5 dB(A) for mobile plant provided that the direct line of sight between the PME and the NSRs is blocked. | Within Project area / Duration of the construction phase / Prior to commencement of operation | Contractor appointed by OPC | | ✓ | | | EIAO and Noise Control Ordinance |
| **Ecological Impact** | | | | | | | | | |
| 10.7 | 8.3 | **Inspection of Active Ardeid Nest**<br>Prior to site clearance works at the planting area abandoned for ardeid breeding, the area around the boundary of the ardeids roosting site as indicatively shown in Figure 8.1 should be inspected to confirm no active ardeid nest is present. If any active ardeid nest is observed, suitably sized buffer area should be established to avoid human or machinery disturbance until the nest is abandoned. | Indicative boundary of the ardeids roosting site within Project construction site (location indicated in Figure 8.1) / For once / Before site clearance | Qualified ecologist appointed by OPC | ✓ | | | | EIAO-TM; HK Ordinance Cap. 170 |
| 10.7 | 8.3 | **Inspection of Short-nosed Fruit Bat**<br>As precautionary measure, prior to any proposed arboricultural works of the trees (particularly the Chinese Fan-palms), daytime | Project construction site / For once / Before arboricultural works of | ET appointed by OPC | ✓ | ✓ | | | EIAO-TM; HK Ordinance Cap. 170 |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | inspection should be carried out to confirm no Short-nosed Fruit Bat is present. If any Short-nosed Fruit Bat is observed roosting, suitably sized buffer area should be established around the tree to minimise human or machinery disturbance until the bat has left. | the trees | | | | | | |
| 10.7 | 8.3 | **In-situ Preservation of Plant Species of Conservation Interest**<br>During construction phase, protective fence for the identified flora species of conservation concern shall be erected and maintained. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | | ✓ | | | EIAO-TM |
| 10.7 | 8.3 | **Inspection of Ardeid Nest during breeding season**<br>After commencement of construction phase, the Site should be monitored monthly in breeding season (April to July) to check for any potential breeding and nesting activities. | Project construction site / Throughout construction stage / Until completion of all construction activities | Qualified ecologist appointed by OPC | | ✓ | | | EIAO-TM |
| 10.7 | 8.2 | **Timing of site clearance and tree felling works**<br>Site clearance and tree felling works at the existing ardeid night roost location as shown in Figure 8.1 should be avoided during the peak wintering season of ardeids, i.e. between November and March. | Indicative boundary of the ardeids roosting site within Project construction site (location indicated in Figure 8.1) / Throughout construction stage / Until completion of site clearance and tree felling works within the boundary | Contractor appointed by OPC | | ✓ | | | EIAO-TM |
| 10.7 | 8.3 | **Compensation for Ardeid Roosting Site**<br>An enhancement area with following features should be provided as an alternative roosting site for ardeids.<br>▪ The location is at southern part of the Project area (location indicated in Figure 8.1)<br>▪ The enhancement area shall include a Flamingo Pond<br>▪ Native tree species *Macaranga tanarius* and *Celtis sinensis* and tree species which was used by ardeids for roosting *Mallotus paniculatus, Ficus hispida* and *Cratoxylum cochinchinense* shall be considered in the plan.<br>▪ Heavy standard sized trees shall be considered for planting to allow early establishment of the trees around the Flamingo | Southern part of Project construction site (location indicated in Figure 8.1) / Before and throughout construction stage / Until completion of Flamingo Pond construction and tree planting activities at that area | Qualified ecologist and Contractor appointed by OPC | ✓ | ✓ | ✓ | | EIAO-TM |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | Pond. | | | | | | | |
| 10.7 | 8.3 | **Compensation for Woodland Habitat**<br>▪ Provision of a Woodland Area of about 1.62 ha, which includes 0.84 ha woodland compensation on-site and 0.78 ha on-site woodland reinstatement, to mitigate for permanent loss of woodland habitat.<br>▪ In the woodland compensation area, whips should be planted with predominately native tree species similar to the affected woodland, such as *Celtis sinensis*, *Cratoxylum cochinchinense*, *Polyspora axillaris* and *Sterculia lanceolata*. | Location of Woodland Compensation Area indicated in Figure 8.2/ Before and throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | ✓ | ✓ | ✓ | | EIAO-TM |
| **Landscape and Visual Impact (Construction)** | | | | | | | | | |
| Table 12.13 (CP07) | Table 9.1 (CP07) | **Temporary Tree Nurseries**<br>Temporary tree nurseries may be set up within the Project area at an early stage to allow small trees to grow during the construction period. By the time these trees are needed for landscape planting at the end of the construction phase, they will have grown larger, require minimal pruning and suffer much less damage during transplanting, as the moving distance from an on-site rather than off-site nursery will be much smaller. The temporary tree nurseries can also temporarily hold the existing trees to be transplanted if direct transplantation from their original locations to the final recipient location is impracticable. The locations of the temporary tree nurseries should be carefully selected so that the trees can also act as screen planting to block the views of the Project area from the VSRs during the construction phase, if practicable. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | ✓ | ✓ | | | EIAO-TM |
| Table 12.13 (CP08) | Table 9.1 (CP08) | **Advance Planting**<br>Advance planting should be undertaken at the earliest possible stage of the construction phase of the project. Plant species, preferably native ones, should be carefully selected to blend in with the existing preserved vegetation. Landscape planting in movable planters should also be considered as a temporary greening measure for the Project area. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | ✓ | ✓ | | | EIAO-TM |
| **Landscape and Visual Impact (Operation)** | | | | | | | | | |
| Table 12.14 (OP04) | Table 9.2 (OP04) | **Green Roofs and Vertical Greening**<br>Green Roofs and Vertical Greening should be provided where feasible and appropriate to screen and soften the hard edges of | Project building rooftops / During design stage / Throughout operation | Design Architect / Contractor appointed by OPC | ✓ | | ✓ | | EIAO-TM |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | building structures. | phase | | | | | | |
| Table 12.14 (OP05) | Table 9.2 (OP05) | **Reprovision of Flamingo Pond**<br>A pond is recommended to replace the demolished Flamingo Pond as compensation for the loss of semi-natural ponds, where wildlife, such as birds, can utilise. | Project area / During design stage / Throughout operation phase | Design Architect / Contractor appointed by OPC | ✓ | | ✓ | | EIAO-TM |
| Table 12.14 (OP07) | Table 9.2 (OP07) | **Woodland Compensation**<br>1.53ha of affected woodland is recommended to be reinstated / compensated by 1.62ha of whip tree planting adjacent to the existing unaffected woodland and tall shrubland. Native species should be proposed as far as practicable to re-create a native landscape, restore the ecological habitats and blend in with the existing native vegetation. | Project area / During design stage / Throughout operation phase | Design Architect / Contractor appointed by OPC | ✓ | | ✓ | | EIAO-TM |
| **Cat. 2 Submission required post EIA stage** | | | | | | | | | |
| **Sewerage and Sewage Treatment Implications** | | | | | | | | | |
| 7.7 | 5.2 | **Detailed Sewerage Design Report**<br>In order to prevent septicity problems during operation phase, a detailed sewerage design report should be submitted to DSD for approval prior to installation of the rising mains. | Rising mains site / During design stage | Design Engineer | ✓ | | | | Sewerage Manual Part 1 |
| **Ecological Impact (Construction)** | | | | | | | | | |
| 10.7 | 8.3 | **Vegetation Survey for Plant Species of Conservation Interest**<br>For precautionary purposes and to further ensure no flora species of conservation interest to be affected, a detailed vegetation survey need to conduct to the exact locations, number and condition of individuals of *Platycodon grandiflorus*. | Project construction site / For once / Before site clearance | Qualified botanist/ecologist of the ET appointed by OPC | ✓ | | | | EIAO-TM; Hong Kong Ordinance Cap. 96 |
| 10.7 | 8.3 | **Woodland Compensation Plan**<br>A Woodland Compensation Plan shall be prepared and submitted to AFCD for approval no later than one month prior to commencement of site clearance.<br>The plan shall include but not limited to the following:<br>▪ Timing of planting works<br>▪ Planting location<br>▪ Species, size and number of trees<br>▪ Monitoring methodology | Location of Woodland Compensation Area indicated in Figure 8.2/ Before construction stage / No later than one month prior to commencement of site clearance | Qualified botanist/ecologist of the ET appointed by OPC | ✓ | | | | EIAO-TM |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | ▪ Action Plan | | | | | | | |
| **Landscape and Visual Impact (Construction)** | | | | | | | | | |
| Table 12.13 (CP05) | Table 9.1 (CP05) | **Transplantation of Existing Trees**<br>Trees which are in direct conflict with the development proposals and suitable for transplantation should be transplanted as far as practicable. A tree transplantation proposal should be submitted together with the tree removal application. Trees proposed to be transplanted should preferably be transplanted from their original locations directly to their final recipient locations in one go. If this is infeasible, the trees should be held in a temporary tree nursery, preferably within the Project area, where the trees will be properly maintained. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | ✓ | ✓ | | | EIAO-TM;<br>LAO PN No. 07/2007 |
| **Landscape and Visual Impact (Operation)** | | | | | | | | | |
| Table 12.14 (OP02) | Table 9.2 (OP02) | **Compensatory Tree Planting**<br>Existing trees to be felled should be compensated as far as practicable. Native species should be proposed as far as practicable to re-create a native landscape, restore the ecological habitats and blend in with the existing native vegetation. A compensatory tree planting proposal should be submitted together with the tree removal application for approval by relevant authorities in accordance with LAO Practice Note No. 7/2007. It is recommended that approximately 608 heavy standard trees and approximately 18,202 whip trees could be planted on-site. The availability of off-site compensatory tree planting area is still subject to further investigation and agreement with relevant authorities. | Project area / During design stage / Throughout operation phase | Design Architect / Contractor appointed by OPC | ✓ | | ✓ | | EIAO-TM;<br>LAO PN No. 07/2007 |
| **Cat. 3 Good site practice/housekeeping measures under EM&A mechanism** | | | | | | | | | |
| **Air Quality Impact (Construction)** | | | | | | | | | |
| 3.9.1 | 2.2 | **Dust Control Measures**<br>To achieve compliance with the FSP, RSP and TSP criteria during the construction phase, good practices for dust control should be implemented to reduce dust impacts. The dust control measures are detailed as follows:<br>▪ Use of regular water spraying (once every 2.5 hours or 4 times per day) to reduce dust emissions from heavy construction activities (including ground excavation, earth moving, etc.) at all active works area exposed site surfaces and unpaved | Project construction site / Duration of the construction phase / Prior to commencement of operation | Contractor appointed by OPC | | ✓ | | | EIA Recommendation and Air Pollution Control (Construction Dust) Regulation |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | roads, particularly during dry weather.<br>▪ Covering 80% of stockpiling area by impervious sheets and spraying all dusty material with water immediately prior to any loading transfer operations to keep the dusty materials wet during material handling at the stockpile areas<br><br>Relevant dust control practices as stipulated in the Air Pollution Control (Construction Dust) Regulation should be adopted:<br><br>Good Site Management<br>▪ Good site management is important to help reduce potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standards of housekeeping to prevent emissions of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning.<br><br>Disturbed Parts of the Roads<br>▪ Main temporary access points should be paved with concrete, bituminous hardcore materials or metal plates and be kept clear of dusty materials; or<br>▪ Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.<br><br>Exposed Earth<br>▪ Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies.<br><br>Loading, Unloading or Transfer of Dusty Materials<br>▪ All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as | | | | | | | | |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | to keep the dusty material wet.<br><br>Debris Handling<br>▪ Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides.<br>▪ Before debris is dumped into a chute, water should be sprayed onto the debris so that it remains wet when it is dumped.<br><br>Transport of Dusty Materials<br>▪ Vehicles used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards.<br><br>Wheel washing<br>▪ Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.<br><br>Use of vehicles<br>▪ The speed of the trucks within the site should be controlled to about 10 km/hour in order to reduce adverse dust impacts and secure the safe movement around the site.<br>▪ Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.<br>▪ Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.<br><br>Site hoarding<br>▪ Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit | | | | | | | |
| **Noise Impact (Construction)** | | | | | | | | | |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| 5.7 | 3.2 | **Good Site Practice**<br>Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs.<br>▪ only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works;<br>▪ machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum;<br>▪ plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs;<br>▪ mobile plant should be sited as far away from NSRs as possible; and<br>▪ material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities. | Project construction site / Duration of the construction phase / Prior to commencement of operation | Contractor appointed by OPC | | ✓ | | | EIAO and Noise Control Ordinance |
| **Noise Impact (Operation)** | | | | | | | | | |
| 5.7 | 3.3.2 | **Fixed Plant Noise**<br>With the adoption of the proposed maximum allowable SWLs, all representative NSRs is expected to comply with the relevant noise criteria for the daytime and evening time periods. No adverse fixed plant noise impact is anticipated.<br>It is also recommended that the following noise reduction measures should be considered as far as practicable during design stage:<br>▪ choose quiet plant such as those which have been effectively silenced;<br>▪ include noise levels specification when ordering new plant (including chiller and E&M equipment);<br>▪ locate fixed plant / louvre away from any NSRs as far as practicable;<br>▪ locate fixed plant in walled plant rooms or in specially designed enclosures;<br>▪ locate noisy machine in a basement or a completely separate building; | Within Project area / Prior to operation phase / Duration of the operation phase / Throughout operation phase | Design Architect / Contractor appointed by OPC | ✓ | ✓ | ✓ | | EIAO and Noise Control Ordinance |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | ▪ install direct noise mitigation measures including silencers, acoustic louvres and acoustic enclosure where necessary; and<br>▪ develop and implement a regularly scheduled plant maintenance programme so that equipment is properly operated and serviced in order to maintain a controlled level of noise.<br>Prior to the operation of the Project, noise commissioning tests for all major fixed noise sources should be conducted. | | | | | | | |
| 5.7 | 3.3.2 | **Open Air Entertainment Noise**<br>With the adoption of the proposed maximum allowable SWLs, all representative NSRs is expected to comply with the relevant noise criteria for the daytime and evening periods, the following measures should be considered as far as practicable during stage:<br>▪ use small clusters of small power loudspeakers rather than a few large power loudspeakers; and<br>▪ loudspeakers should be pointed away from nearby NSRs. | Within Project area / Duration of the operation phase / Throughout operation phase | Design Architect / Contractor appointed by OPC | ✓ | ✓ | | | EIAO and Noise Control Ordinance |
| **Water Quality Impact (Construction)** | | | | | | | | | |
| 6.7 | 4.2 | **Construction Site Runoff**<br>The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and erosion. The following measures are recommended to protect water quality of the inland areas:<br>▪ At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the Contractors prior to the commencement of construction;<br>▪ Sand/ silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in | Project construction site / Duration of the construction phase | Contractor appointed by OPC | | ✓ | | | EIAO-TM;<br>ProPECC Note PN 1/94;<br>WPCO;<br>TM-DSS |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the Contractors prior to the commencement of construction;<br>▪ All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times;<br>▪ Measures should be taken to minimise the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from site formation excavations should be discharged into storm drains via silt removal facilities;<br>▪ All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains;<br>▪ Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system;<br>▪ Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers;<br>▪ Precautions should be taken at any time of the year when | | | | | | | | |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
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| | | rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes; and,<br>▪ Bentonite slurries used on site should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.<br>The Contractor would be required to obtain a license from EPD under the WPCO for discharge to the public drainage system or the marine environment. Construction site discharge should be collected by the temporary drainage system installed by the Contractor and treated or desilted on-site to fulfil the WPCO discharge license requirements before discharge. | | | | | | | |
| 6.7 | 4.2 | **General Construction Activities**<br>Best Management Practices (BMPs) should be implemented at the construction site, including proper handling, sorting and storage of construction solid waste, debris and refuse generated on-site prior to disposal. Stockpiles of cement and other construction materials should be kept covered when not being used. The Contractor should also follow the guidelines set in the "Pesticides Used for Outdoor Mosquito Control", published by AFCD in 2010, for mosquito control on site. | Project construction site / Duration of the construction phase | Contractor appointed by OPC | | ✓ | | | EIAO-TM;<br>ProPECC Note PN 1/94 |
| 6.7 | 4.2 | **Expansion of Existing Storm U-Channel**<br>Guidelines and measures summarised in ProPECC PN 1/94 for trenching activities should be implemented. | Project construction site / Duration of the construction phase | Contractor appointed by OPC | | ✓ | | | ProPECC Note PN 1/94 |
| 6.7 | 4.2 | **Interception of Natural Streams**<br>Guidelines and measures summarised in ProPECC PN 1/94 for excavation and stockpiling activities should be implemented. | Project construction site / Duration of the construction phase | Contractor appointed by OPC | | ✓ | | | ProPECC Note PN 1/94 |
| 6.7 | 4.2 | **Site Formation Works**<br>The construction programme should be properly planned to minimise excavation works during the wet season (April to September), temporarily exposed slope/soil surfaces should be | Project construction site / Duration of the construction phase | Contractor appointed by OPC | | ✓ | | | ProPECC Note PN 1/94 |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | covered by a tarpaulin or other means, as far as practicable. Interception channels should be provided (e.g. along the crest/edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm. Measures will be taken to minimise water ingress into the excavation. Diverting any water from the excavated areas to on-site wastewater treatment facilities for treatment prior to discharge should also be performed. Other measures that need to be implemented before, during and after rainstorms are summarised in ProPECC PN 1/94. | | | | | | | |
| 6.7 | 4.2 | **Construction of Sewage Sump Pit and Rising Mains**<br>Measures for excavation works summarised for site formation works should also be implemented during construction of the sewage sump pit.<br>During the laying of rising mains, guidelines and measures summarised in ProPECC PN 1/94 for trenching activities should be performed. Concrete water generated from the construction of the concrete support should be collected and treated with the wastewater treatment facilities prior to discharge. | Project construction site / Duration of the construction phase | Contractor appointed by OPC | | ✓ | | | ProPECC Note PN 1/94 |
| 6.7 | 4.2 | **Accidental Spillage**<br>The Contractor should register as a chemical waste producer if chemical wastes are produced from construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes. This will prevent contamination of top soil and water pollution due to construction site runoff.<br>Maintenance of vehicles and equipment, involving activities with potential for leakage and spillage, should only be undertaken within areas appropriately equipped to control these discharges.<br>Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event. | Project construction site / Duration of the construction phase | Contractor appointed by OPC | | ✓ | | | ProPECC Note PN 1/94;<br>Waste Disposal Ordinance (Cap 354);<br>Waste Disposal (Chemical Waste) (General) Regulation |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:<br>▪ Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.<br>▪ Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.<br>▪ Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. | | | | | | | |
| 6.7 | 4.2 | **Sewage Effluent from the Construction Workforce**<br>The Contractor should provide temporary sanitary facilities, such as portable chemical toilets within the construction site to handle sewage from the workforce. The Contractor has the responsibility to ensure that chemical toilets are used and properly maintained, and that licensed Contractors are employed to collect and dispose of the waste off-site at approved locations. | Project construction site / Duration of the construction phase | Contractor appointed by OPC | | ✓ | | | ProPECC Note PN 1/94 |
| **Water Quality Impact (Operation)** | | | | | | | | | |
| 6.7 | 4.2 | **Runoff from Road Surfaces**<br>Road drainage system design has already included silt traps in the gully inlets to remove silt and grit before the runoff enters the public storm water drainage system. Silt traps should be regularly checked and maintained to ensure efficient operation. | Within Project area / During operation phase | OPC/Operator appointed by OPC | | | ✓ | | EIAO-TM;<br>WPCO |
| 6.7 | 4.2 | **Runoff from On-site Planting Area**<br>Watering of plants on site should always be performed before application of pesticides, herbicides and fertilizers. Regular training should also be provided to frontline staff on the appropriate treatment and disposal of pesticides, herbicides and fertilizers. | Within Project area / During operation phase | OPC/Operator appointed by OPC | | | ✓ | | EIAO-TM;<br>WPCO;<br>TM-DSS |
| **Waste Management Implications (Construction)** | | | | | | | | | |
| 8.5.1.1 | 6.2 | **Good Site Practice** | Project construction site / Throughout construction | Contractor | | ✓ | | | Waste Disposal Ordinance; Waste |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | Recommendations for good site practices during the construction activities include:<br>▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site<br>▪ Training of site personnel in proper waste management and chemical handling procedures<br>▪ Provision of sufficient waste disposal points and regular collection of waste<br>▪ Appropriate measures to minimise windblown litter and dust/ odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers<br>▪ Stockpiles of C&D materials should be kept covered by impervious sheets to avoid wind-blown dust<br>▪ All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the stockpile areas<br>▪ Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads<br>▪ Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&D materials is not anticipated | stage / Until completion of all construction activities | appointed by OPC | | | | | Disposal (Chemical Wastes) (General) Regulation; and ETWB Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site |
| 8.5.1.2 | 6.2 | **Waste Reduction Measures**<br>Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:<br>▪ Sort inert C&D materials to recover any recyclable portions such as metals<br>▪ Segregation and storage of different types of waste in different containers or skips to enhance reuse or recycling of | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | | ✓ | | | Waste Disposal Ordinance |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | materials and their proper disposal<br>▪ Encourage collection of recyclable waste such as waste paper and aluminium cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force<br>▪ Proper site practices to minimise the potential for damage or contamination of inert C&D materials<br>▪ Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste | | | | | | | |
| 8.5.1.3 | 6.2 | **Inert and Non-inert C&D materials**<br>In order to minimise impacts resulting from collection and transportation of inert C&D materials for off-site disposal, the inert C&D materials should be reused on-site as fill material as far as practicable. In addition, inert C&D materials generated from excavation works could be reused as fill materials in local projects that require public fill for reclamation.<br>The surplus inert C&D materials will be disposed of at the Government's PFRFs for beneficial use by other projects in Hong Kong.<br>The C&D materials generated from general site clearance should be sorted on site to segregate any inert materials for reuse or disposal of at PFRFs whereas the non-inert materials will be disposed of at the designated landfill site.<br>In order to monitor the disposal of inert and non-inert C&D materials at respectively PFRFs and the designated landfill site, and to control fly-tipping, it is recommended that the Contractor should follow the DEVB Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials issued by Development Bureau. In addition, it is also recommended that the Contractor should prepare and implement a Waste Management Plan detailing their various waste arising and waste management practices in accordance with the relevant requirements of the ETWB Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | | ✓ | | | Waste Disposal Ordinance ; DEVB Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials; and ETWB Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site |
| 8.5.1.4 | 6.2 | **Chemical Waste**<br>If chemical wastes are produced at the construction site, the | Project construction site / Throughout construction | Contractor appointed by OPC | | ✓ | | | Code of Practice on the Packaging |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | Contractor will be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the "Code of Practice on the Packaging Labelling and Storage of Chemical Wastes". Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidising, irritant, toxic, harmful, corrosive, etc. The Contractor should use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.<br>Potential environmental impacts arising from the handling activities (including storage, collection, transportation and disposal of chemical waste) are expected to be minimal with the implementation of appropriate mitigation measures as recommended. | stage / Until completion of all construction activities | | | | | | Labelling and Storage of Chemical Wastes; Waste Disposal (Chemical Waste) (General) Regulation |
| 8.5.1.5 | 6.2 | **General Refuse**<br>General refuse should be stored in enclosed bins or compaction units separated from inert C&D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | | ✓ | | | Waste Disposal Ordinance and Public Health and Municipal Services Ordinance - Public Cleansing and Prevention of Nuisances Regulation |
| 8.5.1.6 | 6.2 | **Floating Refuse**<br>Provide general refuse collection points on site can minimise the refuse contaminate the marine environment. The construction contractors will be required to regularly check and clean any refuse trapped or accumulated along the artificial seawall. Such refuse will then be stored and disposed of together with the general refuse. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | | ✓ | | | Waste Disposal Ordinance |
| **Waste Management Implications (Operation)** | | | | | | | | | |
| 8.5.2.1 | 6.2 | **General Refuse**<br>General refuse should be collected on daily basis and delivered | Project area / On a regular basis / | Contractor appointed by OPC | | | ✓ | | Waste Disposal Ordinance |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | to the refuse collection point accordingly. A reputable waste collector should be employed to remove general refuse regularly to avoid odour nuisance or pest/vermin problem. Sufficient recycling containers are recommended to be provided at suitable locations of the Project to encourage recycling of such waste as aluminium cans, plastics and waste paper. | Throughout operation stage | | | | | | |
| 8.5.2.2 | 6.2 | **Chemical Waste**<br>If chemical wastes are expected to be produced during the operation phase, the Project Proponent should register with the EPD as a chemical waste producer and follow the guidelines stated in the "Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes". Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidising, irritant, toxic, harmful, corrosive, etc. Licensed collector should be deployed to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. | Project area / On a regular basis / Throughout operation stage | Contractor appointed by OPC | | | ✓ | | Code of Practice on the Packaging Labelling and Storage of Chemical Wastes; Waste Disposal (Chemical Waste) (General) Regulation |
| 8.5.2.3 | 6.2 | **Floating Refuse**<br>Regular inspection should be carried out along the artificial seawall of the Project boundary for any entrapment or accumulation of floating refuse. Where an appreciable amount of floating refuse is found on the artificial seawall during the inspection, the locations of such refuse will be recorded and arrangements with the project proponent will immediately be made to collect and clear the refuse from the seawall. | Project area / On a regular basis / Throughout operation stage | Contractor appointed by OPC | | | ✓ | | Waste Disposal Ordinance |
| **Land Contamination (Construction)** | | | | | | | | | |
| 9.6 | 7.2 | In any case where contaminated soil is identified after the commencement of works, a Contamination Assessment Plan (CAP) is required to be prepared for EPD's endorsement prior to | Project construction site / Before construction stage | Contractor appointed by OPC | ✓ | | | | Guidance Note for Contaminated Land Assessment and Remediation |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | the site investigation. The Contamination Assessment Report (CAR) and/ or Remediation Action Plan (RAP) should be prepared for EPD's approval after the site investigation. If land contamination is confirmed, remediation works should be carried out according to the approved RAP. A Remediation Report (RR) should also be prepared for EPD's endorsement to demonstrate that the clean-up of the contaminated land is completed. No construction work or development of site should be carried out before the approval of the RR. | | | | | | | Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management<br><br>Practice Guide for Investigation and Remediation of Contaminated Land |
| 9.6 | 7.2 | If contaminated soil is identified, the following mitigation measures are for the excavation and transportation of contaminated materials (if any):<br>▪ To minimise the incidents of construction workers coming in contact with any contaminated materials, bulk earth-moving excavation equipment should be employed;<br>▪ Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when working directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site;<br>▪ Stockpiling of contaminated excavated materials on site should be avoided as far as possible;<br>▪ The use of any contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out;<br>▪ Vehicles containing any excavated materials should be suitably covered to reduce dust emissions and/or release of contaminated wastewater;<br>▪ Truck bodies and tailgates should be sealed to prevent any discharge;<br>▪ Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | | ✓ | | | Waste Disposal Ordinance (Cap 354)<br>Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | tipping;<br>▪ Speed control for trucks carrying contaminated materials should be exercised.<br>▪ Observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and<br>▪ Maintain records of waste generation and disposal quantities and disposal arrangements. | | | | | | | |
| **Landscape and Visual Impact (Construction)** | | | | | | | | | |
| Table 12.13 (CP01) | Table 9.1 (CP01) | **Minimisation of Construction Period**<br>The construction programme should be carefully designed to minimise the length of the construction period. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | ✓ | ✓ | | | EIAO-TM |
| Table 12.13 (CP02) | Table 9.1 (CP02) | **Minimisation of Works Areas**<br>The footprint of the proposed hard structures as well as the extent of temporary works areas should be minimised as far as practicable. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | ✓ | ✓ | | | EIAO-TM |
| Table 12.13 (CP03) | Table 9.1 (CP03) | **Construction Site Controls**<br>Construction site controls should be enforced, where possible, to ensure that the landscape and visual impacts arising from the construction phase activities, such as the storage of materials, the location and appearance of site accommodation, etc. are minimised. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | ✓ | ✓ | | | EIAO-TM |
| Table 12.13 (CP04) | Table 9.1 (CP04) | **Preservation of Existing Vegetation**<br>The development proposal should avoid disturbance to existing vegetation as far as practicable. A formal tree removal application should be submitted for approval by relevant authorities in accordance with LAO PN No. 07/2007 "Tree Preservation and Tree Removal Application for Building Development in Private Projects" during the detailed design phase of the Project. Where possible, all trees which are not in direct conflict with the development proposals should be retained *in situ*. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | ✓ | ✓ | | | EIAO-TM;<br>LAO PN No. 07/2007 |
| Table | Table | **No Intrusion Zones** | Project construction site / | Contractor | ✓ | ✓ | | | EIAO-TM |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| 12.13 (CP06) | 9.1 (CP06) | Where practicable, “no intrusion zones” should be designated within the Project area for protection of existing vegetation. Durable boundary fences should be erected to clearly demarcate these “no intrusion zones”. No construction activities, storage of materials and vehicular access will be allowed within the “no intrusion zones” to prevent potential damage to canopies and root zones of vegetation. | Throughout construction stage / Until completion of all construction activities | appointed by OPC | | | | | |
| Table 12.13 (CP09) | Table 9.1 (CP09) | **Construction Site Hoardings**<br>Two types of hoardings should be considered. One is used for areas in close contact with visitors and for areas where visual intrusion is a key concern. It should be graphical and thematic, and visually ‘impermeable’ to block the views of construction activities from the VSRs. The other is used for areas to be viewed at a distance. It should be subtle and camouflaged so that it blends in with the surrounding landscape. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | ✓ | ✓ | | | EIAO-TM |
| Table 12.13 (CP10) | Table 9.1 (CP10) | **Dust and Erosion Control for Exposed Soil**<br>Exposed soil shall be covered or “camouflaged” and watered frequently. Areas that are expected to be left with bare soil for a long period of time should be hydroseeded and / or covered with suitable protective fabrics. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | | ✓ | | | EIAO-TM |
| Table 12.13 (CP11) | Table 9.1 (CP11) | **Appearance of Construction Plant / Machinery**<br>To minimise the visual intrusion of construction activities to visitors and other VSRs, a suitable colour scheme of construction machines and plants should be adopted where possible. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | | ✓ | | | EIAO-TM |
| Table 12.13 (CP12) | Table 9.1 (CP12) | **Construction Lighting Control**<br>All security floodlights for construction sites should be equipped with adjustable shield, frosted diffusers and reflective covers, and be carefully controlled to minimise light pollution and night-time glare to the VSRs. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | | ✓ | | | EIAO-TM |
| Table 12.13 (CP13) | Table 9.1 (CP13) | **Appearance of Construction Workers**<br>To protect Ocean Park’s image, construction workers should be required to enter the park areas with their helmets and safety vests properly stored or carried in non-transparent bags. They should also dress properly and cleanly. | Project construction site / Throughout construction stage / Until completion of all construction activities | Contractor appointed by OPC | | ✓ | | | EIAO-TM |
| **Landscape and Visual Impact (Operation)** | | | | | | | | | |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| Table 12.14 (OP01) | Table 9.2 (OP01) | **Sensitive Design and Disposition**<br>All proposed hard structures should be sensitively designed in a manner that responds to the existing and planned landscape context, and minimises potential adverse landscape and visual impacts. The structural design should seek to reduce the apparent visual mass through the use of natural materials such as wooden frame and semi-transparent panels. Subdued tones should be considered for the colour palette with non-reflective finishes to reduce glare effect. Site specific measures, such as the disposition of the key structures closer to the northern slopes, the design of building forms as extension along the existing slope topography, the use of concave roof form and the location of ride platforms on or near the slopes to minimise structural support, should also be considered for better integration with the surroundings and minimisation of potential visual impacts. | Project buildings / During design stage / Throughout operation phase | Design Architect / Contractor appointed by OPC | ✓ | | ✓ | | EIAO-TM |
| Table 12.14 (OP03) | Table 9.2 (OP03) | **Enhancement Planting**<br>Other than compensatory tree planting, additional trees, shrubs, groundcovers and lawn should also be considered to maximise greening within the redevelopment area. | Project area / During design stage / Throughout operation phase | Design Architect / Contractor appointed by OPC | ✓ | | ✓ | | EIAO-TM |
| Table 12.14 (OP06) | Table 9.2 (OP06) | **Responsive Lighting Design**<br>Overall lighting design would carefully consider a reasonable level of functional and thematic lighting with due consideration of possible light pollution and night-time glare to the surroundings. Consideration shall be made by the lighting designers to the following measures:<br>▪ Lighting shall be designed with due consideration of mounting height and direction of light fixtures so as not to point directly towards any sensitive receiver.<br>▪ Lighting shall be arranged with due consideration of reflectance so as to avoid glare effect.<br>▪ Lighting shall be regularly monitored during operation.<br>▪ Lights located adjacent or in proximity to neighbours shall be carefully designed to prevent possible light intrusion.<br>▪ Lighting operation schedule shall specify only lights necessary for security to be left on after business hours.<br>▪ Paving materials should be selected as necessary to reduce | Project area / During design stage / Throughout operation phase | Design Architect / Contractor appointed by OPC | ✓ | | ✓ | | EIAO-TM |

| EIA Ref. | EM&A Log Ref. | Environmental Protection Measures | Location / Duration of measures / Timing of completion of measures | Implementation Agent | Implementation Stage[1] Des | Con | Op | Dec | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|
| | | potential glare from surface reflectance.<br>▪ Particular attention should be paid to the use of lighting having a high intensity or harsher tone (e.g. metal halide lamps).<br>▪ Lights shall generally be models having precise cut-off range (such as full cut-off optics where available and practicable) and if necessary be fitted with adjustable anti-glare shields. | | | | | | | |

Remarks:
1. Des – Design Stage, Con – Construction Stage, Op – Operation, Dec - Decommissioning

# Appendix C. Calibration Certificates

Hong Kong Calibration Ltd.
香 港 校 正 有 限 公 司

# Calibration Certificate

**Certificate No.** **402561** 

**Customer :** Mott MacDonald Hong Kong Limited

**Address :** 20/F, Two Landmark East, 100 How Ming Street, Kwun Tong, Kowloon, Hong Kong.

**Order No. :** Q41147 **Date of receipt :** 22-Apr-14

## Item Tested

**Description :** Precision Integrating Sound Level Meter

**Manufacturer :** Rion

**Model :** NL-31 **Serial No. :** 01262786

## Test Conditions

**Date of Test :** 16-May-14 **Supply Voltage :** --

**Ambient Temperature :** (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

## Test Specifications

Calibration check.

Ref. Document/Procedure : Z01, IEC 651, IEC 804.

## Test Results

All results were within the IEC 651 Type 1 & IEC 804 Type 1 specification.

The results are shown in the attached page(s).

Main Test equipment used:

| Equipment No. | Description | Cert. No. | Traceable to |
|---|---|---|---|
| S017 | Multi-Function Generator | C127181 | SCL-HKSAR |
| S205 | Ref. Sound Level Calibrator | PHCO40002 | SCL-HKSAR |

The values given in this Calibration 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 environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).
The test results apply to the above Unit-Under-Test only

**Calibrated by :** Dorothy Cheuk

**Approved by :** Steve Kwan

Date: 16-May-14

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 8801 Fax: 2425 8646

# Calibration Certificate



Results :

## 1. SPL Accuracy

| UUT Setting | | | Applied Value (dB) | UUT Reading (dB) |
|---|---|---|---|---|
| Level Range (dB) | Weight | Response | | |
| 20 – 100 | $L_A$ | Fast | 94.0 | 94..1 |
| | | Slow | | 94.1 |
| | $L_C$ | Fast | | 94.1 |
| | Lp | Fast | | 94.1 |
| 30 – 120 | $L_A$ | Fast | 94.0 | 94.0 |
| | | Slow | | 94.0 |
| | $L_C$ | Fast | | 94.0 |
| | Lp | Fast | | 94.1 |
| 30 – 120 | $L_A$ | Fast | 114.0 | 114.0 |
| | | Slow | | 114.0 |
| | $L_C$ | Fast | | 114.0 |
| | Lp | Fast | | 114.1 |

IEC 651 Type 1 Spec. : ± 0.7 dB
Uncertainty : ± 0.1 dB

## 2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. : ± 0.3 dB
Uncertainty : ± 0.01 dB

## 3. Linearity

3.1 Level Linearity

| UUT Range (dB) | Applied Value (dB) | UUT Reading (dB) | Variation (dB) | IEC 651 Type 1 Spec. (Primary Indicator Range) |
|---|---|---|---|---|
| 130 | 114.0 | 114.0 | 0.0 | ± 0.7 dB |
| 130 | 104.0 | 104.0 | 0.0 | |
| 120 | 94.0 | 94.0 (Ref.) | - - | |
| 110 | 84.0 | 84.0 | 0.0 | |
| 100 | 74.0 | 74.0 | 0.0 | |
| 90 | 64.0 | 64.1 | +0.1 | |
| 80 | 54.0 | 54.1 | +0.1 | |

Uncertainty : ± 0.1 dB

# Calibration Certificate



3.2 Differential level linearity

| UUT Range (dB) | Applied Value (dB) | UUT Reading (dB) | Variation (dB) | IEC 651 Type 1 Spec. |
|---|---|---|---|---|
| 120 | 84.0 | 84.0 | 0.0 | ± 0.4 dB |
| | 94.0 | 94.0 (Ref.) | - - | |
| | 95.0 | 95.0 | 0.0 | ± 0.2 dB |

Uncertainty : ± 0.1 dB

## 4. Frequency Weighting - A weighting

| Frequency | Attenuation (dB) | IEC 651 Type 1 Spec. |
|---|---|---|
| 31.5 Hz | -39.6 | - 39.4 dB, ± 1.5 dB |
| 63 Hz | -26.3 | - 26.2 dB, ± 1.5 dB |
| 125 Hz | -16.3 | - 16.1 dB, ± 1 dB |
| 250 Hz | -8.8 | - 8.6 dB, ± 1 dB |
| 500 Hz | -3.3 | - 3.2 dB, ± 1 dB |
| 1 kHz | 0.0 (Ref.) | 0 dB, ± 1 dB |
| 2 kHz | +1.1 | + 1.2 dB, ± 1 dB |
| 4 kHz | +1.0 | + 1.0 dB ,± 1 dB |
| 8 kHz | -1.2 | - 1.1 dB, + 1.5 dB ~ - 3 dB |
| 16 kHz | -6.8 | - 6.6 dB, + 3 dB ~- ∞ |

Uncertainty : ± 0.1 dB

## 5. Time Averaging

| Applied Burst duty Factor | Applied Leq Value (dB) | UUT Reading (dB) | IEC 804 Type 1 Spec. |
|---|---|---|---|
| continuous | 40.0 | 40.0 | -- |
| 1/10 | 40.0 | 39.9 | ± 0.5 dB |
| $1/10^2$ | 40.0 | 39.9 | |
| $1/10^3$ | 40.0 | 39.9 | ± 1.0 dB |
| $1/10^4$ | 40.0 | 39.9 | |

Uncertainty : ± 0.1 dB

Remarks:
1. UUT : Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. Atmospheric Pressure : 995 hPa
4. The UUT's internal calibration was performed before the calibration.

---------- END ----------

Hong Kong Calibration Ltd.
香 港 校 正 有限公司

# Calibration Certificate

**Certificate No.** 39235 Page 1 of 2 Pages

**Customer :** Mott MacDonald Hong Kong Limited

**Address :** 20/F, Two Landmark East, 100 How Ming Street, Kwun Tong, Kowloon, Hong Kong.

**Order No. :** Q33633 **Date of receipt :** 18-Dec-13

## Item Tested

**Description :** Acoustic Calibrator

**Manufacturer :** Castle

**Model :** GA607 **Serial No. :** 040162

## Test Conditions

**Date of Test :** 14-Jan-14 **Supply Voltage :** --

**Ambient Temperature :** (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

## Test Specifications

Calibration check.

Ref. Document/Procedure : F06, F20, Z02, IEC 942.

## Test Results

All results were within the IEC 942 Class 1 specification.

The results are shown in the attached page(s).

Main Test equipment used:

| Equipment No. | Description | Cert. No. | Traceable to |
|---|---|---|---|
| S014 | Spectrum Analyzer | 35730 | NIM-PRC & SCL-HKSAR |
| S205 | Ref. Sound Level Calibrator | PHCO40002 | SCL-HKSAR |
| S041 | Universal Counter | 34621 | SCL-HKSAR |
| S206 | Sound Level Meter | 36203 | SCL-HKSAR |

The values given in this Calibration 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 environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).
The test results apply to the above Unit-Under-Test only

**Calibrated by :** Dorothy Cheuk

**Approved by :** Alan Chu

Date: 14-Jan-14

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 8801 Fax: 2425 8646



E

# Calibration Certificate



Results :

## 1. Level Accuracy

| UUT Setting (dB) | Measured Value (dB) | IEC 942 Class 1 Spec. |
|---|---|---|
| 94.0 | 94.2 | ± 0.3 dB |

Uncertainty : ± 0.2 dB

## 2. Frequency Accuracy

| UUT Nominal Value (kHz) | Measured Value (kHz) | IEC 942 Class 1 Spec. |
|---|---|---|
| 1 | 1.005 | ± 2 % |

Uncertainty : ± 3.6 x $10^{-6}$

**3. Level Stability** : 0.0 dB
IEC 942 Class 1 Spec.: ± 0.1 dB
Uncertainty : ± 0.01 dB

**4. Total Harmonic Distortion** : < 0.8 %
IEC 942 Class 1 Spec. : < 3 %
Uncertainty : ± 2.3 % of rdg.

Remark : 1. UUT : Unit-Under-Test
2. The above measured values were the mean of 3 measurements.
3. The uncertainty claimed is for a confidence probability of not less than 95%.
4. Atmospheric Pressure : 1010 hPa.

---------- END ----------

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. : C143981
證書編號

**ITEM TESTED / 送檢項目** ( Job No. / 序引編號 : IC14-1497 ) Date of Receipt / 收件日期 : 23 June 2014

Description / 儀器名稱 : Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-31
Serial No. / 編號 : 00320533
Supplied By / 委託者 : Envirotech Services Co.
Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
Hong Kong

**TEST CONDITIONS / 測試條件**

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

**TEST SPECIFICATIONS / 測試規範**

Calibration check

**DATE OF TEST / 測試日期** : 28 June 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 : 2 July 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

# Certificate of Calibration
# 校正證書

Certificate No. : C143981
證書編號

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

2. Self-calibration was performed before the test.

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

4. Test equipment :

| 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

| UUT Setting | | | | Applied Value | | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|---|---|---|---|---|---|---|---|
| Range (dB) | Mode | Frequency Weighting | Time Weighting | Level (dB) | Freq. (kHz) | | |
| 30 - 120 | $L_A$ | A | Fast | 94.00 | 1 | 93.7 | ± 0.7 |

6.1.2 Linearity

| UUT Setting | | | | Applied Value | | UUT Reading (dB) |
|---|---|---|---|---|---|---|
| Range (dB) | Mode | Frequency Weighting | Time Weighting | Level (dB) | Freq. (kHz) | |
| 30 - 120 | $L_A$ | A | Fast | 94.00 | 1 | 93.7 (Ref.) |
| | | | | 104.00 | | 103.7 |
| | | | | 114.00 | | 113.7 |

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

6.2 Time Weighting

6.2.1 Continuous Signal

| UUT Setting | | | | Applied Value | | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|---|---|---|---|---|---|---|---|
| Range (dB) | Mode | Frequency Weighting | Time Weighting | Level (dB) | Freq. (kHz) | | |
| 30 - 120 | $L_A$ | A | Fast | 94.00 | 1 | 93.7 | Ref. |
| | | | Slow | | | 93.6 | ± 0.1 |

# Certificate of Calibration
# 校正證書

Certificate No. : C143981
證書編號

6.2.2 Tone Burst Signal (2 kHz)

| UUT Setting | | | | Applied Value | | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|---|---|---|---|---|---|---|---|
| Range (dB) | Mode | Frequency Weighting | Time Weighting | Level (dB) | Burst Duration | | |
| 20 -110 | $L_A$ | A | Fast | 106.00 | Continuous | 106.0 | Ref. |
| | $L_A$max | | | | 200 ms | 105.0 | -1.0 ± 1.0 |
| | $L_A$ | | Slow | | Continuous | 106.0 | Ref. |
| | $L_A$max | | | | 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) |
|---|---|---|---|---|---|---|---|
| Range (dB) | Mode | Frequency Weighting | Time Weighting | Level (dB) | Freq. | | |
| 30 - 120 | $L_A$ | A | Fast | 94.00 | 31.5 Hz | 54.2 | -39.4 ± 1.5 |
| | | | | | 63 Hz | 67.5 | -26.2 ± 1.5 |
| | | | | | 125 Hz | 77.5 | -16.1 ± 1.0 |
| | | | | | 250 Hz | 85.0 | -8.6 ± 1.0 |
| | | | | | 500 Hz | 90.4 | -3.2 ± 1.0 |
| | | | | | 1 kHz | 93.7 | Ref. |
| | | | | | 2 kHz | 94.9 | +1.2 ± 1.0 |
| | | | | | 4 kHz | 94.8 | +1.0 ± 1.0 |
| | | | | | 8 kHz | 92.6 | -1.1 (+1.5; -3.0) |
| | | | | | 12.5 kHz | 89.7 | -4.3 (+3.0; -6.0) |

6.3.2 C-Weighting

| UUT Setting | | | | Applied Value | | UUT Reading (dB) | IEC 60651 Type 1 Spec. (dB) |
|---|---|---|---|---|---|---|---|
| Range (dB) | Mode | Frequency Weighting | Time Weighting | Level (dB) | Freq. | | |
| 30 - 120 | $L_C$ | C | Fast | 94.00 | 31.5 Hz | 90.5 | -3.0 ± 1.5 |
| | | | | | 63 Hz | 92.8 | -0.8 ± 1.5 |
| | | | | | 125 Hz | 93.5 | -0.2 ± 1.0 |
| | | | | | 250 Hz | 93.6 | 0.0 ± 1.0 |
| | | | | | 500 Hz | 93.7 | 0.0 ± 1.0 |
| | | | | | 1 kHz | 93.7 | Ref. |
| | | | | | 2 kHz | 93.6 | -0.2 ± 1.0 |
| | | | | | 4 kHz | 93.0 | -0.8 ± 1.0 |
| | | | | | 8 kHz | 90.7 | -3.0 (+1.5; -3.0) |
| | | | | | 12.5 kHz | 87.9 | -6.2 (+3.0 ; -6.0) |

# Certificate of Calibration
# 校正證書

Certificate No. : C143981
證書編號

6.4 Time Averaging

| UUT Setting | | | | Applied Value | | | | | UUT Reading (dB) | IEC 60804 Type 1 Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| Range (dB) | Mode | Frequency Weighting | Integrating Time | Freq. (kHz) | Burst Duration (ms) | Burst Duty Factor | Burst Level (dB) | Equivalent Level (dB) | | |
| 20 - 110 | $L_{Aeq}$ | 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 | 70.0 | ± 1.0 |

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 320128

- 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.

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. : C137683
證書編號

**ITEM TESTED / 送檢項目** ( Job No. / 序引編號 : IC13-3109 )

Description / 儀器名稱 : Sound Level Calibrator
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-73
Serial No. / 編號 : 10486660
Supplied By / 委託者 : Envirotech Services Co.
Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
Hong Kong

**TEST CONDITIONS / 測試條件**

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

**TEST SPECIFICATIONS / 測試規範**

Calibration check

**DATE OF TEST / 測試日期** : 3 December 2013

**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

Certified By 核證 : K M Wu

Date of Issue 簽發日期 : 4 December 2013



Sun Creation Engineering Limited – Calibration & Testing Laboratory
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
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# Certificate of Calibration
# 校正證書

Certificate No. : C137683
證書編號

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

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

3. Test equipment :

| Equipment ID | Description | Certificate No. |
|---|---|---|
| CL130 | Universal Counter | C133632 |
| CL281 | Multifunction Acoustic Calibrator | DC130171 |
| TST150A | Measuring Amplifier | C120886 |

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

| UUT Nominal Value | Measured Value (dB) | Mfr's Spec. (dB) | Uncertainty of Measured Value (dB) |
|---|---|---|---|
| 94 dB, 1 kHz | 93.8 | ± 0.5 | ± 0.2 |

5.2 Frequency Accuracy

| UUT Nominal Value (kHz) | Measured Value (kHz) | Mfr's Spec. | Uncertainty of Measured Value (Hz) |
|---|---|---|---|
| 1 | 0.991 | 1 kHz ± 2 % | ± 1 |

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

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



Sun Creation Engineering Limited – Calibration & Testing Laboratory
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輝創工程有限公司 – 校正及檢測實驗所
c/ 香港新界屯門興安里 1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

# Appendix D. Baseline Monitoring Schedule

**Baseline Monitoring Schedule for August 2014**

| Aug-14 | | | | | | |
|---|---|---|---|---|---|---|
| **Sun** | **Mon** | **Tue** | **Wed** | **Thu** | **Fri** | **Sat** |
| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | | | | Detailed Vegetation Survey (8 Aug to 5 Sep) | |
| | | | | | Ardeid Inspection | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | | | | | | |

Detailed Vegetation Survey
Active Ardeid Nest Inspection

**Baseline Monitoring Schedule for September 2014**

| Sep-14 | | | | | | |
|---|---|---|---|---|---|---|
| **Sun** | **Mon** | **Tue** | **Wed** | **Thu** | **Fri** | **Sat** |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| | | | | | Ardeid Inspection | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | | | | |

Detailed Vegetation Survey
Active Ardeid Nest Inspection

**Baseline Monitoring Schedule for October 2014**

| Oct-14 | | | | | | |
|---|---|---|---|---|---|---|
| **Sun** | **Mon** | **Tue** | **Wed** | **Thu** | **Fri** | **Sat** |
| | | | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21<br>L&V | 22 | 23 | 24<br>Noise (NM2) | 25<br>Noise (NM2) |
| 26<br>Noise (NM2) | 27<br>Noise (NM2) | 28<br>Noise (NM2) | 29<br>Noise (NM2) | 30<br>Noise (NM2) | 31<br>Noise (NM2) | |

Noise Monitoring
Landscape and Visual Baseline Review (L&V)

**Baseline Monitoring Schedule for November 2014**

| Nov-14 | | | | | | |
|---|---|---|---|---|---|---|
| **Sun** | **Mon** | **Tue** | **Wed** | **Thu** | **Fri** | **Sat** |
| | | | | | | 1<br>Noise (NM2) |
| 2<br>Noise (NM2) | 3<br>Noise (NM2) | 4<br>Noise (NM2) | 5<br>Noise (NM2) | 6<br>Noise (NM2) | 7<br>Noise (NM2) | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27<br>Noise (NM1A) | 28<br>Noise (NM1A) | 29<br>Noise (NM1A) |
| 30<br>Noise (NM1A) | | | | | | |

Noise Monitoring

**Baseline Monitoring Schedule for December 2014**

| Dec-14 | | | | | | |
|---|---|---|---|---|---|---|
| **Sun** | **Mon** | **Tue** | **Wed** | **Thu** | **Fri** | **Sat** |
| | 1<br>Noise (NM1A) | 2<br>Noise (NM1A) | 3<br>Noise (NM1A) | 4<br>Noise (NM1A) | 5<br>Noise (NM1A) | 6<br>Noise (NM1A) |
| 7<br>Noise (NM1A) | 8<br>Noise (NM1A) | 9<br>Noise (NM1A) | 10<br>Noise (NM1A) | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | |

Noise Monitoring

# Appendix E. Baseline Noise Monitoring Results

Baseline Noise Monitoring

Daytime on normal weekdays
(0700-1900 hrs)

Station: NM1A

| Date & Time | Leq (30mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 27/11/2014 07:00:00 | 52 | 54 | 50 |
| 27/11/2014 07:30:00 | 57 | 58 | 55 |
| 27/11/2014 08:00:00 | 56 | 59 | 51 |
| 27/11/2014 08:30:00 | 55 | 56 | 50 |
| 27/11/2014 09:00:00 | 57 | 61 | 49 |
| 27/11/2014 09:30:00 | 61 | 62 | 58 |
| 27/11/2014 10:00:00 | 59 | 60 | 56 |
| 27/11/2014 10:30:00 | 58 | 59 | 53 |
| 27/11/2014 11:00:00 | 57 | 59 | 53 |
| 27/11/2014 11:30:00 | 60 | 62 | 58 |
| 27/11/2014 12:00:00 | 59 | 60 | 56 |
| 27/11/2014 12:30:00 | 58 | 61 | 55 |
| 27/11/2014 13:00:00 | 58 | 59 | 56 |
| 27/11/2014 13:30:00 | 61 | 63 | 58 |
| 27/11/2014 14:00:00 | 60 | 61 | 57 |
| 27/11/2014 14:30:00 | 61 | 63 | 58 |
| 27/11/2014 15:00:00 | 60 | 62 | 57 |
| 27/11/2014 15:30:00 | 60 | 61 | 58 |
| 27/11/2014 16:00:00 | 61 | 63 | 58 |
| 27/11/2014 16:30:00 | 60 | 62 | 57 |
| 27/11/2014 17:00:00 | 60 | 62 | 57 |
| 27/11/2014 17:30:00 | 60 | 62 | 55 |
| 27/11/2014 18:00:00 | 58 | 60 | 53 |
| 27/11/2014 18:30:00 | 53 | 55 | 49 |
| 28/11/2014 07:02:00 | 52 | 54 | 51 |
| 28/11/2014 07:32:00 | 53 | 55 | 52 |
| 28/11/2014 08:02:00 | 54 | 57 | 52 |
| 28/11/2014 08:32:00 | 58 | 60 | 56 |
| 28/11/2014 09:02:00 | 59 | 60 | 57 |
| 28/11/2014 09:32:00 | 60 | 62 | 58 |
| 28/11/2014 10:02:00 | 61 | 63 | 58 |
| 28/11/2014 10:32:00 | 61 | 63 | 58 |
| 28/11/2014 11:02:00 | 60 | 60 | 56 |
| 28/11/2014 11:32:00 | 60 | 59 | 52 |
| 28/11/2014 12:02:00 | 60 | 58 | 52 |
| 28/11/2014 12:32:00 | 60 | 59 | 51 |
| 28/11/2014 13:02:00 | 59 | 58 | 53 |
| 28/11/2014 13:32:00 | 59 | 59 | 52 |
| 28/11/2014 14:02:00 | 59 | 57 | 52 |
| 28/11/2014 14:32:00 | 59 | 58 | 52 |
| 28/11/2014 15:02:00 | 59 | 58 | 52 |
| 28/11/2014 15:32:00 | 60 | 60 | 54 |
| 28/11/2014 16:02:00 | 58 | 61 | 52 |
| 28/11/2014 16:32:00 | 59 | 61 | 52 |
| 28/11/2014 17:02:00 | 59 | 61 | 52 |
| 28/11/2014 17:32:00 | 58 | 60 | 52 |
| 28/11/2014 18:02:00 | 59 | 61 | 53 |
| 28/11/2014 18:32:00 | 57 | 59 | 51 |
| 29/11/2014 07:02:00 | 53 | 55 | 50 |
| 29/11/2014 07:32:00 | 55 | 57 | 52 |
| 29/11/2014 08:02:00 | 55 | 56 | 53 |
| 29/11/2014 08:32:00 | 55 | 57 | 52 |
| 29/11/2014 09:02:00 | 58 | 60 | 55 |
| 29/11/2014 09:32:00 | 61 | 64 | 57 |
| 29/11/2014 10:02:00 | 61 | 63 | 56 |
| 29/11/2014 10:32:00 | 61 | 63 | 57 |
| 29/11/2014 11:02:00 | 56 | 58 | 53 |
| 29/11/2014 11:32:00 | 59 | 60 | 56 |
| 29/11/2014 12:02:00 | 59 | 61 | 56 |

Baseline Noise Monitoring

Daytime on normal weekdays
(0700-1900 hrs)

Station: NM1A

| Date & Time | Leq (30mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 29/11/2014 12:32:00 | 59 | 61 | 56 |
| 29/11/2014 13:02:00 | 61 | 64 | 57 |
| 29/11/2014 13:32:00 | 59 | 61 | 57 |
| 29/11/2014 14:02:00 | 61 | 62 | 58 |
| 29/11/2014 14:32:00 | 60 | 61 | 56 |
| 29/11/2014 15:02:00 | 59 | 61 | 56 |
| 29/11/2014 15:32:00 | 57 | 59 | 54 |
| 29/11/2014 16:02:00 | 54 | 56 | 52 |
| 29/11/2014 16:32:00 | 56 | 57 | 53 |
| 29/11/2014 17:02:00 | 56 | 57 | 50 |
| 29/11/2014 17:32:00 | 55 | 57 | 51 |
| 29/11/2014 18:02:00 | 55 | 57 | 52 |
| 29/11/2014 18:32:00 | 57 | 59 | 52 |
| 01/12/2014 07:02:00 | 53 | 55 | 51 |
| 01/12/2014 07:32:00 | 57 | 58 | 54 |
| 01/12/2014 08:02:00 | 57 | 59 | 55 |
| 01/12/2014 08:32:00 | 60 | 62 | 58 |
| 01/12/2014 09:02:00 | 60 | 62 | 58 |
| 01/12/2014 09:32:00 | 60 | 62 | 57 |
| 01/12/2014 10:02:00 | 60 | 62 | 57 |
| 01/12/2014 10:32:00 | 60 | 62 | 57 |
| 01/12/2014 11:02:00 | 61 | 63 | 57 |
| 01/12/2014 11:32:00 | 61 | 63 | 57 |
| 01/12/2014 12:02:00 | 61 | 63 | 59 |
| 01/12/2014 12:32:00 | 59 | 61 | 56 |
| 01/12/2014 13:02:00 | 61 | 62 | 58 |
| 01/12/2014 13:32:00 | 61 | 63 | 56 |
| 01/12/2014 14:02:00 | 60 | 62 | 56 |
| 01/12/2014 14:32:00 | 59 | 61 | 56 |
| 01/12/2014 15:02:00 | 59 | 60 | 56 |
| 01/12/2014 15:32:00 | 59 | 61 | 56 |
| 01/12/2014 16:02:00 | 58 | 61 | 55 |
| 01/12/2014 16:32:00 | 60 | 61 | 56 |
| 01/12/2014 17:02:00 | 61 | 63 | 58 |
| 01/12/2014 17:32:00 | 61 | 63 | 56 |
| 01/12/2014 18:02:00 | 57 | 59 | 55 |
| 01/12/2014 18:32:00 | 58 | 60 | 55 |
| 02/12/2014 07:00:00 | 52 | 54 | 51 |
| 02/12/2014 07:30:00 | 52 | 54 | 51 |
| 02/12/2014 08:00:00 | 60 | 63 | 52 |
| 02/12/2014 08:30:00 | 57 | 59 | 51 |
| 02/12/2014 09:00:00 | 57 | 59 | 54 |
| 02/12/2014 09:30:00 | 60 | 62 | 57 |
| 02/12/2014 10:00:00 | 59 | 61 | 57 |
| 02/12/2014 10:30:00 | 59 | 61 | 57 |
| 02/12/2014 11:00:00 | 59 | 61 | 57 |
| 02/12/2014 11:30:00 | 60 | 61 | 57 |
| 02/12/2014 12:00:00 | 60 | 61 | 57 |
| 02/12/2014 12:30:00 | 59 | 61 | 56 |
| 02/12/2014 13:00:00 | 61 | 63 | 58 |
| 02/12/2014 13:30:00 | 61 | 62 | 57 |
| 02/12/2014 14:00:00 | 63 | 65 | 57 |
| 02/12/2014 14:30:00 | 63 | 64 | 57 |
| 02/12/2014 15:00:00 | 59 | 61 | 57 |
| 02/12/2014 15:30:00 | 61 | 63 | 58 |
| 02/12/2014 16:00:00 | 59 | 61 | 56 |
| 02/12/2014 16:30:00 | 58 | 60 | 55 |
| 02/12/2014 17:00:00 | 61 | 63 | 54 |
| 02/12/2014 17:30:00 | 58 | 61 | 54 |

Baseline Noise Monitoring

Daytime on normal weekdays
(0700-1900 hrs)

Station: NM1A

| Date & Time | Leq (30mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 02/12/2014 18:00:00 | 57 | 59 | 54 |
| 02/12/2014 18:30:00 | 60 | 64 | 53 |
| 03/12/2014 07:01:00 | 52 | 55 | 48 |
| 03/12/2014 07:31:00 | 54 | 56 | 47 |
| 03/12/2014 08:01:00 | 57 | 58 | 54 |
| 03/12/2014 08:31:00 | 57 | 58 | 54 |
| 03/12/2014 09:01:00 | 58 | 61 | 54 |
| 03/12/2014 09:31:00 | 57 | 59 | 54 |
| 03/12/2014 10:01:00 | 58 | 61 | 55 |
| 03/12/2014 10:31:00 | 57 | 59 | 52 |
| 03/12/2014 11:01:00 | 61 | 63 | 57 |
| 03/12/2014 11:31:00 | 59 | 61 | 55 |
| 03/12/2014 12:01:00 | 58 | 61 | 55 |
| 03/12/2014 12:31:00 | 58 | 60 | 55 |
| 03/12/2014 13:01:00 | 58 | 60 | 56 |
| 03/12/2014 13:31:00 | 59 | 61 | 56 |
| 03/12/2014 14:01:00 | 59 | 61 | 55 |
| 03/12/2014 14:31:00 | 59 | 61 | 55 |
| 03/12/2014 15:01:00 | 58 | 59 | 55 |
| 03/12/2014 15:31:00 | 60 | 63 | 54 |
| 03/12/2014 16:01:00 | 57 | 60 | 54 |
| 03/12/2014 16:31:00 | 59 | 62 | 55 |
| 03/12/2014 17:01:00 | 55 | 57 | 51 |
| 03/12/2014 17:31:00 | 53 | 55 | 52 |
| 03/12/2014 18:01:00 | 55 | 56 | 52 |
| 03/12/2014 18:31:00 | 56 | 59 | 52 |
| 04/12/2014 07:02:00 | 52 | 54 | 51 |
| 04/12/2014 07:32:00 | 53 | 55 | 51 |
| 04/12/2014 08:02:00 | 57 | 58 | 56 |
| 04/12/2014 08:32:00 | 61 | 64 | 57 |
| 04/12/2014 09:02:00 | 61 | 62 | 58 |
| 04/12/2014 09:32:00 | 60 | 61 | 58 |
| 04/12/2014 10:02:00 | 60 | 61 | 58 |
| 04/12/2014 10:32:00 | 59 | 61 | 58 |
| 04/12/2014 11:02:00 | 61 | 63 | 58 |
| 04/12/2014 11:32:00 | 60 | 62 | 58 |
| 04/12/2014 12:02:00 | 60 | 61 | 58 |
| 04/12/2014 12:32:00 | 58 | 60 | 56 |
| 04/12/2014 13:02:00 | 60 | 61 | 58 |
| 04/12/2014 13:32:00 | 60 | 62 | 57 |
| 04/12/2014 14:02:00 | 61 | 64 | 57 |
| 04/12/2014 14:32:00 | 60 | 61 | 57 |
| 04/12/2014 15:02:00 | 61 | 62 | 58 |
| 04/12/2014 15:32:00 | 60 | 62 | 58 |
| 04/12/2014 16:02:00 | 60 | 61 | 57 |
| 04/12/2014 16:32:00 | 62 | 65 | 57 |
| 04/12/2014 17:02:00 | 61 | 63 | 57 |
| 04/12/2014 17:32:00 | 60 | 62 | 55 |
| 04/12/2014 18:02:00 | 57 | 60 | 54 |
| 04/12/2014 18:32:00 | 54 | 56 | 51 |
| 05/12/2014 07:04:00 | 55 | 57 | 52 |
| 05/12/2014 07:34:00 | 56 | 58 | 53 |
| 05/12/2014 08:04:00 | 58 | 59 | 55 |
| 05/12/2014 08:34:00 | 60 | 62 | 57 |
| 05/12/2014 09:04:00 | 59 | 60 | 57 |
| 05/12/2014 09:34:00 | 59 | 60 | 57 |
| 05/12/2014 10:04:00 | 59 | 60 | 57 |
| 05/12/2014 10:34:00 | 59 | 61 | 57 |
| 05/12/2014 11:04:00 | 62 | 63 | 59 |

Baseline Noise Monitoring

Daytime on normal weekdays
(0700-1900 hrs)

Station: NM1A

| Date & Time | Leq (30mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 05/12/2014 11:34:00 | 60 | 61 | 57 |
| 05/12/2014 12:04:00 | 60 | 62 | 57 |
| 05/12/2014 12:34:00 | 59 | 60 | 57 |
| 05/12/2014 13:04:00 | 59 | 60 | 57 |
| 05/12/2014 13:34:00 | 61 | 62 | 58 |
| 05/12/2014 14:04:00 | 60 | 62 | 57 |
| 05/12/2014 14:34:00 | 62 | 65 | 58 |
| 05/12/2014 15:04:00 | 63 | 65 | 58 |
| 05/12/2014 15:34:00 | 60 | 63 | 58 |
| 05/12/2014 16:04:00 | 59 | 61 | 57 |
| 05/12/2014 16:34:00 | 61 | 63 | 58 |
| 05/12/2014 17:04:00 | 61 | 63 | 57 |
| 05/12/2014 17:34:00 | 58 | 60 | 53 |
| 05/12/2014 18:04:00 | 56 | 57 | 50 |
| 05/12/2014 18:34:00 | 57 | 60 | 51 |
| 06/12/2014 07:01:00 | 53 | 55 | 49 |
| 06/12/2014 07:31:00 | 54 | 57 | 49 |
| 06/12/2014 08:01:00 | 60 | 64 | 56 |
| 06/12/2014 08:31:00 | 61 | 64 | 57 |
| 06/12/2014 09:01:00 | 61 | 63 | 57 |
| 06/12/2014 09:31:00 | 61 | 62 | 58 |
| 06/12/2014 10:01:00 | 61 | 63 | 58 |
| 06/12/2014 10:31:00 | 61 | 63 | 58 |
| 06/12/2014 11:01:00 | 61 | 63 | 58 |
| 06/12/2014 11:31:00 | 61 | 62 | 58 |
| 06/12/2014 12:01:00 | 59 | 61 | 56 |
| 06/12/2014 12:31:00 | 59 | 61 | 55 |
| 06/12/2014 13:01:00 | 61 | 63 | 58 |
| 06/12/2014 13:31:00 | 60 | 61 | 58 |
| 06/12/2014 14:01:00 | 61 | 63 | 57 |
| 06/12/2014 14:31:00 | 59 | 61 | 57 |
| 06/12/2014 15:01:00 | 61 | 62 | 58 |
| 06/12/2014 15:31:00 | 60 | 62 | 58 |
| 06/12/2014 16:01:00 | 60 | 61 | 57 |
| 06/12/2014 16:31:00 | 62 | 63 | 57 |
| 06/12/2014 17:01:00 | 59 | 61 | 56 |
| 06/12/2014 17:31:00 | 58 | 61 | 55 |
| 06/12/2014 18:01:00 | 58 | 59 | 52 |
| 06/12/2014 18:31:00 | 55 | 57 | 51 |
| 08/12/2014 07:03:00 | 54 | 56 | 51 |
| 08/12/2014 07:33:00 | 56 | 58 | 54 |
| 08/12/2014 08:03:00 | 60 | 61 | 57 |
| 08/12/2014 08:33:00 | 59 | 60 | 56 |
| 08/12/2014 09:03:00 | 60 | 62 | 57 |
| 08/12/2014 09:33:00 | 61 | 63 | 57 |
| 08/12/2014 10:03:00 | 61 | 63 | 58 |
| 08/12/2014 10:33:00 | 62 | 63 | 59 |
| 08/12/2014 11:03:00 | 61 | 62 | 59 |
| 08/12/2014 11:33:00 | 60 | 62 | 58 |
| 08/12/2014 12:03:00 | 59 | 61 | 57 |
| 08/12/2014 12:33:00 | 60 | 62 | 56 |
| 08/12/2014 13:03:00 | 60 | 61 | 57 |
| 08/12/2014 13:33:00 | 61 | 63 | 58 |
| 08/12/2014 14:03:00 | 61 | 63 | 58 |
| 08/12/2014 14:33:00 | 61 | 63 | 58 |
| 08/12/2014 15:03:00 | 60 | 61 | 58 |
| 08/12/2014 15:33:00 | 61 | 63 | 58 |
| 08/12/2014 16:03:00 | 60 | 61 | 57 |
| 08/12/2014 16:33:00 | 61 | 63 | 57 |

Baseline Noise Monitoring

Daytime on normal weekdays
(0700-1900 hrs)

Station: NM1A

| Date & Time | Leq (30mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 08/12/2014 17:03:00 | 60 | 62 | 57 |
| 08/12/2014 17:33:00 | 59 | 61 | 54 |
| 08/12/2014 18:03:00 | 59 | 61 | 53 |
| 08/12/2014 18:33:00 | 58 | 60 | 53 |
| 09/12/2014 07:03:00 | 55 | 58 | 52 |
| 09/12/2014 07:33:00 | 56 | 59 | 52 |
| 09/12/2014 08:03:00 | 56 | 58 | 54 |
| 09/12/2014 08:33:00 | 60 | 61 | 57 |
| 09/12/2014 09:03:00 | 60 | 62 | 58 |
| 09/12/2014 09:33:00 | 61 | 63 | 58 |
| 09/12/2014 10:03:00 | 61 | 62 | 59 |
| 09/12/2014 10:33:00 | 60 | 62 | 58 |
| 09/12/2014 11:03:00 | 61 | 63 | 58 |
| 09/12/2014 11:33:00 | 62 | 64 | 59 |
| 09/12/2014 12:03:00 | 60 | 62 | 58 |
| 09/12/2014 12:33:00 | 61 | 62 | 58 |
| 09/12/2014 13:03:00 | 60 | 62 | 56 |
| 09/12/2014 13:33:00 | 61 | 63 | 58 |
| 09/12/2014 14:03:00 | 62 | 65 | 58 |
| 09/12/2014 14:33:00 | 60 | 62 | 57 |
| 09/12/2014 15:03:00 | 60 | 62 | 57 |
| 09/12/2014 15:33:00 | 62 | 64 | 59 |
| 09/12/2014 16:03:00 | 61 | 63 | 58 |
| 09/12/2014 16:33:00 | 60 | 62 | 58 |
| 09/12/2014 17:03:00 | 62 | 64 | 57 |
| 09/12/2014 17:33:00 | 60 | 62 | 56 |
| 09/12/2014 18:03:00 | 57 | 59 | 52 |
| 09/12/2014 18:33:00 | 56 | 59 | 50 |
| 10/12/2014 07:03:00 | 55 | 58 | 52 |
| 10/12/2014 07:33:00 | 56 | 58 | 53 |
| 10/12/2014 08:03:00 | 59 | 60 | 56 |
| 10/12/2014 08:33:00 | 61 | 62 | 57 |
| 10/12/2014 09:03:00 | 61 | 62 | 58 |
| 10/12/2014 09:33:00 | 60 | 61 | 58 |
| 10/12/2014 10:03:00 | 60 | 62 | 58 |
| 10/12/2014 10:33:00 | 61 | 62 | 59 |
| 10/12/2014 11:03:00 | 60 | 61 | 58 |
| 10/12/2014 11:33:00 | 60 | 62 | 58 |
| 10/12/2014 12:03:00 | 59 | 61 | 58 |
| 10/12/2014 12:33:00 | 60 | 61 | 58 |
| 10/12/2014 13:03:00 | 61 | 62 | 58 |
| 10/12/2014 13:33:00 | 61 | 63 | 58 |
| 10/12/2014 14:03:00 | 61 | 63 | 58 |
| 10/12/2014 14:33:00 | 62 | 64 | 58 |
| 10/12/2014 15:03:00 | 60 | 62 | 58 |
| 10/12/2014 15:33:00 | 59 | 61 | 57 |
| 10/12/2014 16:03:00 | 60 | 63 | 57 |
| 10/12/2014 16:33:00 | 61 | 63 | 57 |
| 10/12/2014 17:03:00 | 61 | 63 | 57 |
| 10/12/2014 17:33:00 | 59 | 61 | 55 |
| 10/12/2014 18:03:00 | 58 | 60 | 53 |
| 10/12/2014 18:33:00 | 56 | 59 | 50 |

Baseline Noise Monitoring | Holidays (including Sundays) during daytime (0700-1900 hrs) | Station: NM1A

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 30/11/2014 07:00:00 | 51 | 52 | 49 |
| 30/11/2014 07:05:00 | 51 | 53 | 49 |
| 30/11/2014 07:10:00 | 51 | 53 | 49 |
| 30/11/2014 07:15:00 | 50 | 51 | 47 |
| 30/11/2014 07:20:00 | 50 | 51 | 48 |
| 30/11/2014 07:25:00 | 49 | 51 | 46 |
| 30/11/2014 07:30:00 | 51 | 54 | 49 |
| 30/11/2014 07:35:00 | 50 | 52 | 48 |
| 30/11/2014 07:40:00 | 52 | 54 | 48 |
| 30/11/2014 07:45:00 | 49 | 51 | 47 |
| 30/11/2014 07:50:00 | 50 | 53 | 46 |
| 30/11/2014 07:55:00 | 49 | 51 | 45 |
| 30/11/2014 08:00:00 | 58 | 58 | 47 |
| 30/11/2014 08:05:00 | 51 | 53 | 47 |
| 30/11/2014 08:10:00 | 53 | 55 | 47 |
| 30/11/2014 08:15:00 | 51 | 53 | 48 |
| 30/11/2014 08:20:00 | 54 | 57 | 48 |
| 30/11/2014 08:25:00 | 53 | 55 | 49 |
| 30/11/2014 08:30:00 | 53 | 56 | 49 |
| 30/11/2014 08:35:00 | 52 | 55 | 49 |
| 30/11/2014 08:40:00 | 53 | 55 | 49 |
| 30/11/2014 08:45:00 | 54 | 56 | 50 |
| 30/11/2014 08:50:00 | 53 | 56 | 49 |
| 30/11/2014 08:55:00 | 53 | 55 | 50 |
| 30/11/2014 09:00:00 | 58 | 60 | 52 |
| 30/11/2014 09:05:00 | 57 | 59 | 53 |
| 30/11/2014 09:10:00 | 55 | 58 | 51 |
| 30/11/2014 09:15:00 | 57 | 60 | 54 |
| 30/11/2014 09:20:00 | 58 | 59 | 52 |
| 30/11/2014 09:25:00 | 58 | 58 | 51 |
| 30/11/2014 09:30:00 | 61 | 61 | 53 |
| 30/11/2014 09:35:00 | 58 | 59 | 52 |
| 30/11/2014 09:40:00 | 58 | 59 | 50 |
| 30/11/2014 09:45:00 | 53 | 55 | 50 |
| 30/11/2014 09:50:00 | 56 | 60 | 51 |
| 30/11/2014 09:55:00 | 59 | 62 | 52 |
| 30/11/2014 10:00:00 | 56 | 59 | 52 |
| 30/11/2014 10:05:00 | 56 | 58 | 51 |
| 30/11/2014 10:10:00 | 56 | 59 | 51 |
| 30/11/2014 10:15:00 | 56 | 59 | 51 |
| 30/11/2014 10:20:00 | 58 | 61 | 52 |
| 30/11/2014 10:25:00 | 56 | 58 | 51 |
| 30/11/2014 10:30:00 | 58 | 61 | 51 |
| 30/11/2014 10:35:00 | 57 | 60 | 54 |
| 30/11/2014 10:40:00 | 56 | 58 | 52 |
| 30/11/2014 10:45:00 | 55 | 57 | 52 |
| 30/11/2014 10:50:00 | 56 | 59 | 52 |
| 30/11/2014 10:55:00 | 58 | 60 | 53 |
| 30/11/2014 11:00:00 | 57 | 59 | 53 |
| 30/11/2014 11:05:00 | 58 | 62 | 53 |
| 30/11/2014 11:10:00 | 56 | 59 | 53 |
| 30/11/2014 11:15:00 | 57 | 59 | 54 |
| 30/11/2014 11:20:00 | 56 | 58 | 54 |
| 30/11/2014 11:25:00 | 57 | 60 | 52 |
| 30/11/2014 11:30:00 | 56 | 59 | 52 |
| 30/11/2014 11:35:00 | 57 | 59 | 53 |
| 30/11/2014 11:40:00 | 58 | 60 | 54 |

Baseline Noise Monitoring | Holidays (including Sundays) during daytime (0700-1900 hrs) | Station: NM1A

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 30/11/2014 11:45:00 | 56 | 58 | 53 |
| 30/11/2014 11:50:00 | 57 | 60 | 54 |
| 30/11/2014 11:55:00 | 56 | 58 | 53 |
| 30/11/2014 12:00:00 | 55 | 57 | 52 |
| 30/11/2014 12:05:00 | 55 | 58 | 52 |
| 30/11/2014 12:10:00 | 56 | 57 | 52 |
| 30/11/2014 12:15:00 | 57 | 58 | 53 |
| 30/11/2014 12:20:00 | 58 | 60 | 53 |
| 30/11/2014 12:25:00 | 56 | 59 | 53 |
| 30/11/2014 12:30:00 | 56 | 58 | 52 |
| 30/11/2014 12:35:00 | 53 | 56 | 51 |
| 30/11/2014 12:40:00 | 55 | 57 | 51 |
| 30/11/2014 12:45:00 | 56 | 59 | 51 |
| 30/11/2014 12:50:00 | 54 | 56 | 52 |
| 30/11/2014 12:55:00 | 54 | 57 | 51 |
| 30/11/2014 13:00:00 | 54 | 56 | 52 |
| 30/11/2014 13:05:00 | 56 | 58 | 53 |
| 30/11/2014 13:10:00 | 54 | 56 | 51 |
| 30/11/2014 13:15:00 | 55 | 58 | 52 |
| 30/11/2014 13:20:00 | 56 | 60 | 50 |
| 30/11/2014 13:25:00 | 56 | 58 | 52 |
| 30/11/2014 13:30:00 | 57 | 59 | 54 |
| 30/11/2014 13:35:00 | 60 | 60 | 54 |
| 30/11/2014 13:40:00 | 59 | 62 | 53 |
| 30/11/2014 13:45:00 | 56 | 59 | 53 |
| 30/11/2014 13:50:00 | 57 | 60 | 53 |
| 30/11/2014 13:55:00 | 58 | 62 | 52 |
| 30/11/2014 14:00:00 | 55 | 57 | 51 |
| 30/11/2014 14:05:00 | 55 | 58 | 50 |
| 30/11/2014 14:10:00 | 54 | 57 | 50 |
| 30/11/2014 14:15:00 | 57 | 59 | 50 |
| 30/11/2014 14:20:00 | 54 | 56 | 51 |
| 30/11/2014 14:25:00 | 56 | 59 | 52 |
| 30/11/2014 14:30:00 | 56 | 58 | 52 |
| 30/11/2014 14:35:00 | 57 | 59 | 54 |
| 30/11/2014 14:40:00 | 57 | 60 | 51 |
| 30/11/2014 14:45:00 | 54 | 55 | 50 |
| 30/11/2014 14:50:00 | 54 | 57 | 51 |
| 30/11/2014 14:55:00 | 54 | 56 | 51 |
| 30/11/2014 15:00:00 | 53 | 55 | 50 |
| 30/11/2014 15:05:00 | 53 | 55 | 52 |
| 30/11/2014 15:10:00 | 54 | 56 | 50 |
| 30/11/2014 15:15:00 | 53 | 56 | 48 |
| 30/11/2014 15:20:00 | 53 | 57 | 48 |
| 30/11/2014 15:25:00 | 56 | 58 | 49 |
| 30/11/2014 15:30:00 | 53 | 56 | 50 |
| 30/11/2014 15:35:00 | 57 | 58 | 52 |
| 30/11/2014 15:40:00 | 54 | 56 | 50 |
| 30/11/2014 15:45:00 | 59 | 61 | 52 |
| 30/11/2014 15:50:00 | 60 | 61 | 53 |
| 30/11/2014 15:55:00 | 55 | 59 | 50 |
| 30/11/2014 16:00:00 | 57 | 59 | 51 |
| 30/11/2014 16:05:00 | 54 | 56 | 51 |
| 30/11/2014 16:10:00 | 54 | 56 | 51 |
| 30/11/2014 16:15:00 | 52 | 54 | 50 |
| 30/11/2014 16:20:00 | 56 | 59 | 50 |
| 30/11/2014 16:25:00 | 54 | 56 | 51 |

Baseline Noise Monitoring | Holidays (including Sundays) during daytime (0700-1900 hrs) | Station: NM1A

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 30/11/2014 16:30:00 | 55 | 59 | 51 |
| 30/11/2014 16:35:00 | 59 | 62 | 52 |
| 30/11/2014 16:40:00 | 54 | 55 | 49 |
| 30/11/2014 16:45:00 | 53 | 55 | 50 |
| 30/11/2014 16:50:00 | 52 | 53 | 50 |
| 30/11/2014 16:55:00 | 57 | 59 | 51 |
| 30/11/2014 17:00:00 | 56 | 59 | 51 |
| 30/11/2014 17:05:00 | 56 | 59 | 50 |
| 30/11/2014 17:10:00 | 56 | 59 | 51 |
| 30/11/2014 17:15:00 | 55 | 58 | 50 |
| 30/11/2014 17:20:00 | 53 | 55 | 51 |
| 30/11/2014 17:25:00 | 56 | 56 | 50 |
| 30/11/2014 17:30:00 | 57 | 60 | 51 |
| 30/11/2014 17:35:00 | 55 | 57 | 50 |
| 30/11/2014 17:40:00 | 56 | 58 | 51 |
| 30/11/2014 17:45:00 | 55 | 56 | 50 |
| 30/11/2014 17:50:00 | 54 | 56 | 51 |
| 30/11/2014 17:55:00 | 53 | 54 | 52 |
| 30/11/2014 18:00:00 | 56 | 58 | 52 |
| 30/11/2014 18:05:00 | 54 | 56 | 49 |
| 30/11/2014 18:10:00 | 54 | 55 | 52 |
| 30/11/2014 18:15:00 | 56 | 57 | 54 |
| 30/11/2014 18:20:00 | 58 | 59 | 55 |
| 30/11/2014 18:25:00 | 57 | 58 | 55 |
| 30/11/2014 18:30:00 | 56 | 57 | 55 |
| 30/11/2014 18:35:00 | 56 | 57 | 55 |
| 30/11/2014 18:40:00 | 56 | 57 | 54 |
| 30/11/2014 18:45:00 | 55 | 56 | 54 |
| 30/11/2014 18:50:00 | 54 | 55 | 53 |
| 30/11/2014 18:55:00 | 54 | 55 | 52 |
| 07/12/2014 07:02:00 | 48 | 50 | 45 |
| 07/12/2014 07:07:00 | 49 | 50 | 46 |
| 07/12/2014 07:12:00 | 49 | 51 | 47 |
| 07/12/2014 07:17:00 | 49 | 50 | 48 |
| 07/12/2014 07:22:00 | 48 | 49 | 47 |
| 07/12/2014 07:27:00 | 49 | 51 | 47 |
| 07/12/2014 07:32:00 | 49 | 50 | 48 |
| 07/12/2014 07:37:00 | 48 | 49 | 46 |
| 07/12/2014 07:42:00 | 50 | 51 | 47 |
| 07/12/2014 07:47:00 | 48 | 50 | 46 |
| 07/12/2014 07:52:00 | 48 | 50 | 47 |
| 07/12/2014 07:57:00 | 52 | 54 | 49 |
| 07/12/2014 08:02:00 | 50 | 52 | 48 |
| 07/12/2014 08:07:00 | 50 | 52 | 47 |
| 07/12/2014 08:12:00 | 50 | 51 | 48 |
| 07/12/2014 08:17:00 | 52 | 56 | 46 |
| 07/12/2014 08:22:00 | 47 | 49 | 46 |
| 07/12/2014 08:27:00 | 50 | 52 | 48 |
| 07/12/2014 08:32:00 | 51 | 52 | 49 |
| 07/12/2014 08:37:00 | 51 | 52 | 49 |
| 07/12/2014 08:42:00 | 51 | 53 | 49 |
| 07/12/2014 08:47:00 | 49 | 50 | 48 |
| 07/12/2014 08:52:00 | 52 | 55 | 47 |
| 07/12/2014 08:57:00 | 53 | 54 | 51 |
| 07/12/2014 09:02:00 | 59 | 62 | 52 |
| 07/12/2014 09:07:00 | 60 | 61 | 58 |
| 07/12/2014 09:12:00 | 60 | 62 | 58 |

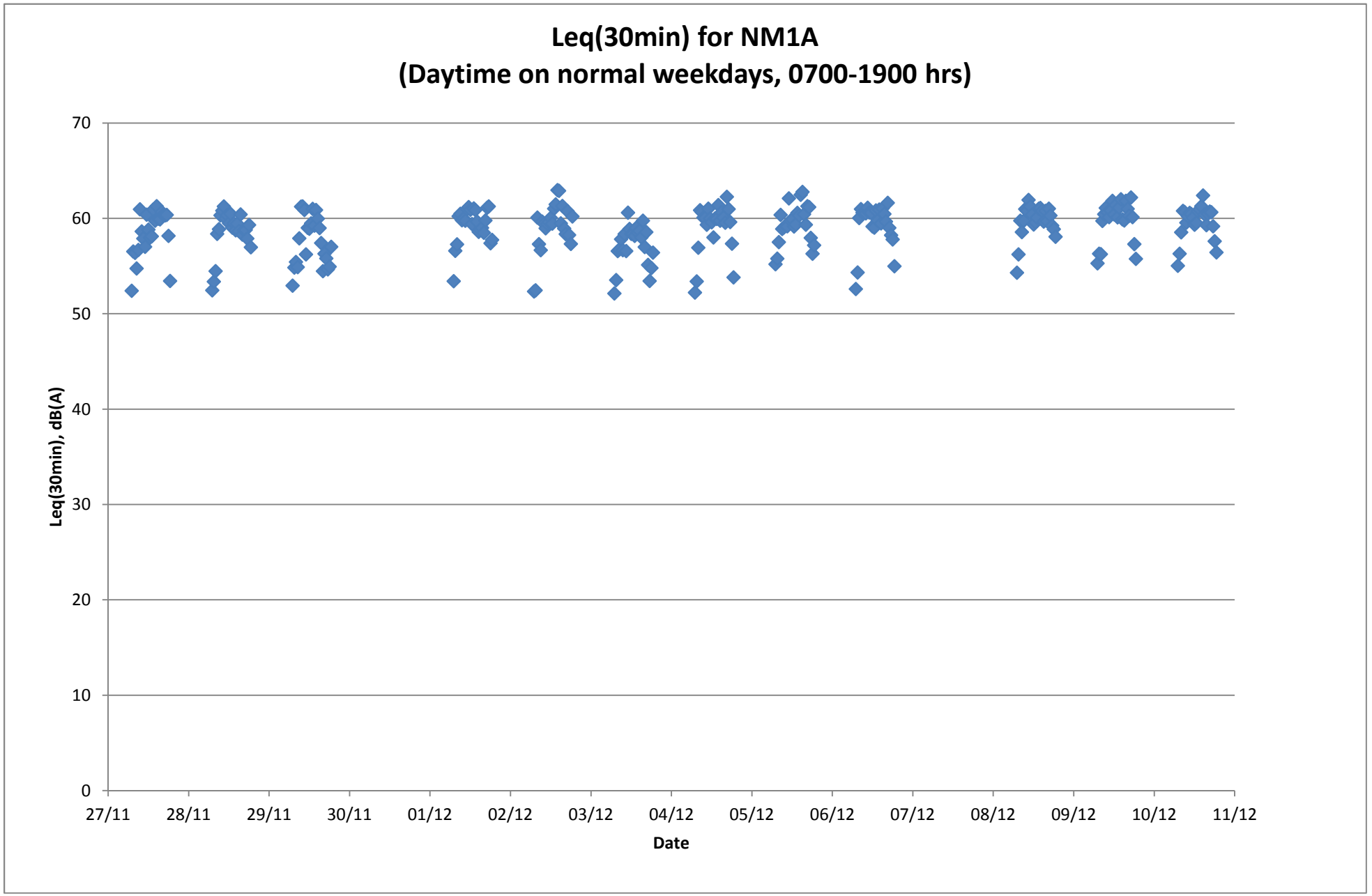
Baseline Noise Monitoring | Holidays (including Sundays) during daytime (0700-1900 hrs) | Station: NM1A

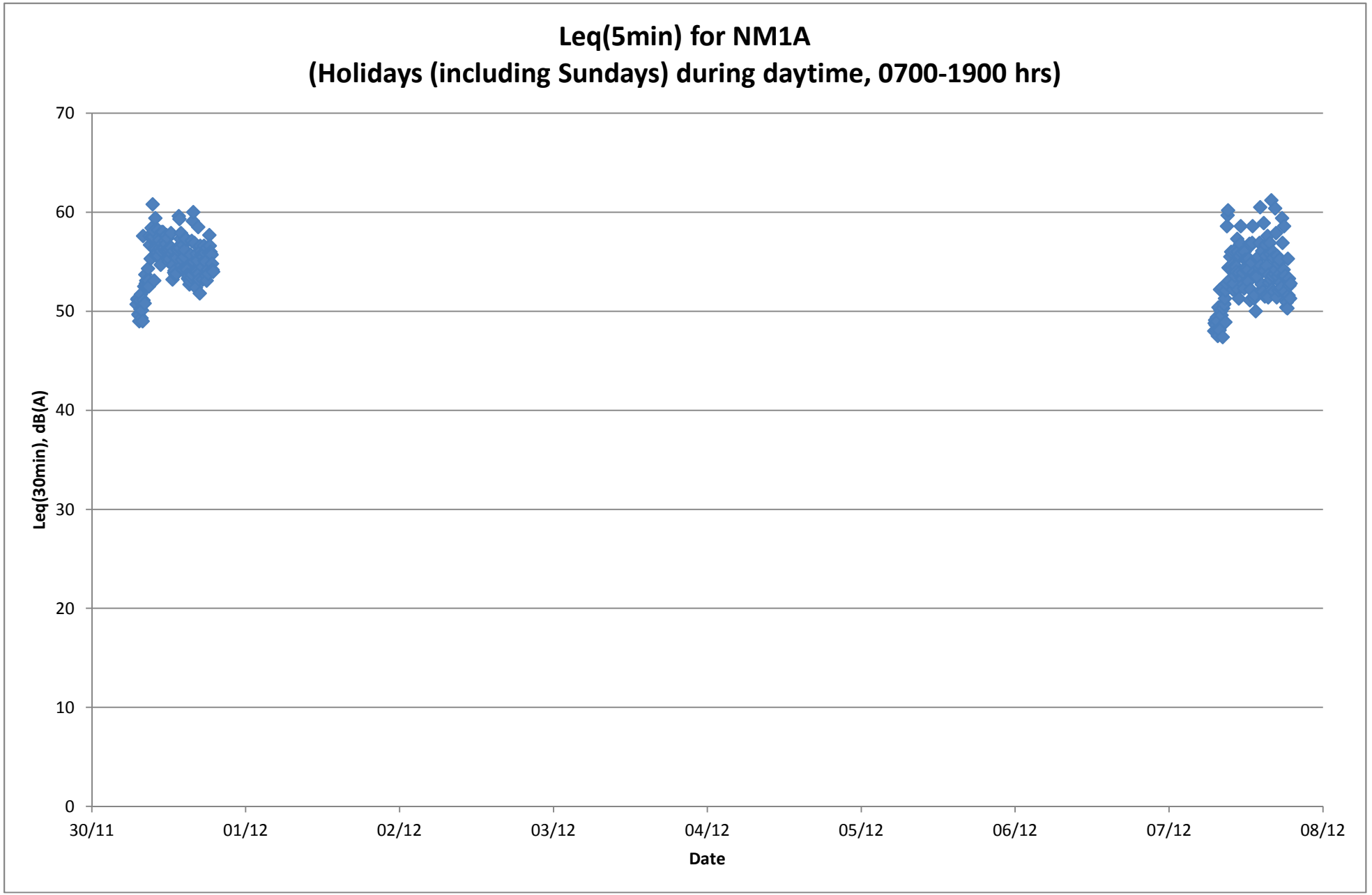
| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 07/12/2014 09:17:00 | 54 | 59 | 50 |
| 07/12/2014 09:22:00 | 53 | 56 | 49 |
| 07/12/2014 09:27:00 | 54 | 57 | 51 |
| 07/12/2014 09:32:00 | 56 | 59 | 50 |
| 07/12/2014 09:37:00 | 54 | 57 | 50 |
| 07/12/2014 09:42:00 | 56 | 59 | 51 |
| 07/12/2014 09:47:00 | 54 | 57 | 52 |
| 07/12/2014 09:52:00 | 55 | 58 | 53 |
| 07/12/2014 09:57:00 | 52 | 55 | 50 |
| 07/12/2014 10:02:00 | 53 | 56 | 51 |
| 07/12/2014 10:07:00 | 56 | 59 | 53 |
| 07/12/2014 10:12:00 | 54 | 57 | 51 |
| 07/12/2014 10:17:00 | 54 | 57 | 51 |
| 07/12/2014 10:22:00 | 55 | 58 | 52 |
| 07/12/2014 10:27:00 | 55 | 58 | 54 |
| 07/12/2014 10:32:00 | 54 | 56 | 51 |
| 07/12/2014 10:37:00 | 57 | 60 | 51 |
| 07/12/2014 10:42:00 | 56 | 59 | 50 |
| 07/12/2014 10:47:00 | 52 | 54 | 50 |
| 07/12/2014 10:52:00 | 51 | 54 | 49 |
| 07/12/2014 10:57:00 | 54 | 56 | 51 |
| 07/12/2014 11:02:00 | 56 | 58 | 52 |
| 07/12/2014 11:07:00 | 57 | 59 | 53 |
| 07/12/2014 11:12:00 | 59 | 61 | 51 |
| 07/12/2014 11:17:00 | 53 | 55 | 50 |
| 07/12/2014 11:22:00 | 56 | 58 | 51 |
| 07/12/2014 11:27:00 | 53 | 55 | 50 |
| 07/12/2014 11:32:00 | 54 | 56 | 51 |
| 07/12/2014 11:37:00 | 53 | 55 | 50 |
| 07/12/2014 11:42:00 | 52 | 55 | 49 |
| 07/12/2014 11:47:00 | 56 | 59 | 52 |
| 07/12/2014 11:52:00 | 55 | 58 | 52 |
| 07/12/2014 11:57:00 | 54 | 57 | 51 |
| 07/12/2014 12:02:00 | 54 | 57 | 51 |
| 07/12/2014 12:07:00 | 54 | 56 | 52 |
| 07/12/2014 12:12:00 | 55 | 57 | 52 |
| 07/12/2014 12:17:00 | 54 | 56 | 52 |
| 07/12/2014 12:22:00 | 53 | 56 | 49 |
| 07/12/2014 12:27:00 | 55 | 57 | 52 |
| 07/12/2014 12:32:00 | 57 | 58 | 51 |
| 07/12/2014 12:37:00 | 51 | 53 | 49 |
| 07/12/2014 12:42:00 | 52 | 54 | 49 |
| 07/12/2014 12:47:00 | 57 | 59 | 52 |
| 07/12/2014 12:52:00 | 55 | 57 | 52 |
| 07/12/2014 12:57:00 | 57 | 59 | 51 |
| 07/12/2014 13:02:00 | 59 | 62 | 51 |
| 07/12/2014 13:07:00 | 54 | 57 | 50 |
| 07/12/2014 13:12:00 | 54 | 57 | 49 |
| 07/12/2014 13:17:00 | 51 | 53 | 49 |
| 07/12/2014 13:22:00 | 52 | 54 | 48 |
| 07/12/2014 13:27:00 | 54 | 56 | 49 |
| 07/12/2014 13:32:00 | 50 | 52 | 48 |
| 07/12/2014 13:37:00 | 53 | 57 | 49 |
| 07/12/2014 13:42:00 | 54 | 55 | 49 |
| 07/12/2014 13:47:00 | 55 | 59 | 50 |
| 07/12/2014 13:52:00 | 55 | 59 | 49 |
| 07/12/2014 13:57:00 | 56 | 57 | 48 |

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 07/12/2014 14:02:00 | 54 | 56 | 49 |
| 07/12/2014 14:07:00 | 57 | 61 | 50 |
| 07/12/2014 14:12:00 | 61 | 64 | 49 |
| 07/12/2014 14:17:00 | 55 | 57 | 48 |
| 07/12/2014 14:22:00 | 52 | 55 | 49 |
| 07/12/2014 14:27:00 | 53 | 55 | 49 |
| 07/12/2014 14:32:00 | 56 | 60 | 50 |
| 07/12/2014 14:37:00 | 52 | 54 | 49 |
| 07/12/2014 14:42:00 | 54 | 55 | 48 |
| 07/12/2014 14:47:00 | 59 | 63 | 50 |
| 07/12/2014 14:52:00 | 54 | 58 | 49 |
| 07/12/2014 14:57:00 | 52 | 54 | 49 |
| 07/12/2014 15:02:00 | 57 | 58 | 49 |
| 07/12/2014 15:07:00 | 56 | 57 | 50 |
| 07/12/2014 15:12:00 | 55 | 56 | 49 |
| 07/12/2014 15:17:00 | 52 | 54 | 48 |
| 07/12/2014 15:22:00 | 58 | 61 | 49 |
| 07/12/2014 15:27:00 | 51 | 53 | 49 |
| 07/12/2014 15:32:00 | 54 | 56 | 48 |
| 07/12/2014 15:37:00 | 53 | 55 | 50 |
| 07/12/2014 15:42:00 | 57 | 58 | 50 |
| 07/12/2014 15:47:00 | 56 | 58 | 51 |
| 07/12/2014 15:52:00 | 53 | 55 | 49 |
| 07/12/2014 15:57:00 | 61 | 64 | 49 |
| 07/12/2014 16:02:00 | 52 | 54 | 50 |
| 07/12/2014 16:07:00 | 54 | 56 | 50 |
| 07/12/2014 16:12:00 | 56 | 60 | 51 |
| 07/12/2014 16:17:00 | 55 | 57 | 51 |
| 07/12/2014 16:22:00 | 52 | 54 | 50 |
| 07/12/2014 16:27:00 | 54 | 57 | 49 |
| 07/12/2014 16:32:00 | 60 | 65 | 50 |
| 07/12/2014 16:37:00 | 54 | 59 | 49 |
| 07/12/2014 16:42:00 | 58 | 62 | 49 |
| 07/12/2014 16:47:00 | 51 | 53 | 49 |
| 07/12/2014 16:52:00 | 56 | 59 | 49 |
| 07/12/2014 16:57:00 | 54 | 55 | 50 |
| 07/12/2014 17:02:00 | 55 | 58 | 51 |
| 07/12/2014 17:07:00 | 52 | 55 | 49 |
| 07/12/2014 17:12:00 | 55 | 59 | 49 |
| 07/12/2014 17:17:00 | 54 | 56 | 50 |
| 07/12/2014 17:22:00 | 53 | 55 | 50 |
| 07/12/2014 17:27:00 | 52 | 53 | 48 |
| 07/12/2014 17:32:00 | 52 | 54 | 50 |
| 07/12/2014 17:37:00 | 59 | 61 | 50 |
| 07/12/2014 17:42:00 | 57 | 60 | 50 |
| 07/12/2014 17:47:00 | 54 | 57 | 50 |
| 07/12/2014 17:52:00 | 54 | 56 | 51 |
| 07/12/2014 17:57:00 | 59 | 62 | 49 |
| 07/12/2014 18:02:00 | 52 | 54 | 50 |
| 07/12/2014 18:07:00 | 54 | 56 | 49 |
| 07/12/2014 18:12:00 | 51 | 53 | 49 |
| 07/12/2014 18:17:00 | 50 | 52 | 48 |
| 07/12/2014 18:22:00 | 51 | 52 | 49 |
| 07/12/2014 18:27:00 | 50 | 52 | 48 |
| 07/12/2014 18:32:00 | 55 | 58 | 49 |
| 07/12/2014 18:37:00 | 52 | 55 | 48 |
| 07/12/2014 18:42:00 | 53 | 56 | 48 |

Baseline Noise Monitoring | Holidays (including Sundays) during daytime (0700-1900 hrs) | Station: NM1A

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 07/12/2014 18:47:00 | 53 | 54 | 49 |
| 07/12/2014 18:52:00 | 51 | 53 | 49 |
| 07/12/2014 18:57:00 | 53 | 57 | 47 |


Leq(30min) for NM1A
(Daytime on normal weekdays, 0700-1900 hrs)
Leq(30min), dB(A)
70
60
50
40
30
20
10
0
27/11
28/11
29/11
30/11
01/12
02/12
03/12
04/12
05/12
06/12
07/12
08/12
09/12
10/12
11/12
Date


Leq(5min) for NM1A
(Holidays (including Sundays) during daytime, 0700-1900 hrs)
Leq(30min), dB(A)
70
60
50
40
30
20
10
0
30/11
01/12
02/12
03/12
04/12
05/12
06/12
07/12
08/12
Date

Baseline Noise Monitoring

Daytime on normal weekdays
(0700-1900 hrs)

Station: NM2

| Date & Time | Leq (30mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/24 12:57:45 | 60 | 63 | 56 |
| 2014/10/24 13:27:45 | 57 | 59 | 54 |
| 2014/10/24 13:57:45 | 58 | 60 | 55 |
| 2014/10/24 14:27:45 | 59 | 61 | 56 |
| 2014/10/24 14:57:45 | 60 | 62 | 56 |
| 2014/10/24 15:27:45 | 57 | 59 | 55 |
| 2014/10/24 15:57:45 | 57 | 58 | 54 |
| 2014/10/24 16:27:45 | 57 | 59 | 55 |
| 2014/10/24 16:57:45 | 57 | 59 | 54 |
| 2014/10/24 17:27:45 | 56 | 58 | 51 |
| 2014/10/24 17:57:45 | 56 | 57 | 53 |
| 2014/10/24 18:27:45 | 56 | 58 | 55 |
| 2014/10/24 18:57:45 | 53 | 54 | 51 |
| 2014/10/25 07:27:45 | 57 | 59 | 54 |
| 2014/10/25 07:57:45 | 59 | 62 | 55 |
| 2014/10/25 08:27:45 | 63 | 67 | 53 |
| 2014/10/25 08:57:45 | 62 | 66 | 54 |
| 2014/10/25 09:27:45 | 60 | 64 | 54 |
| 2014/10/25 09:57:45 | 56 | 58 | 54 |
| 2014/10/25 10:27:45 | 57 | 58 | 55 |
| 2014/10/25 10:57:45 | 60 | 62 | 57 |
| 2014/10/25 11:27:45 | 57 | 59 | 54 |
| 2014/10/25 11:57:45 | 56 | 58 | 52 |
| 2014/10/25 12:27:45 | 54 | 56 | 52 |
| 2014/10/25 12:57:45 | 55 | 57 | 52 |
| 2014/10/25 13:27:45 | 56 | 58 | 53 |
| 2014/10/25 13:57:45 | 56 | 59 | 53 |
| 2014/10/25 14:27:45 | 56 | 58 | 52 |
| 2014/10/25 14:57:45 | 55 | 57 | 53 |
| 2014/10/25 15:27:45 | 56 | 58 | 53 |
| 2014/10/25 15:57:45 | 57 | 58 | 52 |
| 2014/10/25 16:27:45 | 56 | 58 | 52 |
| 2014/10/25 16:57:45 | 55 | 57 | 52 |
| 2014/10/25 17:27:45 | 55 | 57 | 51 |
| 2014/10/25 17:57:45 | 55 | 57 | 52 |
| 2014/10/25 18:27:45 | 57 | 58 | 56 |
| 2014/10/25 18:57:45 | 52 | 54 | 49 |
| 2014/10/27 07:27:45 | 54 | 57 | 51 |
| 2014/10/27 07:57:45 | 60 | 63 | 54 |
| 2014/10/27 08:27:45 | 62 | 65 | 57 |
| 2014/10/27 08:57:45 | 61 | 63 | 56 |
| 2014/10/27 09:27:45 | 58 | 60 | 56 |
| 2014/10/27 09:57:45 | 60 | 62 | 57 |
| 2014/10/27 10:27:45 | 64 | 66 | 60 |
| 2014/10/27 10:57:45 | 63 | 65 | 59 |
| 2014/10/27 11:27:45 | 61 | 65 | 57 |
| 2014/10/27 11:57:45 | 61 | 63 | 57 |
| 2014/10/27 12:27:45 | 63 | 66 | 59 |
| 2014/10/27 12:57:45 | 60 | 62 | 57 |
| 2014/10/27 13:27:45 | 59 | 60 | 56 |
| 2014/10/27 13:57:45 | 59 | 61 | 56 |
| 2014/10/27 14:27:45 | 60 | 62 | 57 |
| 2014/10/27 14:57:45 | 59 | 61 | 57 |
| 2014/10/27 15:27:45 | 59 | 60 | 57 |
| 2014/10/27 15:57:45 | 59 | 61 | 56 |
| 2014/10/27 16:27:45 | 59 | 61 | 56 |
| 2014/10/27 16:57:45 | 57 | 59 | 55 |
| 2014/10/27 17:27:45 | 57 | 59 | 54 |
| 2014/10/27 17:57:45 | 55 | 57 | 53 |

Baseline Noise Monitoring

Daytime on normal weekdays
(0700-1900 hrs)

Station: NM2

| Date & Time | Leq (30mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/27 18:27:45 | 57 | 58 | 56 |
| 2014/10/27 18:57:45 | 54 | 57 | 51 |
| 2014/10/28 07:27:45 | 55 | 57 | 52 |
| 2014/10/28 07:57:45 | 63 | 67 | 54 |
| 2014/10/28 08:27:45 | 64 | 68 | 55 |
| 2014/10/28 08:57:45 | 61 | 64 | 57 |
| 2014/10/28 09:27:45 | 59 | 62 | 56 |
| 2014/10/28 09:57:45 | 67 | 70 | 59 |
| 2014/10/28 10:27:45 | 65 | 68 | 60 |
| 2014/10/28 10:57:45 | 61 | 63 | 59 |
| 2014/10/28 11:27:45 | 64 | 66 | 59 |
| 2014/10/28 11:57:45 | 63 | 66 | 59 |
| 2014/10/28 12:27:45 | 64 | 66 | 60 |
| 2014/10/28 12:57:45 | 63 | 66 | 57 |
| 2014/10/28 13:27:45 | 59 | 60 | 57 |
| 2014/10/28 13:57:45 | 59 | 61 | 56 |
| 2014/10/28 14:31:30 | 58 | 59 | 56 |
| 2014/10/28 15:01:30 | 59 | 61 | 57 |
| 2014/10/28 15:31:30 | 60 | 61 | 57 |
| 2014/10/28 16:01:30 | 58 | 60 | 56 |
| 2014/10/28 16:31:30 | 59 | 60 | 57 |
| 2014/10/28 17:01:30 | 58 | 60 | 57 |
| 2014/10/28 17:31:30 | 57 | 58 | 54 |
| 2014/10/28 18:01:30 | 56 | 57 | 53 |
| 2014/10/28 18:31:30 | 57 | 58 | 55 |
| 2014/10/29 07:01:30 | 52 | 54 | 48 |
| 2014/10/29 07:31:30 | 53 | 55 | 50 |
| 2014/10/29 08:01:30 | 55 | 56 | 52 |
| 2014/10/29 08:31:30 | 55 | 57 | 53 |
| 2014/10/29 09:01:30 | 59 | 60 | 55 |
| 2014/10/29 09:31:30 | 58 | 60 | 56 |
| 2014/10/29 10:01:30 | 60 | 62 | 56 |
| 2014/10/29 10:31:30 | 63 | 66 | 59 |
| 2014/10/29 11:01:30 | 60 | 62 | 56 |
| 2014/10/29 11:31:30 | 63 | 65 | 56 |
| 2014/10/29 12:01:30 | 62 | 65 | 57 |
| 2014/10/29 12:31:30 | 62 | 64 | 58 |
| 2014/10/29 13:01:30 | 58 | 60 | 55 |
| 2014/10/29 13:31:30 | 59 | 61 | 57 |
| 2014/10/29 14:01:30 | 59 | 61 | 56 |
| 2014/10/29 14:31:30 | 58 | 59 | 56 |
| 2014/10/29 15:01:30 | 58 | 59 | 56 |
| 2014/10/29 15:31:30 | 60 | 61 | 56 |
| 2014/10/29 16:01:30 | 58 | 60 | 56 |
| 2014/10/29 16:31:30 | 58 | 59 | 55 |
| 2014/10/29 17:01:30 | 57 | 59 | 55 |
| 2014/10/29 17:31:30 | 55 | 57 | 52 |
| 2014/10/29 18:01:30 | 57 | 58 | 53 |
| 2014/10/29 18:31:30 | 58 | 59 | 57 |
| 2014/10/30 07:01:30 | 51 | 54 | 48 |
| 2014/10/30 07:31:30 | 53 | 55 | 50 |
| 2014/10/30 08:01:30 | 54 | 56 | 51 |
| 2014/10/30 08:31:30 | 55 | 57 | 53 |
| 2014/10/30 09:01:30 | 58 | 59 | 55 |
| 2014/10/30 09:31:30 | 57 | 59 | 55 |
| 2014/10/30 10:01:30 | 62 | 64 | 59 |
| 2014/10/30 10:31:30 | 63 | 65 | 60 |
| 2014/10/30 11:01:30 | 59 | 61 | 56 |
| 2014/10/30 11:31:30 | 62 | 64 | 57 |

Baseline Noise Monitoring

Daytime on normal weekdays
(0700-1900 hrs)

Station: NM2

| Date & Time | Leq (30mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/30 12:01:30 | 62 | 64 | 58 |
| 2014/10/30 12:31:30 | 62 | 64 | 59 |
| 2014/10/30 13:01:30 | 61 | 63 | 58 |
| 2014/10/30 13:31:30 | 60 | 62 | 58 |
| 2014/10/30 14:01:30 | 61 | 63 | 58 |
| 2014/10/30 14:31:30 | 60 | 62 | 58 |
| 2014/10/30 15:01:30 | 61 | 65 | 58 |
| 2014/10/30 15:31:30 | 60 | 62 | 57 |
| 2014/10/30 16:01:30 | 59 | 60 | 57 |
| 2014/10/30 16:31:30 | 59 | 60 | 57 |
| 2014/10/30 17:01:30 | 57 | 59 | 55 |
| 2014/10/30 17:31:30 | 56 | 57 | 53 |
| 2014/10/30 18:01:30 | 56 | 58 | 54 |
| 2014/10/30 18:31:30 | 58 | 59 | 57 |
| 2014/10/31 07:01:30 | 52 | 56 | 48 |
| 2014/10/31 07:31:30 | 53 | 56 | 50 |
| 2014/10/31 08:01:30 | 55 | 56 | 53 |
| 2014/10/31 08:31:30 | 56 | 58 | 54 |
| 2014/10/31 09:01:30 | 59 | 61 | 55 |
| 2014/10/31 09:31:30 | 59 | 61 | 56 |
| 2014/10/31 10:01:30 | 61 | 63 | 56 |
| 2014/10/31 10:31:30 | 62 | 65 | 58 |
| 2014/10/31 11:01:30 | 58 | 60 | 56 |
| 2014/10/31 11:31:30 | 60 | 62 | 56 |
| 2014/10/31 12:03:53 | 61 | 63 | 56 |
| 2014/10/31 12:33:53 | 62 | 64 | 58 |
| 2014/10/31 13:03:53 | 59 | 62 | 56 |
| 2014/10/31 13:33:53 | 58 | 60 | 56 |
| 2014/10/31 14:03:53 | 60 | 62 | 56 |
| 2014/10/31 14:33:53 | 58 | 60 | 55 |
| 2014/10/31 15:03:53 | 59 | 61 | 56 |
| 2014/10/31 15:33:53 | 58 | 59 | 56 |
| 2014/10/31 16:03:53 | 58 | 59 | 55 |
| 2014/10/31 16:33:53 | 58 | 60 | 54 |
| 2014/10/31 17:03:53 | 56 | 58 | 53 |
| 2014/10/31 17:33:53 | 58 | 60 | 56 |
| 2014/10/31 18:03:53 | 59 | 60 | 58 |
| 2014/10/31 18:33:53 | 59 | 59 | 57 |
| 2014/11/01 07:03:53 | 51 | 54 | 47 |
| 2014/11/01 07:33:53 | 52 | 54 | 49 |
| 2014/11/01 08:03:53 | 53 | 56 | 50 |
| 2014/11/01 08:33:53 | 55 | 57 | 52 |
| 2014/11/01 09:03:53 | 55 | 57 | 53 |
| 2014/11/01 09:33:53 | 57 | 60 | 54 |
| 2014/11/01 10:03:53 | 58 | 59 | 55 |
| 2014/11/01 10:33:53 | 59 | 61 | 55 |
| 2014/11/01 11:03:53 | 57 | 60 | 54 |
| 2014/11/01 11:33:53 | 57 | 59 | 54 |
| 2014/11/01 12:03:53 | 60 | 61 | 53 |
| 2014/11/01 12:33:53 | 55 | 57 | 52 |
| 2014/11/01 13:03:53 | 56 | 58 | 52 |
| 2014/11/01 13:33:53 | 57 | 59 | 53 |
| 2014/11/01 14:03:53 | 57 | 60 | 53 |
| 2014/11/01 14:33:53 | 56 | 58 | 53 |
| 2014/11/01 15:03:53 | 56 | 58 | 53 |
| 2014/11/01 15:33:53 | 56 | 58 | 53 |
| 2014/11/01 16:03:53 | 57 | 59 | 54 |
| 2014/11/01 16:33:53 | 56 | 58 | 53 |
| 2014/11/01 17:03:53 | 56 | 58 | 53 |

Baseline Noise Monitoring

Daytime on normal weekdays
(0700-1900 hrs)

Station: NM2

| Date & Time | Leq (30mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/01 17:33:53 | 55 | 57 | 52 |
| 2014/11/01 18:03:53 | 56 | 57 | 54 |
| 2014/11/01 18:33:53 | 57 | 58 | 56 |
| 2014/11/03 07:03:53 | 50 | 52 | 48 |
| 2014/11/03 07:33:53 | 53 | 55 | 50 |
| 2014/11/03 08:03:53 | 54 | 57 | 51 |
| 2014/11/03 08:33:53 | 55 | 56 | 52 |
| 2014/11/03 09:03:53 | 57 | 59 | 55 |
| 2014/11/03 09:33:53 | 58 | 60 | 55 |
| 2014/11/03 10:03:53 | 61 | 63 | 57 |
| 2014/11/03 10:33:53 | 62 | 65 | 58 |
| 2014/11/03 11:03:53 | 59 | 60 | 56 |
| 2014/11/03 11:33:53 | 62 | 65 | 56 |
| 2014/11/03 12:03:53 | 62 | 64 | 58 |
| 2014/11/03 12:33:53 | 61 | 63 | 57 |
| 2014/11/03 13:03:53 | 58 | 61 | 55 |
| 2014/11/03 13:33:53 | 58 | 60 | 55 |
| 2014/11/03 14:03:53 | 59 | 61 | 55 |
| 2014/11/03 14:33:53 | 59 | 61 | 56 |
| 2014/11/03 15:03:53 | 58 | 59 | 55 |
| 2014/11/03 15:33:53 | 57 | 59 | 55 |
| 2014/11/03 16:03:53 | 57 | 58 | 54 |
| 2014/11/03 16:33:53 | 57 | 59 | 54 |
| 2014/11/03 17:03:53 | 55 | 57 | 53 |
| 2014/11/03 17:33:53 | 53 | 55 | 51 |
| 2014/11/03 18:03:53 | 59 | 60 | 57 |
| 2014/11/03 18:33:53 | 58 | 60 | 56 |
| 2014/11/04 07:03:53 | 52 | 54 | 49 |
| 2014/11/04 07:33:53 | 53 | 55 | 50 |
| 2014/11/04 08:03:53 | 55 | 56 | 52 |
| 2014/11/04 08:33:53 | 57 | 59 | 52 |
| 2014/11/04 09:03:53 | 58 | 60 | 55 |
| 2014/11/04 09:33:53 | 57 | 60 | 54 |
| 2014/11/04 10:03:53 | 63 | 66 | 57 |
| 2014/11/04 10:33:53 | 62 | 65 | 58 |
| 2014/11/04 11:03:53 | 57 | 59 | 55 |
| 2014/11/04 11:33:53 | 63 | 66 | 57 |
| 2014/11/04 12:03:53 | 63 | 66 | 58 |
| 2014/11/04 12:33:53 | 64 | 67 | 59 |
| 2014/11/04 13:03:53 | 57 | 59 | 54 |
| 2014/11/04 13:33:53 | 59 | 61 | 55 |
| 2014/11/04 14:06:10 | 59 | 61 | 55 |
| 2014/11/04 14:36:10 | 58 | 59 | 55 |
| 2014/11/04 15:06:10 | 58 | 60 | 55 |
| 2014/11/04 15:36:10 | 57 | 59 | 55 |
| 2014/11/04 16:06:10 | 57 | 59 | 55 |
| 2014/11/04 16:36:10 | 57 | 59 | 54 |
| 2014/11/04 17:06:10 | 58 | 60 | 56 |
| 2014/11/04 17:36:10 | 58 | 59 | 55 |
| 2014/11/04 18:06:10 | 61 | 62 | 60 |
| 2014/11/04 18:36:10 | 61 | 62 | 59 |
| 2014/11/05 07:06:10 | 51 | 53 | 48 |
| 2014/11/05 07:36:10 | 52 | 54 | 50 |
| 2014/11/05 08:06:10 | 55 | 57 | 53 |
| 2014/11/05 08:36:10 | 54 | 56 | 52 |
| 2014/11/05 09:06:10 | 56 | 58 | 54 |
| 2014/11/05 09:36:10 | 57 | 58 | 55 |
| 2014/11/05 10:06:10 | 62 | 64 | 57 |
| 2014/11/05 10:36:10 | 61 | 63 | 57 |

Baseline Noise Monitoring

Daytime on normal weekdays
(0700-1900 hrs)

Station: NM2

| Date & Time | Leq (30mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/05 11:06:10 | 59 | 61 | 56 |
| 2014/11/05 11:36:10 | 62 | 64 | 58 |
| 2014/11/05 12:06:10 | 61 | 63 | 58 |
| 2014/11/05 12:36:10 | 63 | 66 | 59 |
| 2014/11/05 13:06:10 | 59 | 60 | 56 |
| 2014/11/05 13:36:10 | 58 | 60 | 56 |
| 2014/11/05 14:06:10 | 58 | 60 | 55 |
| 2014/11/05 14:36:10 | 57 | 59 | 54 |
| 2014/11/05 15:06:10 | 58 | 59 | 55 |
| 2014/11/05 15:36:10 | 57 | 59 | 55 |
| 2014/11/05 16:06:10 | 57 | 59 | 55 |
| 2014/11/05 16:36:10 | 57 | 59 | 54 |
| 2014/11/05 17:06:10 | 57 | 59 | 56 |
| 2014/11/05 17:36:10 | 58 | 59 | 56 |
| 2014/11/05 18:06:10 | 59 | 60 | 58 |
| 2014/11/05 18:36:10 | 59 | 59 | 57 |
| 2014/11/06 07:06:10 | 52 | 55 | 48 |
| 2014/11/06 07:36:10 | 53 | 55 | 49 |
| 2014/11/06 08:06:10 | 54 | 57 | 51 |
| 2014/11/06 08:36:10 | 57 | 59 | 53 |
| 2014/11/06 09:06:10 | 57 | 59 | 54 |
| 2014/11/06 09:36:10 | 57 | 58 | 53 |
| 2014/11/06 10:06:10 | 63 | 67 | 57 |
| 2014/11/06 10:36:10 | 61 | 63 | 57 |
| 2014/11/06 11:06:10 | 57 | 58 | 55 |
| 2014/11/06 11:36:10 | 61 | 62 | 56 |
| 2014/11/06 12:06:10 | 60 | 63 | 57 |
| 2014/11/06 12:36:10 | 61 | 64 | 58 |
| 2014/11/06 13:06:10 | 58 | 60 | 56 |
| 2014/11/06 13:36:10 | 59 | 61 | 56 |
| 2014/11/06 14:06:10 | 60 | 62 | 56 |
| 2014/11/06 14:36:10 | 59 | 61 | 56 |
| 2014/11/06 15:06:10 | 60 | 62 | 57 |
| 2014/11/06 15:36:10 | 58 | 60 | 56 |
| 2014/11/06 16:06:10 | 59 | 60 | 56 |
| 2014/11/06 16:36:10 | 58 | 60 | 56 |
| 2014/11/06 17:06:10 | 57 | 58 | 55 |
| 2014/11/06 17:36:10 | 56 | 57 | 52 |
| 2014/11/06 18:06:10 | 58 | 59 | 56 |
| 2014/11/06 18:36:10 | 57 | 58 | 56 |
| 2014/11/07 07:06:10 | 52 | 54 | 48 |
| 2014/11/07 07:36:10 | 53 | 56 | 50 |
| 2014/11/07 08:06:10 | 56 | 57 | 54 |
| 2014/11/07 08:36:10 | 56 | 58 | 54 |
| 2014/11/07 09:06:10 | 58 | 60 | 55 |
| 2014/11/07 09:36:10 | 57 | 59 | 55 |
| 2014/11/07 10:06:10 | 64 | 67 | 59 |
| 2014/11/07 10:36:10 | 61 | 63 | 58 |
| 2014/11/07 11:06:10 | 59 | 60 | 57 |
| 2014/11/07 11:36:10 | 61 | 63 | 56 |
| 2014/11/07 12:06:10 | 61 | 63 | 56 |
| 2014/11/07 12:36:10 | 58 | 60 | 54 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/24 19:02:45 | 54 | 55 | 53 |
| 2014/10/24 19:07:45 | 54 | 55 | 52 |
| 2014/10/24 19:12:45 | 54 | 55 | 51 |
| 2014/10/24 19:17:45 | 54 | 56 | 52 |
| 2014/10/24 19:22:45 | 53 | 54 | 51 |
| 2014/10/24 19:27:45 | 54 | 56 | 51 |
| 2014/10/24 19:32:45 | 52 | 54 | 50 |
| 2014/10/24 19:37:45 | 53 | 55 | 50 |
| 2014/10/24 19:42:45 | 53 | 55 | 49 |
| 2014/10/24 19:47:45 | 54 | 57 | 49 |
| 2014/10/24 19:52:45 | 51 | 53 | 49 |
| 2014/10/24 19:57:45 | 52 | 54 | 48 |
| 2014/10/24 20:02:45 | 50 | 52 | 48 |
| 2014/10/24 20:07:45 | 49 | 52 | 47 |
| 2014/10/24 20:12:45 | 52 | 54 | 48 |
| 2014/10/24 20:17:45 | 50 | 51 | 47 |
| 2014/10/24 20:22:45 | 50 | 51 | 47 |
| 2014/10/24 20:27:45 | 52 | 55 | 48 |
| 2014/10/24 20:32:45 | 49 | 51 | 47 |
| 2014/10/24 20:37:45 | 50 | 52 | 48 |
| 2014/10/24 20:42:45 | 52 | 54 | 49 |
| 2014/10/24 20:47:45 | 50 | 52 | 47 |
| 2014/10/24 20:52:45 | 51 | 51 | 46 |
| 2014/10/24 20:57:45 | 51 | 53 | 46 |
| 2014/10/24 21:02:45 | 50 | 52 | 49 |
| 2014/10/24 21:07:45 | 52 | 53 | 50 |
| 2014/10/24 21:12:45 | 54 | 57 | 50 |
| 2014/10/24 21:17:45 | 54 | 54 | 53 |
| 2014/10/24 21:22:45 | 54 | 55 | 53 |
| 2014/10/24 21:27:45 | 54 | 55 | 53 |
| 2014/10/24 21:32:45 | 54 | 55 | 53 |
| 2014/10/24 21:37:45 | 54 | 54 | 53 |
| 2014/10/24 21:42:45 | 54 | 55 | 53 |
| 2014/10/24 21:47:45 | 55 | 56 | 53 |
| 2014/10/24 21:52:45 | 53 | 54 | 52 |
| 2014/10/24 21:57:45 | 55 | 56 | 53 |
| 2014/10/24 22:02:45 | 54 | 54 | 53 |
| 2014/10/24 22:07:45 | 53 | 54 | 52 |
| 2014/10/24 22:12:45 | 54 | 55 | 53 |
| 2014/10/24 22:17:45 | 53 | 54 | 53 |
| 2014/10/24 22:22:45 | 53 | 54 | 52 |
| 2014/10/24 22:27:45 | 52 | 53 | 51 |
| 2014/10/24 22:32:45 | 53 | 54 | 51 |
| 2014/10/24 22:37:45 | 52 | 53 | 51 |
| 2014/10/24 22:42:45 | 53 | 54 | 52 |
| 2014/10/24 22:47:45 | 53 | 54 | 52 |
| 2014/10/24 22:52:45 | 54 | 55 | 53 |
| 2014/10/24 22:57:45 | 53 | 54 | 52 |
| 2014/10/25 19:02:45 | 57 | 58 | 55 |
| 2014/10/25 19:07:45 | 56 | 57 | 54 |
| 2014/10/25 19:12:45 | 54 | 55 | 53 |
| 2014/10/25 19:17:45 | 55 | 57 | 53 |
| 2014/10/25 19:22:45 | 54 | 56 | 53 |
| 2014/10/25 19:27:45 | 54 | 56 | 52 |
| 2014/10/25 19:32:45 | 54 | 55 | 52 |
| 2014/10/25 19:37:45 | 54 | 57 | 50 |
| 2014/10/25 19:42:45 | 53 | 55 | 51 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/25 19:47:45 | 53 | 55 | 49 |
| 2014/10/25 19:52:45 | 52 | 53 | 49 |
| 2014/10/25 19:57:45 | 52 | 54 | 49 |
| 2014/10/25 20:02:45 | 52 | 54 | 49 |
| 2014/10/25 20:07:45 | 52 | 55 | 48 |
| 2014/10/25 20:12:45 | 51 | 53 | 48 |
| 2014/10/25 20:17:45 | 51 | 53 | 48 |
| 2014/10/25 20:22:45 | 49 | 51 | 47 |
| 2014/10/25 20:27:45 | 49 | 51 | 46 |
| 2014/10/25 20:32:45 | 50 | 52 | 48 |
| 2014/10/25 20:37:45 | 50 | 52 | 47 |
| 2014/10/25 20:42:45 | 50 | 52 | 47 |
| 2014/10/25 20:47:45 | 53 | 56 | 47 |
| 2014/10/25 20:52:45 | 49 | 52 | 46 |
| 2014/10/25 20:57:45 | 51 | 55 | 46 |
| 2014/10/25 21:02:45 | 51 | 53 | 49 |
| 2014/10/25 21:07:45 | 53 | 54 | 51 |
| 2014/10/25 21:12:45 | 55 | 57 | 52 |
| 2014/10/25 21:17:45 | 53 | 54 | 52 |
| 2014/10/25 21:22:45 | 54 | 55 | 52 |
| 2014/10/25 21:27:45 | 52 | 54 | 51 |
| 2014/10/25 21:32:45 | 54 | 56 | 52 |
| 2014/10/25 21:37:45 | 52 | 53 | 51 |
| 2014/10/25 21:42:45 | 54 | 55 | 52 |
| 2014/10/25 21:47:45 | 52 | 53 | 51 |
| 2014/10/25 21:52:45 | 51 | 52 | 51 |
| 2014/10/25 21:57:45 | 53 | 55 | 51 |
| 2014/10/25 22:02:45 | 52 | 54 | 51 |
| 2014/10/25 22:07:45 | 52 | 53 | 51 |
| 2014/10/25 22:12:45 | 52 | 54 | 51 |
| 2014/10/25 22:17:45 | 52 | 53 | 51 |
| 2014/10/25 22:22:45 | 53 | 54 | 51 |
| 2014/10/25 22:27:45 | 53 | 54 | 51 |
| 2014/10/25 22:32:45 | 52 | 52 | 51 |
| 2014/10/25 22:37:45 | 52 | 53 | 51 |
| 2014/10/25 22:42:45 | 51 | 52 | 50 |
| 2014/10/25 22:47:45 | 53 | 54 | 51 |
| 2014/10/25 22:52:45 | 53 | 55 | 51 |
| 2014/10/25 22:57:45 | 51 | 52 | 51 |
| 2014/10/26 07:02:45 | 50 | 54 | 45 |
| 2014/10/26 07:07:45 | 48 | 51 | 44 |
| 2014/10/26 07:12:45 | 47 | 50 | 43 |
| 2014/10/26 07:17:45 | 48 | 52 | 44 |
| 2014/10/26 07:22:45 | 50 | 53 | 45 |
| 2014/10/26 07:27:45 | 47 | 50 | 43 |
| 2014/10/26 07:32:45 | 49 | 52 | 44 |
| 2014/10/26 07:37:45 | 48 | 51 | 44 |
| 2014/10/26 07:42:45 | 54 | 58 | 46 |
| 2014/10/26 07:47:45 | 49 | 52 | 45 |
| 2014/10/26 07:52:45 | 50 | 51 | 45 |
| 2014/10/26 07:57:45 | 51 | 53 | 46 |
| 2014/10/26 08:02:45 | 49 | 51 | 46 |
| 2014/10/26 08:07:45 | 49 | 51 | 44 |
| 2014/10/26 08:12:45 | 52 | 55 | 48 |
| 2014/10/26 08:17:45 | 52 | 54 | 48 |
| 2014/10/26 08:22:45 | 54 | 57 | 48 |
| 2014/10/26 08:27:45 | 55 | 58 | 51 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/26 08:32:45 | 54 | 56 | 52 |
| 2014/10/26 08:37:45 | 54 | 57 | 50 |
| 2014/10/26 08:42:45 | 53 | 56 | 48 |
| 2014/10/26 08:47:45 | 50 | 51 | 48 |
| 2014/10/26 08:52:45 | 54 | 57 | 49 |
| 2014/10/26 08:57:45 | 55 | 57 | 50 |
| 2014/10/26 09:02:45 | 53 | 55 | 49 |
| 2014/10/26 09:07:45 | 53 | 55 | 51 |
| 2014/10/26 09:12:45 | 54 | 57 | 49 |
| 2014/10/26 09:17:45 | 55 | 57 | 52 |
| 2014/10/26 09:22:45 | 53 | 55 | 50 |
| 2014/10/26 09:27:45 | 55 | 58 | 51 |
| 2014/10/26 09:32:45 | 55 | 57 | 51 |
| 2014/10/26 09:37:45 | 55 | 57 | 51 |
| 2014/10/26 09:42:45 | 54 | 56 | 50 |
| 2014/10/26 09:47:45 | 54 | 55 | 51 |
| 2014/10/26 09:52:45 | 54 | 57 | 50 |
| 2014/10/26 09:57:45 | 54 | 56 | 51 |
| 2014/10/26 10:02:45 | 54 | 56 | 51 |
| 2014/10/26 10:07:45 | 54 | 57 | 51 |
| 2014/10/26 10:12:45 | 54 | 57 | 51 |
| 2014/10/26 10:17:45 | 54 | 56 | 51 |
| 2014/10/26 10:22:45 | 51 | 53 | 49 |
| 2014/10/26 10:27:45 | 54 | 58 | 51 |
| 2014/10/26 10:32:45 | 55 | 57 | 51 |
| 2014/10/26 10:37:45 | 55 | 58 | 52 |
| 2014/10/26 10:42:45 | 51 | 53 | 50 |
| 2014/10/26 10:47:45 | 53 | 55 | 50 |
| 2014/10/26 10:52:45 | 53 | 55 | 50 |
| 2014/10/26 10:57:45 | 54 | 56 | 51 |
| 2014/10/26 11:02:45 | 54 | 57 | 51 |
| 2014/10/26 11:07:45 | 54 | 56 | 51 |
| 2014/10/26 11:12:45 | 53 | 55 | 51 |
| 2014/10/26 11:17:45 | 54 | 55 | 52 |
| 2014/10/26 11:22:45 | 53 | 54 | 51 |
| 2014/10/26 11:27:45 | 57 | 59 | 51 |
| 2014/10/26 11:32:45 | 54 | 55 | 51 |
| 2014/10/26 11:37:45 | 53 | 55 | 51 |
| 2014/10/26 11:42:45 | 52 | 54 | 50 |
| 2014/10/26 11:47:45 | 54 | 56 | 51 |
| 2014/10/26 11:52:45 | 56 | 58 | 52 |
| 2014/10/26 11:57:45 | 54 | 56 | 51 |
| 2014/10/26 12:02:45 | 53 | 55 | 51 |
| 2014/10/26 12:07:45 | 55 | 57 | 52 |
| 2014/10/26 12:12:45 | 54 | 57 | 51 |
| 2014/10/26 12:17:45 | 53 | 55 | 51 |
| 2014/10/26 12:22:45 | 53 | 56 | 50 |
| 2014/10/26 12:27:45 | 52 | 55 | 50 |
| 2014/10/26 12:32:45 | 52 | 54 | 50 |
| 2014/10/26 12:37:45 | 54 | 56 | 51 |
| 2014/10/26 12:42:45 | 53 | 55 | 50 |
| 2014/10/26 12:47:45 | 54 | 54 | 50 |
| 2014/10/26 12:52:45 | 53 | 55 | 50 |
| 2014/10/26 12:57:45 | 53 | 55 | 51 |
| 2014/10/26 13:02:45 | 56 | 59 | 50 |
| 2014/10/26 13:07:45 | 53 | 55 | 50 |
| 2014/10/26 13:12:45 | 53 | 55 | 49 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/26 13:17:45 | 55 | 58 | 51 |
| 2014/10/26 13:22:45 | 53 | 55 | 50 |
| 2014/10/26 13:27:45 | 53 | 56 | 50 |
| 2014/10/26 13:32:45 | 55 | 57 | 50 |
| 2014/10/26 13:37:45 | 55 | 58 | 50 |
| 2014/10/26 13:42:45 | 55 | 58 | 51 |
| 2014/10/26 13:47:45 | 53 | 56 | 50 |
| 2014/10/26 13:52:45 | 52 | 54 | 49 |
| 2014/10/26 13:57:45 | 55 | 58 | 50 |
| 2014/10/26 14:02:45 | 54 | 56 | 50 |
| 2014/10/26 14:07:45 | 53 | 55 | 49 |
| 2014/10/26 14:12:45 | 54 | 55 | 50 |
| 2014/10/26 14:17:45 | 54 | 56 | 50 |
| 2014/10/26 14:22:45 | 52 | 54 | 50 |
| 2014/10/26 14:27:45 | 53 | 56 | 49 |
| 2014/10/26 14:32:45 | 52 | 54 | 49 |
| 2014/10/26 14:37:45 | 54 | 56 | 50 |
| 2014/10/26 14:42:45 | 54 | 56 | 50 |
| 2014/10/26 14:47:45 | 55 | 57 | 49 |
| 2014/10/26 14:52:45 | 55 | 59 | 50 |
| 2014/10/26 14:57:45 | 56 | 58 | 51 |
| 2014/10/26 15:02:45 | 54 | 57 | 49 |
| 2014/10/26 15:07:45 | 53 | 57 | 49 |
| 2014/10/26 15:12:45 | 51 | 52 | 49 |
| 2014/10/26 15:17:45 | 54 | 55 | 50 |
| 2014/10/26 15:22:45 | 53 | 55 | 50 |
| 2014/10/26 15:27:45 | 54 | 57 | 51 |
| 2014/10/26 15:32:45 | 52 | 54 | 50 |
| 2014/10/26 15:37:45 | 54 | 57 | 51 |
| 2014/10/26 15:42:45 | 52 | 54 | 50 |
| 2014/10/26 15:47:45 | 53 | 55 | 50 |
| 2014/10/26 15:52:45 | 54 | 56 | 52 |
| 2014/10/26 15:57:45 | 55 | 57 | 52 |
| 2014/10/26 16:02:45 | 54 | 56 | 51 |
| 2014/10/26 16:07:45 | 53 | 55 | 51 |
| 2014/10/26 16:12:45 | 54 | 55 | 50 |
| 2014/10/26 16:17:45 | 55 | 57 | 51 |
| 2014/10/26 16:22:45 | 53 | 55 | 49 |
| 2014/10/26 16:27:45 | 54 | 55 | 52 |
| 2014/10/26 16:32:45 | 54 | 56 | 52 |
| 2014/10/26 16:37:45 | 53 | 55 | 51 |
| 2014/10/26 16:42:45 | 55 | 58 | 52 |
| 2014/10/26 16:47:45 | 56 | 58 | 51 |
| 2014/10/26 16:52:45 | 53 | 56 | 50 |
| 2014/10/26 16:57:45 | 54 | 57 | 50 |
| 2014/10/26 17:02:45 | 54 | 56 | 51 |
| 2014/10/26 17:07:45 | 55 | 57 | 52 |
| 2014/10/26 17:12:45 | 56 | 58 | 53 |
| 2014/10/26 17:17:45 | 54 | 55 | 52 |
| 2014/10/26 17:22:45 | 53 | 54 | 51 |
| 2014/10/26 17:27:45 | 55 | 58 | 51 |
| 2014/10/26 17:32:45 | 54 | 57 | 50 |
| 2014/10/26 17:37:45 | 55 | 56 | 50 |
| 2014/10/26 17:42:45 | 55 | 56 | 52 |
| 2014/10/26 17:47:45 | 55 | 57 | 52 |
| 2014/10/26 17:52:45 | 54 | 56 | 51 |
| 2014/10/26 17:57:45 | 53 | 55 | 50 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/26 18:02:45 | 55 | 59 | 52 |
| 2014/10/26 18:07:45 | 54 | 56 | 52 |
| 2014/10/26 18:12:45 | 55 | 57 | 50 |
| 2014/10/26 18:17:45 | 52 | 53 | 50 |
| 2014/10/26 18:22:45 | 53 | 55 | 52 |
| 2014/10/26 18:27:45 | 56 | 57 | 54 |
| 2014/10/26 18:32:45 | 55 | 57 | 53 |
| 2014/10/26 18:37:45 | 55 | 56 | 53 |
| 2014/10/26 18:42:45 | 55 | 57 | 53 |
| 2014/10/26 18:47:45 | 53 | 54 | 52 |
| 2014/10/26 18:52:45 | 55 | 58 | 53 |
| 2014/10/26 18:57:45 | 54 | 56 | 52 |
| 2014/10/26 19:02:45 | 53 | 54 | 51 |
| 2014/10/26 19:07:45 | 55 | 56 | 52 |
| 2014/10/26 19:12:45 | 52 | 53 | 51 |
| 2014/10/26 19:17:45 | 53 | 54 | 51 |
| 2014/10/26 19:22:45 | 52 | 53 | 50 |
| 2014/10/26 19:27:45 | 53 | 55 | 50 |
| 2014/10/26 19:32:45 | 50 | 52 | 49 |
| 2014/10/26 19:37:45 | 51 | 53 | 49 |
| 2014/10/26 19:42:45 | 52 | 55 | 48 |
| 2014/10/26 19:47:45 | 51 | 52 | 48 |
| 2014/10/26 19:52:45 | 51 | 54 | 48 |
| 2014/10/26 19:57:45 | 50 | 53 | 47 |
| 2014/10/26 20:02:45 | 50 | 52 | 47 |
| 2014/10/26 20:07:45 | 53 | 56 | 47 |
| 2014/10/26 20:12:45 | 51 | 53 | 48 |
| 2014/10/26 20:17:45 | 50 | 53 | 47 |
| 2014/10/26 20:22:45 | 52 | 55 | 48 |
| 2014/10/26 20:27:45 | 49 | 52 | 46 |
| 2014/10/26 20:32:45 | 48 | 50 | 46 |
| 2014/10/26 20:37:45 | 47 | 49 | 46 |
| 2014/10/26 20:42:45 | 51 | 53 | 46 |
| 2014/10/26 20:47:45 | 50 | 52 | 46 |
| 2014/10/26 20:52:45 | 52 | 54 | 49 |
| 2014/10/26 20:57:45 | 52 | 55 | 48 |
| 2014/10/26 21:02:45 | 54 | 56 | 50 |
| 2014/10/26 21:07:45 | 55 | 56 | 53 |
| 2014/10/26 21:12:45 | 54 | 55 | 53 |
| 2014/10/26 21:17:45 | 54 | 55 | 53 |
| 2014/10/26 21:22:45 | 54 | 55 | 53 |
| 2014/10/26 21:27:45 | 54 | 55 | 53 |
| 2014/10/26 21:32:45 | 54 | 55 | 53 |
| 2014/10/26 21:37:45 | 54 | 54 | 53 |
| 2014/10/26 21:42:45 | 56 | 58 | 53 |
| 2014/10/26 21:47:45 | 55 | 57 | 54 |
| 2014/10/26 21:52:45 | 54 | 54 | 53 |
| 2014/10/26 21:57:45 | 53 | 54 | 53 |
| 2014/10/26 22:02:45 | 54 | 54 | 53 |
| 2014/10/26 22:07:45 | 54 | 55 | 53 |
| 2014/10/26 22:12:45 | 54 | 55 | 54 |
| 2014/10/26 22:17:45 | 54 | 55 | 53 |
| 2014/10/26 22:22:45 | 54 | 55 | 53 |
| 2014/10/26 22:27:45 | 53 | 54 | 52 |
| 2014/10/26 22:32:45 | 54 | 55 | 53 |
| 2014/10/26 22:37:45 | 53 | 54 | 52 |
| 2014/10/26 22:42:45 | 53 | 54 | 53 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/26 22:47:45 | 54 | 56 | 53 |
| 2014/10/26 22:52:45 | 56 | 59 | 53 |
| 2014/10/26 22:57:45 | 54 | 55 | 53 |
| 2014/10/27 19:02:45 | 55 | 56 | 54 |
| 2014/10/27 19:07:45 | 55 | 56 | 54 |
| 2014/10/27 19:12:45 | 56 | 57 | 54 |
| 2014/10/27 19:17:45 | 57 | 58 | 55 |
| 2014/10/27 19:22:45 | 55 | 56 | 54 |
| 2014/10/27 19:27:45 | 56 | 56 | 54 |
| 2014/10/27 19:32:45 | 55 | 56 | 54 |
| 2014/10/27 19:37:45 | 55 | 56 | 54 |
| 2014/10/27 19:42:45 | 55 | 56 | 54 |
| 2014/10/27 19:47:45 | 54 | 55 | 53 |
| 2014/10/27 19:52:45 | 54 | 55 | 54 |
| 2014/10/27 19:57:45 | 55 | 55 | 53 |
| 2014/10/27 20:02:45 | 54 | 55 | 53 |
| 2014/10/27 20:07:45 | 56 | 57 | 53 |
| 2014/10/27 20:12:45 | 54 | 56 | 53 |
| 2014/10/27 20:17:45 | 54 | 55 | 53 |
| 2014/10/27 20:22:45 | 53 | 54 | 52 |
| 2014/10/27 20:27:45 | 53 | 54 | 52 |
| 2014/10/27 20:32:45 | 53 | 54 | 52 |
| 2014/10/27 20:37:45 | 53 | 54 | 52 |
| 2014/10/27 20:42:45 | 53 | 55 | 52 |
| 2014/10/27 20:47:45 | 53 | 54 | 52 |
| 2014/10/27 20:52:45 | 55 | 56 | 53 |
| 2014/10/27 20:57:45 | 56 | 57 | 54 |
| 2014/10/27 21:02:45 | 55 | 56 | 54 |
| 2014/10/27 21:07:45 | 55 | 56 | 55 |
| 2014/10/27 21:12:45 | 56 | 56 | 55 |
| 2014/10/27 21:17:45 | 56 | 57 | 55 |
| 2014/10/27 21:22:45 | 55 | 56 | 54 |
| 2014/10/27 21:27:45 | 55 | 56 | 54 |
| 2014/10/27 21:32:45 | 55 | 55 | 54 |
| 2014/10/27 21:37:45 | 55 | 56 | 54 |
| 2014/10/27 21:42:45 | 55 | 55 | 54 |
| 2014/10/27 21:47:45 | 55 | 56 | 54 |
| 2014/10/27 21:52:45 | 55 | 56 | 54 |
| 2014/10/27 21:57:45 | 57 | 58 | 55 |
| 2014/10/27 22:02:45 | 56 | 59 | 54 |
| 2014/10/27 22:07:45 | 55 | 56 | 54 |
| 2014/10/27 22:12:45 | 55 | 57 | 54 |
| 2014/10/27 22:17:45 | 56 | 58 | 54 |
| 2014/10/27 22:22:45 | 55 | 57 | 54 |
| 2014/10/27 22:27:45 | 55 | 56 | 54 |
| 2014/10/27 22:32:45 | 56 | 57 | 54 |
| 2014/10/27 22:37:45 | 55 | 56 | 54 |
| 2014/10/27 22:42:45 | 56 | 57 | 54 |
| 2014/10/27 22:47:45 | 56 | 57 | 54 |
| 2014/10/27 22:52:45 | 56 | 57 | 54 |
| 2014/10/27 22:57:45 | 56 | 57 | 54 |
| 2014/10/28 19:01:30 | 55 | 56 | 54 |
| 2014/10/28 19:06:30 | 55 | 56 | 53 |
| 2014/10/28 19:11:30 | 54 | 55 | 52 |
| 2014/10/28 19:16:30 | 54 | 55 | 51 |
| 2014/10/28 19:21:30 | 53 | 54 | 50 |
| 2014/10/28 19:26:30 | 52 | 54 | 50 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/28 19:31:30 | 51 | 53 | 49 |
| 2014/10/28 19:36:30 | 53 | 55 | 49 |
| 2014/10/28 19:41:30 | 50 | 51 | 48 |
| 2014/10/28 19:46:30 | 50 | 51 | 48 |
| 2014/10/28 19:51:30 | 52 | 54 | 48 |
| 2014/10/28 19:56:30 | 51 | 53 | 48 |
| 2014/10/28 20:01:30 | 54 | 55 | 47 |
| 2014/10/28 20:06:30 | 50 | 52 | 48 |
| 2014/10/28 20:11:30 | 49 | 51 | 47 |
| 2014/10/28 20:16:30 | 49 | 50 | 47 |
| 2014/10/28 20:21:30 | 51 | 51 | 46 |
| 2014/10/28 20:26:30 | 49 | 51 | 47 |
| 2014/10/28 20:31:30 | 50 | 53 | 47 |
| 2014/10/28 20:36:30 | 49 | 50 | 47 |
| 2014/10/28 20:41:30 | 49 | 50 | 47 |
| 2014/10/28 20:46:30 | 50 | 51 | 48 |
| 2014/10/28 20:51:30 | 49 | 50 | 48 |
| 2014/10/28 20:56:30 | 51 | 52 | 50 |
| 2014/10/28 21:01:30 | 53 | 54 | 52 |
| 2014/10/28 21:06:30 | 53 | 54 | 52 |
| 2014/10/28 21:11:30 | 53 | 54 | 52 |
| 2014/10/28 21:16:30 | 54 | 54 | 53 |
| 2014/10/28 21:21:30 | 54 | 55 | 53 |
| 2014/10/28 21:26:30 | 54 | 55 | 54 |
| 2014/10/28 21:31:30 | 55 | 55 | 54 |
| 2014/10/28 21:36:30 | 55 | 56 | 54 |
| 2014/10/28 21:41:30 | 54 | 55 | 54 |
| 2014/10/28 21:46:30 | 55 | 55 | 54 |
| 2014/10/28 21:51:30 | 56 | 57 | 55 |
| 2014/10/28 21:56:30 | 55 | 56 | 54 |
| 2014/10/28 22:01:30 | 55 | 56 | 55 |
| 2014/10/28 22:06:30 | 55 | 56 | 55 |
| 2014/10/28 22:11:30 | 55 | 56 | 54 |
| 2014/10/28 22:16:30 | 55 | 56 | 54 |
| 2014/10/28 22:21:30 | 55 | 55 | 54 |
| 2014/10/28 22:26:30 | 55 | 55 | 54 |
| 2014/10/28 22:31:30 | 55 | 55 | 54 |
| 2014/10/28 22:36:30 | 55 | 55 | 54 |
| 2014/10/28 22:41:30 | 55 | 55 | 54 |
| 2014/10/28 22:46:30 | 55 | 56 | 54 |
| 2014/10/28 22:51:30 | 55 | 56 | 54 |
| 2014/10/28 22:56:30 | 55 | 56 | 54 |
| 2014/10/29 19:01:30 | 58 | 59 | 57 |
| 2014/10/29 19:06:30 | 57 | 58 | 56 |
| 2014/10/29 19:11:30 | 56 | 57 | 56 |
| 2014/10/29 19:16:30 | 57 | 57 | 55 |
| 2014/10/29 19:21:30 | 56 | 57 | 54 |
| 2014/10/29 19:26:30 | 55 | 56 | 54 |
| 2014/10/29 19:31:30 | 54 | 55 | 53 |
| 2014/10/29 19:36:30 | 54 | 55 | 53 |
| 2014/10/29 19:41:30 | 53 | 54 | 53 |
| 2014/10/29 19:46:30 | 54 | 55 | 53 |
| 2014/10/29 19:51:30 | 54 | 55 | 53 |
| 2014/10/29 19:56:30 | 54 | 55 | 53 |
| 2014/10/29 20:01:30 | 56 | 57 | 53 |
| 2014/10/29 20:06:30 | 55 | 57 | 54 |
| 2014/10/29 20:11:30 | 56 | 57 | 53 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/29 20:16:30 | 54 | 56 | 53 |
| 2014/10/29 20:21:30 | 56 | 57 | 54 |
| 2014/10/29 20:26:30 | 54 | 56 | 52 |
| 2014/10/29 20:31:30 | 57 | 59 | 52 |
| 2014/10/29 20:36:30 | 53 | 56 | 49 |
| 2014/10/29 20:41:30 | 52 | 54 | 48 |
| 2014/10/29 20:46:30 | 53 | 55 | 48 |
| 2014/10/29 20:51:30 | 50 | 52 | 47 |
| 2014/10/29 20:56:30 | 50 | 52 | 47 |
| 2014/10/29 21:01:30 | 51 | 53 | 47 |
| 2014/10/29 21:06:30 | 51 | 55 | 46 |
| 2014/10/29 21:11:30 | 52 | 53 | 49 |
| 2014/10/29 21:16:30 | 50 | 52 | 47 |
| 2014/10/29 21:21:30 | 49 | 50 | 47 |
| 2014/10/29 21:26:30 | 49 | 50 | 47 |
| 2014/10/29 21:31:30 | 49 | 51 | 47 |
| 2014/10/29 21:36:30 | 48 | 50 | 45 |
| 2014/10/29 21:41:30 | 49 | 50 | 46 |
| 2014/10/29 21:46:30 | 49 | 51 | 46 |
| 2014/10/29 21:51:30 | 48 | 51 | 46 |
| 2014/10/29 21:56:30 | 48 | 51 | 45 |
| 2014/10/29 22:01:30 | 49 | 52 | 47 |
| 2014/10/29 22:06:30 | 50 | 52 | 46 |
| 2014/10/29 22:11:30 | 50 | 52 | 46 |
| 2014/10/29 22:16:30 | 50 | 52 | 48 |
| 2014/10/29 22:21:30 | 51 | 52 | 47 |
| 2014/10/29 22:26:30 | 50 | 52 | 48 |
| 2014/10/29 22:31:30 | 48 | 50 | 45 |
| 2014/10/29 22:36:30 | 46 | 47 | 45 |
| 2014/10/29 22:41:30 | 49 | 51 | 46 |
| 2014/10/29 22:46:30 | 48 | 49 | 45 |
| 2014/10/29 22:51:30 | 51 | 55 | 45 |
| 2014/10/29 22:56:30 | 48 | 51 | 46 |
| 2014/10/30 19:01:30 | 58 | 59 | 56 |
| 2014/10/30 19:06:30 | 57 | 58 | 56 |
| 2014/10/30 19:11:30 | 57 | 58 | 56 |
| 2014/10/30 19:16:30 | 57 | 59 | 56 |
| 2014/10/30 19:21:30 | 57 | 58 | 55 |
| 2014/10/30 19:26:30 | 58 | 59 | 55 |
| 2014/10/30 19:31:30 | 58 | 59 | 55 |
| 2014/10/30 19:36:30 | 57 | 58 | 54 |
| 2014/10/30 19:41:30 | 55 | 56 | 54 |
| 2014/10/30 19:46:30 | 55 | 56 | 53 |
| 2014/10/30 19:51:30 | 55 | 57 | 52 |
| 2014/10/30 19:56:30 | 55 | 58 | 53 |
| 2014/10/30 20:01:30 | 53 | 55 | 52 |
| 2014/10/30 20:06:30 | 54 | 55 | 52 |
| 2014/10/30 20:11:30 | 53 | 54 | 51 |
| 2014/10/30 20:16:30 | 53 | 54 | 51 |
| 2014/10/30 20:21:30 | 53 | 55 | 51 |
| 2014/10/30 20:26:30 | 53 | 54 | 51 |
| 2014/10/30 20:31:30 | 53 | 54 | 51 |
| 2014/10/30 20:36:30 | 53 | 55 | 51 |
| 2014/10/30 20:41:30 | 53 | 54 | 51 |
| 2014/10/30 20:46:30 | 54 | 54 | 51 |
| 2014/10/30 20:51:30 | 52 | 53 | 51 |
| 2014/10/30 20:56:30 | 53 | 53 | 52 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/30 21:01:30 | 54 | 54 | 53 |
| 2014/10/30 21:06:30 | 54 | 55 | 53 |
| 2014/10/30 21:11:30 | 55 | 56 | 54 |
| 2014/10/30 21:16:30 | 55 | 57 | 54 |
| 2014/10/30 21:21:30 | 55 | 56 | 54 |
| 2014/10/30 21:26:30 | 56 | 57 | 54 |
| 2014/10/30 21:31:30 | 56 | 58 | 55 |
| 2014/10/30 21:36:30 | 56 | 56 | 54 |
| 2014/10/30 21:41:30 | 56 | 57 | 55 |
| 2014/10/30 21:46:30 | 56 | 57 | 54 |
| 2014/10/30 21:51:30 | 56 | 57 | 55 |
| 2014/10/30 21:56:30 | 56 | 58 | 55 |
| 2014/10/30 22:01:30 | 54 | 55 | 54 |
| 2014/10/30 22:06:30 | 55 | 57 | 54 |
| 2014/10/30 22:11:30 | 55 | 56 | 54 |
| 2014/10/30 22:16:30 | 55 | 56 | 54 |
| 2014/10/30 22:21:30 | 55 | 56 | 54 |
| 2014/10/30 22:26:30 | 55 | 55 | 54 |
| 2014/10/30 22:31:30 | 55 | 56 | 54 |
| 2014/10/30 22:36:30 | 55 | 57 | 54 |
| 2014/10/30 22:41:30 | 55 | 56 | 54 |
| 2014/10/30 22:46:30 | 55 | 55 | 54 |
| 2014/10/30 22:51:30 | 55 | 56 | 54 |
| 2014/10/30 22:56:30 | 55 | 55 | 54 |
| 2014/10/31 19:03:53 | 57 | 58 | 56 |
| 2014/10/31 19:08:53 | 56 | 57 | 55 |
| 2014/10/31 19:13:53 | 56 | 57 | 55 |
| 2014/10/31 19:18:53 | 55 | 56 | 54 |
| 2014/10/31 19:23:53 | 56 | 57 | 54 |
| 2014/10/31 19:28:53 | 55 | 56 | 53 |
| 2014/10/31 19:33:53 | 54 | 55 | 52 |
| 2014/10/31 19:38:53 | 56 | 58 | 52 |
| 2014/10/31 19:43:53 | 53 | 55 | 50 |
| 2014/10/31 19:48:53 | 54 | 56 | 51 |
| 2014/10/31 19:53:53 | 53 | 56 | 50 |
| 2014/10/31 19:58:53 | 53 | 55 | 49 |
| 2014/10/31 20:03:53 | 52 | 54 | 50 |
| 2014/10/31 20:08:53 | 52 | 54 | 49 |
| 2014/10/31 20:13:53 | 51 | 54 | 48 |
| 2014/10/31 20:18:53 | 52 | 54 | 49 |
| 2014/10/31 20:23:53 | 53 | 55 | 50 |
| 2014/10/31 20:28:53 | 52 | 54 | 50 |
| 2014/10/31 20:33:53 | 51 | 52 | 48 |
| 2014/10/31 20:38:53 | 50 | 52 | 48 |
| 2014/10/31 20:43:53 | 51 | 53 | 48 |
| 2014/10/31 20:48:53 | 51 | 53 | 48 |
| 2014/10/31 20:53:53 | 53 | 56 | 48 |
| 2014/10/31 20:58:53 | 51 | 53 | 47 |
| 2014/10/31 21:03:53 | 52 | 54 | 50 |
| 2014/10/31 21:08:53 | 55 | 56 | 53 |
| 2014/10/31 21:13:53 | 54 | 55 | 52 |
| 2014/10/31 21:18:53 | 53 | 54 | 52 |
| 2014/10/31 21:23:53 | 53 | 54 | 52 |
| 2014/10/31 21:28:53 | 53 | 54 | 52 |
| 2014/10/31 21:33:53 | 53 | 54 | 52 |
| 2014/10/31 21:38:53 | 54 | 56 | 53 |
| 2014/10/31 21:43:53 | 54 | 55 | 53 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/31 21:48:53 | 54 | 55 | 53 |
| 2014/10/31 21:53:53 | 54 | 55 | 52 |
| 2014/10/31 21:58:53 | 54 | 56 | 52 |
| 2014/10/31 22:03:53 | 53 | 55 | 52 |
| 2014/10/31 22:08:53 | 53 | 54 | 52 |
| 2014/10/31 22:13:53 | 53 | 54 | 52 |
| 2014/10/31 22:18:53 | 53 | 54 | 52 |
| 2014/10/31 22:23:53 | 53 | 55 | 52 |
| 2014/10/31 22:28:53 | 54 | 57 | 52 |
| 2014/10/31 22:33:53 | 53 | 55 | 52 |
| 2014/10/31 22:38:53 | 55 | 57 | 52 |
| 2014/10/31 22:43:53 | 54 | 55 | 52 |
| 2014/10/31 22:48:53 | 54 | 56 | 52 |
| 2014/10/31 22:53:53 | 56 | 58 | 52 |
| 2014/10/31 22:58:53 | 53 | 54 | 52 |
| 2014/11/01 19:03:53 | 58 | 59 | 57 |
| 2014/11/01 19:08:53 | 58 | 59 | 56 |
| 2014/11/01 19:13:53 | 56 | 58 | 55 |
| 2014/11/01 19:18:53 | 57 | 58 | 55 |
| 2014/11/01 19:23:53 | 56 | 56 | 55 |
| 2014/11/01 19:28:53 | 56 | 57 | 54 |
| 2014/11/01 19:33:53 | 56 | 57 | 54 |
| 2014/11/01 19:38:53 | 56 | 57 | 54 |
| 2014/11/01 19:43:53 | 55 | 57 | 53 |
| 2014/11/01 19:48:53 | 55 | 58 | 52 |
| 2014/11/01 19:53:53 | 57 | 60 | 52 |
| 2014/11/01 19:58:53 | 55 | 58 | 50 |
| 2014/11/01 20:03:53 | 53 | 55 | 50 |
| 2014/11/01 20:08:53 | 56 | 58 | 52 |
| 2014/11/01 20:13:53 | 53 | 55 | 50 |
| 2014/11/01 20:18:53 | 53 | 56 | 50 |
| 2014/11/01 20:23:53 | 51 | 52 | 48 |
| 2014/11/01 20:28:53 | 50 | 52 | 47 |
| 2014/11/01 20:33:53 | 51 | 52 | 49 |
| 2014/11/01 20:38:53 | 52 | 54 | 49 |
| 2014/11/01 20:43:53 | 51 | 54 | 47 |
| 2014/11/01 20:48:53 | 50 | 52 | 48 |
| 2014/11/01 20:53:53 | 50 | 52 | 47 |
| 2014/11/01 20:58:53 | 52 | 56 | 48 |
| 2014/11/01 21:03:53 | 51 | 53 | 48 |
| 2014/11/01 21:08:53 | 52 | 54 | 50 |
| 2014/11/01 21:13:53 | 54 | 57 | 52 |
| 2014/11/01 21:18:53 | 53 | 55 | 51 |
| 2014/11/01 21:23:53 | 55 | 58 | 52 |
| 2014/11/01 21:28:53 | 53 | 55 | 52 |
| 2014/11/01 21:33:53 | 54 | 56 | 52 |
| 2014/11/01 21:38:53 | 53 | 54 | 52 |
| 2014/11/01 21:43:53 | 53 | 54 | 53 |
| 2014/11/01 21:48:53 | 53 | 54 | 52 |
| 2014/11/01 21:53:53 | 53 | 54 | 52 |
| 2014/11/01 21:58:53 | 53 | 55 | 52 |
| 2014/11/01 22:03:53 | 53 | 54 | 52 |
| 2014/11/01 22:08:53 | 54 | 55 | 52 |
| 2014/11/01 22:13:53 | 54 | 55 | 53 |
| 2014/11/01 22:18:53 | 53 | 53 | 52 |
| 2014/11/01 22:23:53 | 53 | 54 | 52 |
| 2014/11/01 22:28:53 | 54 | 55 | 52 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/01 22:33:53 | 52 | 53 | 51 |
| 2014/11/01 22:38:53 | 52 | 53 | 51 |
| 2014/11/01 22:43:53 | 52 | 53 | 51 |
| 2014/11/01 22:48:53 | 53 | 55 | 51 |
| 2014/11/01 22:53:53 | 52 | 53 | 51 |
| 2014/11/01 22:58:53 | 53 | 54 | 51 |
| 2014/11/02 07:03:53 | 54 | 57 | 51 |
| 2014/11/02 07:08:53 | 53 | 57 | 50 |
| 2014/11/02 07:13:53 | 51 | 52 | 50 |
| 2014/11/02 07:18:53 | 53 | 55 | 51 |
| 2014/11/02 07:23:53 | 55 | 56 | 52 |
| 2014/11/02 07:28:53 | 54 | 56 | 51 |
| 2014/11/02 07:33:53 | 55 | 57 | 51 |
| 2014/11/02 07:38:53 | 53 | 54 | 51 |
| 2014/11/02 07:43:53 | 52 | 53 | 51 |
| 2014/11/02 07:48:53 | 53 | 54 | 52 |
| 2014/11/02 07:53:53 | 53 | 55 | 51 |
| 2014/11/02 07:58:53 | 54 | 57 | 51 |
| 2014/11/02 08:03:53 | 54 | 55 | 52 |
| 2014/11/02 08:08:53 | 55 | 58 | 52 |
| 2014/11/02 08:13:53 | 54 | 55 | 52 |
| 2014/11/02 08:18:53 | 56 | 58 | 53 |
| 2014/11/02 08:23:53 | 59 | 60 | 54 |
| 2014/11/02 08:28:53 | 60 | 62 | 58 |
| 2014/11/02 08:33:53 | 58 | 60 | 55 |
| 2014/11/02 08:38:53 | 57 | 58 | 55 |
| 2014/11/02 08:43:53 | 58 | 59 | 56 |
| 2014/11/02 08:48:53 | 57 | 58 | 55 |
| 2014/11/02 08:53:53 | 57 | 59 | 56 |
| 2014/11/02 08:58:53 | 57 | 59 | 56 |
| 2014/11/02 09:03:53 | 58 | 59 | 56 |
| 2014/11/02 09:08:53 | 58 | 60 | 56 |
| 2014/11/02 09:13:53 | 57 | 59 | 56 |
| 2014/11/02 09:18:53 | 56 | 59 | 50 |
| 2014/11/02 09:23:53 | 57 | 58 | 56 |
| 2014/11/02 09:28:53 | 59 | 61 | 57 |
| 2014/11/02 09:33:53 | 58 | 59 | 56 |
| 2014/11/02 09:38:53 | 57 | 58 | 55 |
| 2014/11/02 09:43:53 | 56 | 57 | 55 |
| 2014/11/02 09:48:53 | 57 | 58 | 55 |
| 2014/11/02 09:53:53 | 56 | 57 | 55 |
| 2014/11/02 09:58:53 | 57 | 58 | 55 |
| 2014/11/02 10:03:53 | 57 | 58 | 55 |
| 2014/11/02 10:08:53 | 56 | 59 | 50 |
| 2014/11/02 10:13:53 | 54 | 57 | 50 |
| 2014/11/02 10:18:53 | 50 | 51 | 48 |
| 2014/11/02 10:23:53 | 52 | 54 | 48 |
| 2014/11/02 10:28:53 | 55 | 58 | 51 |
| 2014/11/02 10:33:53 | 50 | 52 | 49 |
| 2014/11/02 10:38:53 | 52 | 54 | 50 |
| 2014/11/02 10:43:53 | 55 | 57 | 52 |
| 2014/11/02 10:48:53 | 53 | 55 | 50 |
| 2014/11/02 10:53:53 | 53 | 56 | 49 |
| 2014/11/02 10:58:53 | 53 | 54 | 50 |
| 2014/11/02 11:03:53 | 53 | 55 | 49 |
| 2014/11/02 11:08:53 | 53 | 55 | 49 |
| 2014/11/02 11:13:53 | 54 | 55 | 51 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/02 11:18:53 | 53 | 56 | 51 |
| 2014/11/02 11:23:53 | 54 | 57 | 51 |
| 2014/11/02 11:28:53 | 54 | 57 | 51 |
| 2014/11/02 11:33:53 | 53 | 56 | 50 |
| 2014/11/02 11:38:53 | 55 | 56 | 51 |
| 2014/11/02 11:43:53 | 52 | 54 | 50 |
| 2014/11/02 11:48:53 | 51 | 52 | 49 |
| 2014/11/02 11:53:53 | 54 | 57 | 51 |
| 2014/11/02 11:58:53 | 54 | 56 | 51 |
| 2014/11/02 12:03:53 | 53 | 55 | 50 |
| 2014/11/02 12:08:53 | 51 | 53 | 49 |
| 2014/11/02 12:13:53 | 52 | 54 | 50 |
| 2014/11/02 12:18:53 | 52 | 53 | 49 |
| 2014/11/02 12:23:53 | 53 | 55 | 50 |
| 2014/11/02 12:28:53 | 54 | 57 | 50 |
| 2014/11/02 12:33:53 | 53 | 55 | 51 |
| 2014/11/02 12:38:53 | 53 | 55 | 50 |
| 2014/11/02 12:43:53 | 52 | 54 | 49 |
| 2014/11/02 12:48:53 | 53 | 54 | 51 |
| 2014/11/02 12:53:53 | 53 | 55 | 51 |
| 2014/11/02 12:58:53 | 54 | 56 | 51 |
| 2014/11/02 13:03:53 | 55 | 58 | 51 |
| 2014/11/02 13:08:53 | 56 | 59 | 50 |
| 2014/11/02 13:13:53 | 52 | 54 | 49 |
| 2014/11/02 13:18:53 | 54 | 57 | 50 |
| 2014/11/02 13:23:53 | 53 | 57 | 49 |
| 2014/11/02 13:28:53 | 52 | 55 | 49 |
| 2014/11/02 13:33:53 | 51 | 53 | 49 |
| 2014/11/02 13:38:53 | 54 | 57 | 50 |
| 2014/11/02 13:43:53 | 55 | 59 | 50 |
| 2014/11/02 13:48:53 | 55 | 57 | 52 |
| 2014/11/02 13:53:53 | 53 | 54 | 51 |
| 2014/11/02 13:58:53 | 57 | 60 | 50 |
| 2014/11/02 14:03:53 | 54 | 56 | 50 |
| 2014/11/02 14:08:53 | 54 | 57 | 50 |
| 2014/11/02 14:13:53 | 57 | 60 | 51 |
| 2014/11/02 14:18:53 | 54 | 57 | 49 |
| 2014/11/02 14:23:53 | 55 | 58 | 50 |
| 2014/11/02 14:28:53 | 55 | 56 | 52 |
| 2014/11/02 14:33:53 | 54 | 56 | 52 |
| 2014/11/02 14:38:53 | 55 | 58 | 51 |
| 2014/11/02 14:43:53 | 55 | 57 | 51 |
| 2014/11/02 14:48:53 | 52 | 55 | 50 |
| 2014/11/02 14:53:53 | 55 | 57 | 52 |
| 2014/11/02 14:58:53 | 53 | 55 | 51 |
| 2014/11/02 15:03:53 | 56 | 58 | 53 |
| 2014/11/02 15:08:53 | 55 | 58 | 51 |
| 2014/11/02 15:13:53 | 53 | 55 | 50 |
| 2014/11/02 15:18:53 | 55 | 57 | 50 |
| 2014/11/02 15:23:53 | 54 | 56 | 49 |
| 2014/11/02 15:28:53 | 54 | 56 | 51 |
| 2014/11/02 15:33:53 | 54 | 57 | 50 |
| 2014/11/02 15:38:53 | 54 | 55 | 50 |
| 2014/11/02 15:43:53 | 52 | 54 | 50 |
| 2014/11/02 15:48:53 | 54 | 56 | 50 |
| 2014/11/02 15:53:53 | 54 | 56 | 50 |
| 2014/11/02 15:58:53 | 53 | 55 | 51 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/02 16:03:53 | 54 | 55 | 51 |
| 2014/11/02 16:08:53 | 54 | 56 | 51 |
| 2014/11/02 16:13:53 | 52 | 53 | 50 |
| 2014/11/02 16:18:53 | 53 | 55 | 50 |
| 2014/11/02 16:23:53 | 55 | 57 | 52 |
| 2014/11/02 16:28:53 | 56 | 59 | 52 |
| 2014/11/02 16:33:53 | 54 | 56 | 52 |
| 2014/11/02 16:38:53 | 55 | 57 | 52 |
| 2014/11/02 16:43:53 | 55 | 57 | 52 |
| 2014/11/02 16:48:53 | 55 | 57 | 52 |
| 2014/11/02 16:53:53 | 54 | 56 | 52 |
| 2014/11/02 16:58:53 | 55 | 57 | 53 |
| 2014/11/02 17:03:53 | 54 | 56 | 52 |
| 2014/11/02 17:08:53 | 55 | 56 | 52 |
| 2014/11/02 17:13:53 | 56 | 58 | 52 |
| 2014/11/02 17:18:53 | 54 | 55 | 51 |
| 2014/11/02 17:23:53 | 54 | 56 | 51 |
| 2014/11/02 17:28:53 | 56 | 58 | 52 |
| 2014/11/02 17:33:53 | 55 | 57 | 52 |
| 2014/11/02 17:38:53 | 55 | 58 | 52 |
| 2014/11/02 17:43:53 | 55 | 56 | 52 |
| 2014/11/02 17:48:53 | 53 | 54 | 50 |
| 2014/11/02 17:53:53 | 55 | 58 | 50 |
| 2014/11/02 17:58:53 | 54 | 56 | 50 |
| 2014/11/02 18:03:53 | 51 | 53 | 50 |
| 2014/11/02 18:08:53 | 53 | 55 | 51 |
| 2014/11/02 18:13:53 | 54 | 55 | 51 |
| 2014/11/02 18:18:53 | 55 | 56 | 53 |
| 2014/11/02 18:23:53 | 57 | 58 | 55 |
| 2014/11/02 18:28:53 | 57 | 59 | 56 |
| 2014/11/02 18:33:53 | 57 | 58 | 56 |
| 2014/11/02 18:38:53 | 56 | 57 | 55 |
| 2014/11/02 18:43:53 | 56 | 57 | 56 |
| 2014/11/02 18:48:53 | 56 | 57 | 55 |
| 2014/11/02 18:53:53 | 56 | 57 | 55 |
| 2014/11/02 18:58:53 | 56 | 58 | 54 |
| 2014/11/02 19:03:53 | 56 | 58 | 54 |
| 2014/11/02 19:08:53 | 55 | 57 | 54 |
| 2014/11/02 19:13:53 | 54 | 55 | 53 |
| 2014/11/02 19:18:53 | 53 | 55 | 52 |
| 2014/11/02 19:23:53 | 52 | 53 | 50 |
| 2014/11/02 19:28:53 | 52 | 54 | 50 |
| 2014/11/02 19:33:53 | 52 | 53 | 50 |
| 2014/11/02 19:38:53 | 51 | 52 | 50 |
| 2014/11/02 19:43:53 | 51 | 53 | 49 |
| 2014/11/02 19:48:53 | 52 | 54 | 49 |
| 2014/11/02 19:53:53 | 50 | 53 | 48 |
| 2014/11/02 19:58:53 | 50 | 53 | 47 |
| 2014/11/02 20:03:53 | 49 | 50 | 47 |
| 2014/11/02 20:08:53 | 53 | 55 | 49 |
| 2014/11/02 20:13:53 | 48 | 50 | 46 |
| 2014/11/02 20:18:53 | 48 | 49 | 46 |
| 2014/11/02 20:23:53 | 49 | 51 | 48 |
| 2014/11/02 20:28:53 | 49 | 51 | 48 |
| 2014/11/02 20:33:53 | 51 | 53 | 48 |
| 2014/11/02 20:38:53 | 53 | 56 | 49 |
| 2014/11/02 20:43:53 | 52 | 54 | 49 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/02 20:48:53 | 52 | 54 | 51 |
| 2014/11/02 20:53:53 | 52 | 53 | 51 |
| 2014/11/02 20:58:53 | 52 | 53 | 51 |
| 2014/11/02 21:03:53 | 53 | 54 | 52 |
| 2014/11/02 21:08:53 | 54 | 55 | 52 |
| 2014/11/02 21:13:53 | 54 | 56 | 52 |
| 2014/11/02 21:18:53 | 54 | 54 | 52 |
| 2014/11/02 21:23:53 | 53 | 54 | 52 |
| 2014/11/02 21:28:53 | 53 | 53 | 52 |
| 2014/11/02 21:33:53 | 54 | 55 | 53 |
| 2014/11/02 21:38:53 | 54 | 55 | 52 |
| 2014/11/02 21:43:53 | 53 | 53 | 52 |
| 2014/11/02 21:48:53 | 53 | 54 | 52 |
| 2014/11/02 21:53:53 | 53 | 53 | 52 |
| 2014/11/02 21:58:53 | 53 | 53 | 52 |
| 2014/11/02 22:03:53 | 53 | 53 | 52 |
| 2014/11/02 22:08:53 | 53 | 54 | 52 |
| 2014/11/02 22:13:53 | 52 | 53 | 52 |
| 2014/11/02 22:18:53 | 54 | 55 | 52 |
| 2014/11/02 22:23:53 | 53 | 53 | 52 |
| 2014/11/02 22:28:53 | 52 | 53 | 52 |
| 2014/11/02 22:33:53 | 53 | 53 | 52 |
| 2014/11/02 22:38:53 | 53 | 54 | 52 |
| 2014/11/02 22:43:53 | 54 | 55 | 52 |
| 2014/11/02 22:48:53 | 53 | 54 | 52 |
| 2014/11/02 22:53:53 | 53 | 53 | 52 |
| 2014/11/02 22:58:53 | 53 | 54 | 52 |
| 2014/11/03 19:03:53 | 57 | 59 | 55 |
| 2014/11/03 19:08:53 | 57 | 59 | 55 |
| 2014/11/03 19:13:53 | 57 | 59 | 55 |
| 2014/11/03 19:18:53 | 57 | 59 | 55 |
| 2014/11/03 19:23:53 | 56 | 58 | 53 |
| 2014/11/03 19:28:53 | 57 | 59 | 54 |
| 2014/11/03 19:33:53 | 55 | 57 | 52 |
| 2014/11/03 19:38:53 | 54 | 57 | 51 |
| 2014/11/03 19:43:53 | 57 | 59 | 53 |
| 2014/11/03 19:48:53 | 55 | 58 | 52 |
| 2014/11/03 19:53:53 | 54 | 56 | 49 |
| 2014/11/03 19:58:53 | 51 | 54 | 48 |
| 2014/11/03 20:03:53 | 51 | 53 | 48 |
| 2014/11/03 20:08:53 | 50 | 52 | 47 |
| 2014/11/03 20:13:53 | 50 | 51 | 47 |
| 2014/11/03 20:18:53 | 49 | 51 | 47 |
| 2014/11/03 20:23:53 | 49 | 50 | 47 |
| 2014/11/03 20:28:53 | 49 | 50 | 47 |
| 2014/11/03 20:33:53 | 51 | 53 | 47 |
| 2014/11/03 20:38:53 | 50 | 53 | 48 |
| 2014/11/03 20:43:53 | 50 | 52 | 48 |
| 2014/11/03 20:48:53 | 48 | 50 | 47 |
| 2014/11/03 20:53:53 | 49 | 50 | 47 |
| 2014/11/03 20:58:53 | 50 | 52 | 47 |
| 2014/11/03 21:03:53 | 50 | 51 | 48 |
| 2014/11/03 21:08:53 | 51 | 51 | 48 |
| 2014/11/03 21:13:53 | 49 | 50 | 48 |
| 2014/11/03 21:18:53 | 49 | 50 | 47 |
| 2014/11/03 21:23:53 | 49 | 50 | 47 |
| 2014/11/03 21:28:53 | 48 | 49 | 46 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/03 21:33:53 | 51 | 53 | 46 |
| 2014/11/03 21:38:53 | 50 | 52 | 48 |
| 2014/11/03 21:43:53 | 49 | 51 | 46 |
| 2014/11/03 21:48:53 | 49 | 51 | 48 |
| 2014/11/03 21:53:53 | 51 | 53 | 48 |
| 2014/11/03 21:58:53 | 49 | 51 | 46 |
| 2014/11/03 22:03:53 | 49 | 52 | 46 |
| 2014/11/03 22:08:53 | 48 | 50 | 45 |
| 2014/11/03 22:13:53 | 47 | 49 | 44 |
| 2014/11/03 22:18:53 | 47 | 48 | 44 |
| 2014/11/03 22:23:53 | 46 | 47 | 43 |
| 2014/11/03 22:28:53 | 48 | 51 | 44 |
| 2014/11/03 22:33:53 | 47 | 50 | 43 |
| 2014/11/03 22:38:53 | 47 | 50 | 44 |
| 2014/11/03 22:43:53 | 45 | 47 | 43 |
| 2014/11/03 22:48:53 | 47 | 50 | 43 |
| 2014/11/03 22:53:53 | 46 | 48 | 44 |
| 2014/11/03 22:58:53 | 45 | 47 | 43 |
| 2014/11/04 19:01:10 | 60 | 61 | 58 |
| 2014/11/04 19:06:10 | 59 | 61 | 57 |
| 2014/11/04 19:11:10 | 59 | 61 | 57 |
| 2014/11/04 19:16:10 | 59 | 61 | 57 |
| 2014/11/04 19:21:10 | 59 | 61 | 57 |
| 2014/11/04 19:26:10 | 58 | 60 | 56 |
| 2014/11/04 19:31:10 | 58 | 60 | 56 |
| 2014/11/04 19:36:10 | 58 | 59 | 55 |
| 2014/11/04 19:41:10 | 57 | 59 | 54 |
| 2014/11/04 19:46:10 | 58 | 60 | 54 |
| 2014/11/04 19:51:10 | 57 | 59 | 54 |
| 2014/11/04 19:56:10 | 56 | 58 | 53 |
| 2014/11/04 20:01:10 | 55 | 58 | 51 |
| 2014/11/04 20:06:10 | 55 | 58 | 50 |
| 2014/11/04 20:11:10 | 53 | 56 | 49 |
| 2014/11/04 20:16:10 | 55 | 58 | 50 |
| 2014/11/04 20:21:10 | 54 | 57 | 50 |
| 2014/11/04 20:26:10 | 54 | 57 | 49 |
| 2014/11/04 20:31:10 | 54 | 57 | 50 |
| 2014/11/04 20:36:10 | 53 | 56 | 49 |
| 2014/11/04 20:41:10 | 53 | 56 | 49 |
| 2014/11/04 20:46:10 | 54 | 57 | 50 |
| 2014/11/04 20:51:10 | 52 | 56 | 47 |
| 2014/11/04 20:56:10 | 53 | 55 | 48 |
| 2014/11/04 21:01:10 | 52 | 54 | 48 |
| 2014/11/04 21:06:10 | 51 | 54 | 47 |
| 2014/11/04 21:11:10 | 52 | 54 | 48 |
| 2014/11/04 21:16:10 | 51 | 53 | 46 |
| 2014/11/04 21:21:10 | 51 | 53 | 47 |
| 2014/11/04 21:26:10 | 51 | 54 | 47 |
| 2014/11/04 21:31:10 | 53 | 53 | 46 |
| 2014/11/04 21:36:10 | 52 | 53 | 49 |
| 2014/11/04 21:41:10 | 52 | 54 | 50 |
| 2014/11/04 21:46:10 | 50 | 52 | 47 |
| 2014/11/04 21:51:10 | 52 | 55 | 47 |
| 2014/11/04 21:56:10 | 50 | 52 | 48 |
| 2014/11/04 22:01:10 | 52 | 54 | 49 |
| 2014/11/04 22:06:10 | 50 | 52 | 48 |
| 2014/11/04 22:11:10 | 49 | 51 | 47 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/04 22:16:10 | 50 | 53 | 46 |
| 2014/11/04 22:21:10 | 53 | 57 | 48 |
| 2014/11/04 22:26:10 | 52 | 56 | 47 |
| 2014/11/04 22:31:10 | 53 | 56 | 49 |
| 2014/11/04 22:36:10 | 51 | 54 | 47 |
| 2014/11/04 22:41:10 | 51 | 55 | 47 |
| 2014/11/04 22:46:10 | 51 | 54 | 47 |
| 2014/11/04 22:51:10 | 51 | 54 | 48 |
| 2014/11/04 22:56:10 | 53 | 56 | 48 |
| 2014/11/05 19:01:10 | 59 | 60 | 57 |
| 2014/11/05 19:06:10 | 58 | 59 | 57 |
| 2014/11/05 19:11:10 | 58 | 59 | 57 |
| 2014/11/05 19:16:10 | 58 | 59 | 56 |
| 2014/11/05 19:21:10 | 57 | 58 | 56 |
| 2014/11/05 19:26:10 | 57 | 58 | 55 |
| 2014/11/05 19:31:10 | 56 | 58 | 55 |
| 2014/11/05 19:36:10 | 56 | 57 | 54 |
| 2014/11/05 19:41:10 | 56 | 57 | 54 |
| 2014/11/05 19:46:10 | 56 | 58 | 54 |
| 2014/11/05 19:51:10 | 56 | 57 | 54 |
| 2014/11/05 19:56:10 | 55 | 57 | 53 |
| 2014/11/05 20:01:10 | 54 | 57 | 52 |
| 2014/11/05 20:06:10 | 57 | 60 | 52 |
| 2014/11/05 20:11:10 | 55 | 58 | 53 |
| 2014/11/05 20:16:10 | 56 | 58 | 53 |
| 2014/11/05 20:21:10 | 55 | 58 | 53 |
| 2014/11/05 20:26:10 | 55 | 57 | 52 |
| 2014/11/05 20:31:10 | 57 | 60 | 52 |
| 2014/11/05 20:36:10 | 55 | 56 | 52 |
| 2014/11/05 20:41:10 | 54 | 57 | 53 |
| 2014/11/05 20:46:10 | 55 | 57 | 52 |
| 2014/11/05 20:51:10 | 54 | 55 | 52 |
| 2014/11/05 20:56:10 | 54 | 56 | 52 |
| 2014/11/05 21:01:10 | 54 | 57 | 52 |
| 2014/11/05 21:06:10 | 53 | 54 | 52 |
| 2014/11/05 21:11:10 | 53 | 56 | 51 |
| 2014/11/05 21:16:10 | 54 | 56 | 52 |
| 2014/11/05 21:21:10 | 53 | 54 | 52 |
| 2014/11/05 21:26:10 | 52 | 55 | 45 |
| 2014/11/05 21:31:10 | 49 | 51 | 46 |
| 2014/11/05 21:36:10 | 52 | 54 | 46 |
| 2014/11/05 21:41:10 | 50 | 52 | 46 |
| 2014/11/05 21:46:10 | 48 | 50 | 45 |
| 2014/11/05 21:51:10 | 50 | 53 | 45 |
| 2014/11/05 21:56:10 | 50 | 52 | 45 |
| 2014/11/05 22:01:10 | 50 | 52 | 46 |
| 2014/11/05 22:06:10 | 51 | 54 | 45 |
| 2014/11/05 22:11:10 | 51 | 54 | 48 |
| 2014/11/05 22:16:10 | 49 | 50 | 47 |
| 2014/11/05 22:21:10 | 49 | 51 | 46 |
| 2014/11/05 22:26:10 | 50 | 52 | 46 |
| 2014/11/05 22:31:10 | 50 | 53 | 46 |
| 2014/11/05 22:36:10 | 50 | 52 | 46 |
| 2014/11/05 22:41:10 | 49 | 50 | 47 |
| 2014/11/05 22:46:10 | 50 | 52 | 47 |
| 2014/11/05 22:51:10 | 50 | 53 | 45 |
| 2014/11/05 22:56:10 | 48 | 52 | 44 |

Baseline Noise Monitoring

Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime and evening (0700-2300 hrs)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/06 19:01:10 | 56 | 57 | 55 |
| 2014/11/06 19:06:10 | 56 | 57 | 55 |
| 2014/11/06 19:11:10 | 57 | 58 | 55 |
| 2014/11/06 19:16:10 | 55 | 57 | 54 |
| 2014/11/06 19:21:10 | 55 | 56 | 54 |
| 2014/11/06 19:26:10 | 55 | 56 | 54 |
| 2014/11/06 19:31:10 | 55 | 56 | 53 |
| 2014/11/06 19:36:10 | 55 | 56 | 53 |
| 2014/11/06 19:41:10 | 55 | 56 | 53 |
| 2014/11/06 19:46:10 | 55 | 57 | 53 |
| 2014/11/06 19:51:10 | 54 | 55 | 53 |
| 2014/11/06 19:56:10 | 55 | 56 | 53 |
| 2014/11/06 20:01:10 | 54 | 55 | 53 |
| 2014/11/06 20:06:10 | 54 | 56 | 52 |
| 2014/11/06 20:11:10 | 55 | 55 | 53 |
| 2014/11/06 20:16:10 | 54 | 55 | 53 |
| 2014/11/06 20:21:10 | 56 | 57 | 53 |
| 2014/11/06 20:26:10 | 56 | 56 | 53 |
| 2014/11/06 20:31:10 | 55 | 55 | 53 |
| 2014/11/06 20:36:10 | 54 | 55 | 52 |
| 2014/11/06 20:41:10 | 54 | 56 | 52 |
| 2014/11/06 20:46:10 | 54 | 55 | 52 |
| 2014/11/06 20:51:10 | 53 | 55 | 52 |
| 2014/11/06 20:56:10 | 54 | 55 | 52 |
| 2014/11/06 21:01:10 | 53 | 55 | 52 |
| 2014/11/06 21:06:10 | 54 | 55 | 51 |
| 2014/11/06 21:11:10 | 54 | 56 | 52 |
| 2014/11/06 21:16:10 | 55 | 57 | 53 |
| 2014/11/06 21:21:10 | 55 | 57 | 53 |
| 2014/11/06 21:26:10 | 55 | 56 | 53 |
| 2014/11/06 21:31:10 | 54 | 56 | 52 |
| 2014/11/06 21:36:10 | 55 | 57 | 51 |
| 2014/11/06 21:41:10 | 53 | 55 | 49 |
| 2014/11/06 21:46:10 | 52 | 54 | 46 |
| 2014/11/06 21:51:10 | 52 | 54 | 47 |
| 2014/11/06 21:56:10 | 54 | 57 | 49 |
| 2014/11/06 22:01:10 | 52 | 54 | 49 |
| 2014/11/06 22:06:10 | 53 | 55 | 49 |
| 2014/11/06 22:11:10 | 54 | 55 | 49 |
| 2014/11/06 22:16:10 | 50 | 53 | 46 |
| 2014/11/06 22:21:10 | 50 | 52 | 46 |
| 2014/11/06 22:26:10 | 52 | 54 | 48 |
| 2014/11/06 22:31:10 | 51 | 53 | 49 |
| 2014/11/06 22:36:10 | 50 | 52 | 47 |
| 2014/11/06 22:41:10 | 51 | 54 | 45 |
| 2014/11/06 22:46:10 | 49 | 53 | 44 |
| 2014/11/06 22:51:10 | 52 | 54 | 49 |
| 2014/11/06 22:56:10 | 50 | 52 | 47 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/24 23:02:45 | 53 | 54 | 52 |
| 2014/10/24 23:07:45 | 54 | 55 | 53 |
| 2014/10/24 23:12:45 | 55 | 56 | 53 |
| 2014/10/24 23:17:45 | 53 | 54 | 52 |
| 2014/10/24 23:22:45 | 53 | 54 | 52 |
| 2014/10/24 23:27:45 | 53 | 54 | 52 |
| 2014/10/24 23:32:45 | 52 | 53 | 52 |
| 2014/10/24 23:37:45 | 54 | 55 | 52 |
| 2014/10/24 23:42:45 | 53 | 53 | 52 |
| 2014/10/24 23:47:45 | 52 | 53 | 52 |
| 2014/10/24 23:52:45 | 53 | 53 | 52 |
| 2014/10/24 23:57:45 | 52 | 53 | 50 |
| 2014/10/25 00:02:45 | 51 | 52 | 50 |
| 2014/10/25 00:07:45 | 52 | 54 | 51 |
| 2014/10/25 00:12:45 | 50 | 51 | 50 |
| 2014/10/25 00:17:45 | 51 | 52 | 50 |
| 2014/10/25 00:22:45 | 51 | 52 | 51 |
| 2014/10/25 00:27:45 | 51 | 53 | 50 |
| 2014/10/25 00:32:45 | 52 | 53 | 51 |
| 2014/10/25 00:37:45 | 54 | 55 | 51 |
| 2014/10/25 00:42:45 | 51 | 52 | 50 |
| 2014/10/25 00:47:45 | 50 | 51 | 50 |
| 2014/10/25 00:52:45 | 50 | 51 | 50 |
| 2014/10/25 00:57:45 | 51 | 52 | 50 |
| 2014/10/25 01:02:45 | 51 | 52 | 50 |
| 2014/10/25 01:07:45 | 51 | 52 | 50 |
| 2014/10/25 01:12:45 | 51 | 52 | 50 |
| 2014/10/25 01:17:45 | 52 | 53 | 51 |
| 2014/10/25 01:22:45 | 53 | 55 | 51 |
| 2014/10/25 01:27:45 | 51 | 51 | 50 |
| 2014/10/25 01:32:45 | 52 | 53 | 50 |
| 2014/10/25 01:37:45 | 50 | 51 | 49 |
| 2014/10/25 01:42:45 | 51 | 52 | 49 |
| 2014/10/25 01:47:45 | 51 | 51 | 50 |
| 2014/10/25 01:52:45 | 51 | 52 | 50 |
| 2014/10/25 01:57:45 | 51 | 52 | 50 |
| 2014/10/25 02:02:45 | 50 | 51 | 49 |
| 2014/10/25 02:07:45 | 51 | 52 | 50 |
| 2014/10/25 02:12:45 | 50 | 51 | 49 |
| 2014/10/25 02:17:45 | 51 | 52 | 49 |
| 2014/10/25 02:22:45 | 50 | 51 | 49 |
| 2014/10/25 02:27:45 | 50 | 51 | 49 |
| 2014/10/25 02:32:45 | 51 | 52 | 49 |
| 2014/10/25 02:37:45 | 50 | 51 | 49 |
| 2014/10/25 02:42:45 | 50 | 51 | 49 |
| 2014/10/25 02:47:45 | 51 | 51 | 50 |
| 2014/10/25 02:52:45 | 50 | 50 | 49 |
| 2014/10/25 02:57:45 | 50 | 51 | 49 |
| 2014/10/25 03:02:45 | 52 | 55 | 50 |
| 2014/10/25 03:07:45 | 51 | 54 | 49 |
| 2014/10/25 03:12:45 | 49 | 50 | 49 |
| 2014/10/25 03:17:45 | 51 | 52 | 50 |
| 2014/10/25 03:22:45 | 50 | 51 | 49 |
| 2014/10/25 03:27:45 | 50 | 51 | 49 |
| 2014/10/25 03:32:45 | 51 | 52 | 49 |
| 2014/10/25 03:37:45 | 52 | 54 | 50 |
| 2014/10/25 03:42:45 | 51 | 53 | 49 |
| 2014/10/25 03:47:45 | 50 | 51 | 49 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/25 03:52:45 | 49 | 50 | 49 |
| 2014/10/25 03:57:45 | 50 | 50 | 49 |
| 2014/10/25 04:02:45 | 49 | 50 | 49 |
| 2014/10/25 04:07:45 | 49 | 50 | 49 |
| 2014/10/25 04:12:45 | 50 | 51 | 49 |
| 2014/10/25 04:17:45 | 50 | 50 | 49 |
| 2014/10/25 04:22:45 | 50 | 50 | 49 |
| 2014/10/25 04:27:45 | 50 | 51 | 49 |
| 2014/10/25 04:32:45 | 50 | 51 | 49 |
| 2014/10/25 04:37:45 | 51 | 52 | 50 |
| 2014/10/25 04:42:45 | 50 | 51 | 49 |
| 2014/10/25 04:47:45 | 50 | 51 | 49 |
| 2014/10/25 04:52:45 | 51 | 52 | 49 |
| 2014/10/25 04:57:45 | 50 | 51 | 49 |
| 2014/10/25 05:02:45 | 50 | 50 | 49 |
| 2014/10/25 05:07:45 | 54 | 57 | 50 |
| 2014/10/25 05:12:45 | 51 | 52 | 50 |
| 2014/10/25 05:17:45 | 50 | 50 | 49 |
| 2014/10/25 05:22:45 | 53 | 55 | 50 |
| 2014/10/25 05:27:45 | 51 | 52 | 49 |
| 2014/10/25 05:32:45 | 50 | 51 | 49 |
| 2014/10/25 05:37:45 | 49 | 50 | 49 |
| 2014/10/25 05:42:45 | 50 | 51 | 49 |
| 2014/10/25 05:47:45 | 51 | 53 | 49 |
| 2014/10/25 05:52:45 | 50 | 51 | 49 |
| 2014/10/25 05:57:45 | 50 | 51 | 49 |
| 2014/10/25 06:02:45 | 52 | 53 | 50 |
| 2014/10/25 06:07:45 | 50 | 50 | 49 |
| 2014/10/25 06:12:45 | 51 | 53 | 50 |
| 2014/10/25 06:17:45 | 51 | 53 | 49 |
| 2014/10/25 06:22:45 | 50 | 50 | 49 |
| 2014/10/25 06:27:45 | 51 | 53 | 50 |
| 2014/10/25 06:32:45 | 51 | 53 | 49 |
| 2014/10/25 06:37:45 | 51 | 51 | 50 |
| 2014/10/25 06:42:45 | 52 | 53 | 50 |
| 2014/10/25 06:47:45 | 51 | 52 | 49 |
| 2014/10/25 06:52:45 | 51 | 53 | 50 |
| 2014/10/25 06:57:45 | 51 | 52 | 50 |
| 2014/10/25 23:02:45 | 52 | 53 | 51 |
| 2014/10/25 23:07:45 | 53 | 54 | 51 |
| 2014/10/25 23:12:45 | 51 | 52 | 50 |
| 2014/10/25 23:17:45 | 51 | 52 | 50 |
| 2014/10/25 23:22:45 | 52 | 54 | 51 |
| 2014/10/25 23:27:45 | 51 | 52 | 50 |
| 2014/10/25 23:32:45 | 51 | 52 | 50 |
| 2014/10/25 23:37:45 | 52 | 53 | 51 |
| 2014/10/25 23:42:45 | 52 | 53 | 49 |
| 2014/10/25 23:47:45 | 50 | 51 | 48 |
| 2014/10/25 23:52:45 | 50 | 51 | 48 |
| 2014/10/25 23:57:45 | 50 | 51 | 48 |
| 2014/10/26 00:02:45 | 53 | 57 | 50 |
| 2014/10/26 00:07:45 | 50 | 52 | 48 |
| 2014/10/26 00:12:45 | 49 | 50 | 47 |
| 2014/10/26 00:17:45 | 50 | 52 | 48 |
| 2014/10/26 00:22:45 | 49 | 50 | 48 |
| 2014/10/26 00:27:45 | 52 | 53 | 48 |
| 2014/10/26 00:32:45 | 50 | 51 | 48 |
| 2014/10/26 00:37:45 | 49 | 51 | 48 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/26 00:42:45 | 50 | 51 | 48 |
| 2014/10/26 00:47:45 | 50 | 52 | 48 |
| 2014/10/26 00:52:45 | 50 | 52 | 49 |
| 2014/10/26 00:57:45 | 50 | 52 | 49 |
| 2014/10/26 01:02:45 | 51 | 52 | 48 |
| 2014/10/26 01:07:45 | 49 | 51 | 48 |
| 2014/10/26 01:12:45 | 49 | 51 | 45 |
| 2014/10/26 01:17:45 | 49 | 51 | 44 |
| 2014/10/26 01:22:45 | 53 | 56 | 45 |
| 2014/10/26 01:27:45 | 48 | 50 | 45 |
| 2014/10/26 01:32:45 | 53 | 54 | 46 |
| 2014/10/26 01:37:45 | 46 | 47 | 43 |
| 2014/10/26 01:42:45 | 47 | 49 | 43 |
| 2014/10/26 01:47:45 | 47 | 50 | 42 |
| 2014/10/26 01:52:45 | 45 | 47 | 43 |
| 2014/10/26 01:57:45 | 48 | 51 | 43 |
| 2014/10/26 02:02:45 | 44 | 46 | 41 |
| 2014/10/26 02:07:45 | 44 | 45 | 42 |
| 2014/10/26 02:12:45 | 44 | 46 | 41 |
| 2014/10/26 02:17:45 | 45 | 47 | 41 |
| 2014/10/26 02:22:45 | 48 | 52 | 41 |
| 2014/10/26 02:27:45 | 46 | 48 | 42 |
| 2014/10/26 02:32:45 | 44 | 46 | 42 |
| 2014/10/26 02:37:45 | 45 | 48 | 42 |
| 2014/10/26 02:42:45 | 43 | 44 | 41 |
| 2014/10/26 02:47:45 | 44 | 46 | 41 |
| 2014/10/26 02:52:45 | 45 | 47 | 42 |
| 2014/10/26 02:57:45 | 47 | 49 | 43 |
| 2014/10/26 03:02:45 | 46 | 49 | 41 |
| 2014/10/26 03:07:45 | 44 | 46 | 41 |
| 2014/10/26 03:12:45 | 43 | 45 | 41 |
| 2014/10/26 03:17:45 | 45 | 45 | 42 |
| 2014/10/26 03:22:45 | 45 | 46 | 41 |
| 2014/10/26 03:27:45 | 49 | 54 | 41 |
| 2014/10/26 03:32:45 | 44 | 46 | 41 |
| 2014/10/26 03:37:45 | 43 | 45 | 40 |
| 2014/10/26 03:42:45 | 52 | 56 | 43 |
| 2014/10/26 03:47:45 | 46 | 49 | 42 |
| 2014/10/26 03:52:45 | 43 | 46 | 41 |
| 2014/10/26 03:57:45 | 43 | 45 | 41 |
| 2014/10/26 04:02:45 | 45 | 47 | 42 |
| 2014/10/26 04:07:45 | 46 | 49 | 43 |
| 2014/10/26 04:12:45 | 48 | 51 | 41 |
| 2014/10/26 04:17:45 | 43 | 45 | 40 |
| 2014/10/26 04:22:45 | 49 | 53 | 42 |
| 2014/10/26 04:27:45 | 43 | 44 | 40 |
| 2014/10/26 04:32:45 | 41 | 42 | 40 |
| 2014/10/26 04:37:45 | 43 | 45 | 40 |
| 2014/10/26 04:42:45 | 43 | 44 | 41 |
| 2014/10/26 04:47:45 | 41 | 43 | 40 |
| 2014/10/26 04:52:45 | 46 | 49 | 42 |
| 2014/10/26 04:57:45 | 42 | 43 | 41 |
| 2014/10/26 05:02:45 | 43 | 44 | 41 |
| 2014/10/26 05:07:45 | 48 | 52 | 43 |
| 2014/10/26 05:12:45 | 50 | 54 | 43 |
| 2014/10/26 05:17:45 | 48 | 50 | 41 |
| 2014/10/26 05:22:45 | 42 | 44 | 41 |
| 2014/10/26 05:27:45 | 47 | 49 | 42 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/26 05:32:45 | 50 | 54 | 43 |
| 2014/10/26 05:37:45 | 43 | 44 | 41 |
| 2014/10/26 05:42:45 | 47 | 47 | 41 |
| 2014/10/26 05:47:45 | 50 | 54 | 42 |
| 2014/10/26 05:52:45 | 47 | 48 | 43 |
| 2014/10/26 05:57:45 | 45 | 48 | 42 |
| 2014/10/26 06:02:45 | 42 | 43 | 41 |
| 2014/10/26 06:07:45 | 43 | 45 | 41 |
| 2014/10/26 06:12:45 | 44 | 46 | 41 |
| 2014/10/26 06:17:45 | 45 | 48 | 41 |
| 2014/10/26 06:22:45 | 43 | 44 | 41 |
| 2014/10/26 06:27:45 | 48 | 52 | 42 |
| 2014/10/26 06:32:45 | 47 | 51 | 42 |
| 2014/10/26 06:37:45 | 44 | 46 | 42 |
| 2014/10/26 06:42:45 | 47 | 49 | 44 |
| 2014/10/26 06:47:45 | 48 | 50 | 44 |
| 2014/10/26 06:52:45 | 45 | 46 | 43 |
| 2014/10/26 06:57:45 | 47 | 51 | 43 |
| 2014/10/26 23:02:45 | 54 | 55 | 53 |
| 2014/10/26 23:07:45 | 53 | 54 | 52 |
| 2014/10/26 23:12:45 | 54 | 55 | 53 |
| 2014/10/26 23:17:45 | 55 | 56 | 53 |
| 2014/10/26 23:22:45 | 53 | 54 | 51 |
| 2014/10/26 23:27:45 | 52 | 54 | 51 |
| 2014/10/26 23:32:45 | 53 | 54 | 51 |
| 2014/10/26 23:37:45 | 53 | 54 | 52 |
| 2014/10/26 23:42:45 | 53 | 54 | 52 |
| 2014/10/26 23:47:45 | 53 | 54 | 51 |
| 2014/10/26 23:52:45 | 53 | 54 | 51 |
| 2014/10/26 23:57:45 | 53 | 54 | 51 |
| 2014/10/27 00:02:45 | 53 | 54 | 51 |
| 2014/10/27 00:07:45 | 53 | 55 | 51 |
| 2014/10/27 00:12:45 | 52 | 54 | 50 |
| 2014/10/27 00:17:45 | 52 | 54 | 51 |
| 2014/10/27 00:22:45 | 52 | 53 | 50 |
| 2014/10/27 00:27:45 | 52 | 54 | 51 |
| 2014/10/27 00:32:45 | 52 | 54 | 49 |
| 2014/10/27 00:37:45 | 51 | 53 | 48 |
| 2014/10/27 00:42:45 | 50 | 52 | 48 |
| 2014/10/27 00:47:45 | 50 | 52 | 47 |
| 2014/10/27 00:52:45 | 50 | 52 | 47 |
| 2014/10/27 00:57:45 | 52 | 54 | 48 |
| 2014/10/27 01:02:45 | 49 | 51 | 47 |
| 2014/10/27 01:07:45 | 51 | 53 | 48 |
| 2014/10/27 01:12:45 | 50 | 52 | 47 |
| 2014/10/27 01:17:45 | 50 | 52 | 46 |
| 2014/10/27 01:22:45 | 50 | 52 | 46 |
| 2014/10/27 01:27:45 | 50 | 53 | 46 |
| 2014/10/27 01:32:45 | 47 | 50 | 44 |
| 2014/10/27 01:37:45 | 46 | 48 | 44 |
| 2014/10/27 01:42:45 | 47 | 49 | 44 |
| 2014/10/27 01:47:45 | 47 | 48 | 44 |
| 2014/10/27 01:52:45 | 45 | 47 | 43 |
| 2014/10/27 01:57:45 | 46 | 47 | 43 |
| 2014/10/27 02:02:45 | 45 | 46 | 43 |
| 2014/10/27 02:07:45 | 48 | 51 | 44 |
| 2014/10/27 02:12:45 | 45 | 47 | 43 |
| 2014/10/27 02:17:45 | 44 | 46 | 42 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/27 02:22:45 | 45 | 47 | 42 |
| 2014/10/27 02:27:45 | 44 | 45 | 42 |
| 2014/10/27 02:32:45 | 44 | 45 | 42 |
| 2014/10/27 02:37:45 | 45 | 48 | 43 |
| 2014/10/27 02:42:45 | 46 | 49 | 43 |
| 2014/10/27 02:47:45 | 44 | 46 | 42 |
| 2014/10/27 02:52:45 | 47 | 50 | 43 |
| 2014/10/27 02:57:45 | 45 | 48 | 42 |
| 2014/10/27 03:02:45 | 46 | 49 | 43 |
| 2014/10/27 03:07:45 | 46 | 47 | 42 |
| 2014/10/27 03:12:45 | 43 | 45 | 42 |
| 2014/10/27 03:17:45 | 45 | 47 | 42 |
| 2014/10/27 03:22:45 | 47 | 49 | 42 |
| 2014/10/27 03:27:45 | 43 | 44 | 42 |
| 2014/10/27 03:32:45 | 43 | 44 | 42 |
| 2014/10/27 03:37:45 | 42 | 43 | 42 |
| 2014/10/27 03:42:45 | 50 | 54 | 42 |
| 2014/10/27 03:47:45 | 43 | 45 | 42 |
| 2014/10/27 03:52:45 | 44 | 46 | 42 |
| 2014/10/27 03:57:45 | 42 | 43 | 42 |
| 2014/10/27 04:02:45 | 42 | 43 | 42 |
| 2014/10/27 04:07:45 | 44 | 45 | 42 |
| 2014/10/27 04:12:45 | 43 | 43 | 42 |
| 2014/10/27 04:17:45 | 43 | 44 | 42 |
| 2014/10/27 04:22:45 | 43 | 43 | 42 |
| 2014/10/27 04:27:45 | 43 | 43 | 42 |
| 2014/10/27 04:32:45 | 47 | 51 | 43 |
| 2014/10/27 04:37:45 | 44 | 45 | 42 |
| 2014/10/27 04:42:45 | 44 | 46 | 43 |
| 2014/10/27 04:47:45 | 43 | 44 | 42 |
| 2014/10/27 04:52:45 | 48 | 52 | 43 |
| 2014/10/27 04:57:45 | 44 | 45 | 43 |
| 2014/10/27 05:02:45 | 46 | 49 | 43 |
| 2014/10/27 05:07:45 | 45 | 47 | 43 |
| 2014/10/27 05:12:45 | 44 | 46 | 42 |
| 2014/10/27 05:17:45 | 45 | 47 | 44 |
| 2014/10/27 05:22:45 | 51 | 54 | 45 |
| 2014/10/27 05:27:45 | 45 | 46 | 44 |
| 2014/10/27 05:32:45 | 48 | 48 | 44 |
| 2014/10/27 05:37:45 | 44 | 46 | 43 |
| 2014/10/27 05:42:45 | 45 | 46 | 43 |
| 2014/10/27 05:47:45 | 46 | 49 | 44 |
| 2014/10/27 05:52:45 | 46 | 47 | 44 |
| 2014/10/27 05:57:45 | 45 | 46 | 44 |
| 2014/10/27 06:02:45 | 45 | 47 | 44 |
| 2014/10/27 06:07:45 | 47 | 48 | 46 |
| 2014/10/27 06:12:45 | 47 | 49 | 44 |
| 2014/10/27 06:17:45 | 45 | 47 | 44 |
| 2014/10/27 06:22:45 | 50 | 53 | 45 |
| 2014/10/27 06:27:45 | 46 | 47 | 45 |
| 2014/10/27 06:32:45 | 46 | 47 | 44 |
| 2014/10/27 06:37:45 | 47 | 48 | 45 |
| 2014/10/27 06:42:45 | 51 | 53 | 45 |
| 2014/10/27 06:47:45 | 48 | 50 | 46 |
| 2014/10/27 06:52:45 | 49 | 51 | 47 |
| 2014/10/27 06:57:45 | 51 | 53 | 46 |
| 2014/10/27 23:02:45 | 56 | 57 | 54 |
| 2014/10/27 23:07:45 | 58 | 59 | 55 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/27 23:12:45 | 57 | 58 | 55 |
| 2014/10/27 23:17:45 | 55 | 56 | 54 |
| 2014/10/27 23:22:45 | 56 | 56 | 54 |
| 2014/10/27 23:27:45 | 56 | 57 | 54 |
| 2014/10/27 23:32:45 | 57 | 57 | 54 |
| 2014/10/27 23:37:45 | 57 | 59 | 54 |
| 2014/10/27 23:42:45 | 55 | 56 | 54 |
| 2014/10/27 23:47:45 | 55 | 55 | 54 |
| 2014/10/27 23:52:45 | 55 | 56 | 54 |
| 2014/10/27 23:57:45 | 55 | 56 | 54 |
| 2014/10/28 00:02:45 | 55 | 55 | 54 |
| 2014/10/28 00:07:45 | 56 | 57 | 54 |
| 2014/10/28 00:12:45 | 55 | 55 | 54 |
| 2014/10/28 00:17:45 | 55 | 56 | 54 |
| 2014/10/28 00:22:45 | 55 | 55 | 54 |
| 2014/10/28 00:27:45 | 55 | 55 | 54 |
| 2014/10/28 00:32:45 | 55 | 56 | 54 |
| 2014/10/28 00:37:45 | 55 | 56 | 54 |
| 2014/10/28 00:42:45 | 55 | 55 | 54 |
| 2014/10/28 00:47:45 | 55 | 56 | 54 |
| 2014/10/28 00:52:45 | 55 | 56 | 54 |
| 2014/10/28 00:57:45 | 55 | 56 | 54 |
| 2014/10/28 01:02:45 | 56 | 56 | 54 |
| 2014/10/28 01:07:45 | 55 | 56 | 54 |
| 2014/10/28 01:12:45 | 56 | 57 | 54 |
| 2014/10/28 01:17:45 | 55 | 56 | 54 |
| 2014/10/28 01:22:45 | 55 | 56 | 54 |
| 2014/10/28 01:27:45 | 56 | 56 | 54 |
| 2014/10/28 01:32:45 | 55 | 56 | 54 |
| 2014/10/28 01:37:45 | 55 | 55 | 54 |
| 2014/10/28 01:42:45 | 56 | 57 | 54 |
| 2014/10/28 01:47:45 | 55 | 57 | 54 |
| 2014/10/28 01:52:45 | 56 | 57 | 54 |
| 2014/10/28 01:57:45 | 56 | 57 | 54 |
| 2014/10/28 02:02:45 | 56 | 57 | 54 |
| 2014/10/28 02:07:45 | 55 | 57 | 54 |
| 2014/10/28 02:12:45 | 55 | 55 | 54 |
| 2014/10/28 02:17:45 | 55 | 56 | 54 |
| 2014/10/28 02:22:45 | 54 | 55 | 54 |
| 2014/10/28 02:27:45 | 54 | 55 | 54 |
| 2014/10/28 02:32:45 | 55 | 56 | 54 |
| 2014/10/28 02:37:45 | 56 | 57 | 54 |
| 2014/10/28 02:42:45 | 55 | 56 | 54 |
| 2014/10/28 02:47:45 | 56 | 57 | 54 |
| 2014/10/28 02:52:45 | 57 | 59 | 54 |
| 2014/10/28 02:57:45 | 56 | 58 | 54 |
| 2014/10/28 03:02:45 | 56 | 57 | 54 |
| 2014/10/28 03:07:45 | 54 | 55 | 53 |
| 2014/10/28 03:12:45 | 55 | 56 | 53 |
| 2014/10/28 03:17:45 | 55 | 58 | 53 |
| 2014/10/28 03:22:45 | 54 | 55 | 53 |
| 2014/10/28 03:27:45 | 54 | 55 | 53 |
| 2014/10/28 03:32:45 | 56 | 58 | 54 |
| 2014/10/28 03:37:45 | 54 | 55 | 53 |
| 2014/10/28 03:42:45 | 54 | 54 | 53 |
| 2014/10/28 03:47:45 | 55 | 55 | 53 |
| 2014/10/28 03:52:45 | 55 | 56 | 53 |
| 2014/10/28 03:57:45 | 56 | 59 | 53 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/28 04:02:45 | 56 | 57 | 53 |
| 2014/10/28 04:07:45 | 55 | 55 | 53 |
| 2014/10/28 04:12:45 | 55 | 57 | 53 |
| 2014/10/28 04:17:45 | 56 | 58 | 53 |
| 2014/10/28 04:22:45 | 54 | 55 | 53 |
| 2014/10/28 04:27:45 | 55 | 56 | 53 |
| 2014/10/28 04:32:45 | 55 | 57 | 53 |
| 2014/10/28 04:37:45 | 54 | 55 | 53 |
| 2014/10/28 04:42:45 | 56 | 57 | 53 |
| 2014/10/28 04:47:45 | 55 | 57 | 53 |
| 2014/10/28 04:52:45 | 54 | 55 | 53 |
| 2014/10/28 04:57:45 | 55 | 56 | 53 |
| 2014/10/28 05:02:45 | 56 | 57 | 54 |
| 2014/10/28 05:07:45 | 54 | 55 | 53 |
| 2014/10/28 05:12:45 | 55 | 57 | 53 |
| 2014/10/28 05:17:45 | 57 | 58 | 53 |
| 2014/10/28 05:22:45 | 54 | 55 | 53 |
| 2014/10/28 05:27:45 | 56 | 58 | 53 |
| 2014/10/28 05:32:45 | 55 | 56 | 53 |
| 2014/10/28 05:37:45 | 56 | 56 | 53 |
| 2014/10/28 05:42:45 | 54 | 55 | 53 |
| 2014/10/28 05:47:45 | 55 | 56 | 53 |
| 2014/10/28 05:52:45 | 54 | 55 | 53 |
| 2014/10/28 05:57:45 | 53 | 54 | 53 |
| 2014/10/28 06:02:45 | 53 | 54 | 53 |
| 2014/10/28 06:07:45 | 53 | 54 | 52 |
| 2014/10/28 06:12:45 | 53 | 54 | 53 |
| 2014/10/28 06:17:45 | 54 | 54 | 53 |
| 2014/10/28 06:22:45 | 53 | 53 | 53 |
| 2014/10/28 06:27:45 | 54 | 55 | 53 |
| 2014/10/28 06:32:45 | 55 | 57 | 53 |
| 2014/10/28 06:37:45 | 54 | 55 | 53 |
| 2014/10/28 06:42:45 | 54 | 56 | 53 |
| 2014/10/28 06:47:45 | 53 | 54 | 52 |
| 2014/10/28 06:52:45 | 54 | 55 | 52 |
| 2014/10/28 06:57:45 | 55 | 57 | 51 |
| 2014/10/28 23:01:30 | 55 | 55 | 54 |
| 2014/10/28 23:06:30 | 55 | 56 | 54 |
| 2014/10/28 23:11:30 | 55 | 56 | 54 |
| 2014/10/28 23:16:30 | 55 | 57 | 54 |
| 2014/10/28 23:21:30 | 54 | 56 | 53 |
| 2014/10/28 23:26:30 | 55 | 56 | 53 |
| 2014/10/28 23:31:30 | 54 | 54 | 53 |
| 2014/10/28 23:36:30 | 55 | 56 | 53 |
| 2014/10/28 23:41:30 | 55 | 56 | 53 |
| 2014/10/28 23:46:30 | 53 | 54 | 52 |
| 2014/10/28 23:51:30 | 53 | 54 | 52 |
| 2014/10/28 23:56:30 | 53 | 54 | 52 |
| 2014/10/29 00:01:30 | 54 | 55 | 53 |
| 2014/10/29 00:06:30 | 54 | 55 | 53 |
| 2014/10/29 00:11:30 | 54 | 56 | 53 |
| 2014/10/29 00:16:30 | 52 | 53 | 49 |
| 2014/10/29 00:21:30 | 51 | 52 | 50 |
| 2014/10/29 00:26:30 | 50 | 50 | 49 |
| 2014/10/29 00:31:30 | 50 | 51 | 49 |
| 2014/10/29 00:36:30 | 50 | 51 | 49 |
| 2014/10/29 00:41:30 | 50 | 51 | 49 |
| 2014/10/29 00:46:30 | 50 | 51 | 49 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/29 00:51:30 | 50 | 51 | 49 |
| 2014/10/29 00:56:30 | 51 | 52 | 50 |
| 2014/10/29 01:01:30 | 51 | 53 | 50 |
| 2014/10/29 01:06:30 | 51 | 52 | 50 |
| 2014/10/29 01:11:30 | 52 | 53 | 50 |
| 2014/10/29 01:16:30 | 55 | 56 | 50 |
| 2014/10/29 01:21:30 | 51 | 52 | 50 |
| 2014/10/29 01:26:30 | 51 | 52 | 50 |
| 2014/10/29 01:31:30 | 50 | 51 | 48 |
| 2014/10/29 01:36:30 | 49 | 50 | 48 |
| 2014/10/29 01:41:30 | 50 | 51 | 48 |
| 2014/10/29 01:46:30 | 50 | 51 | 48 |
| 2014/10/29 01:51:30 | 50 | 52 | 48 |
| 2014/10/29 01:56:30 | 49 | 49 | 48 |
| 2014/10/29 02:01:30 | 48 | 49 | 47 |
| 2014/10/29 02:06:30 | 49 | 51 | 48 |
| 2014/10/29 02:11:30 | 49 | 50 | 47 |
| 2014/10/29 02:16:30 | 48 | 50 | 47 |
| 2014/10/29 02:21:30 | 49 | 50 | 47 |
| 2014/10/29 02:26:30 | 48 | 50 | 47 |
| 2014/10/29 02:31:30 | 48 | 48 | 47 |
| 2014/10/29 02:36:30 | 47 | 48 | 46 |
| 2014/10/29 02:41:30 | 48 | 50 | 46 |
| 2014/10/29 02:46:30 | 47 | 49 | 46 |
| 2014/10/29 02:51:30 | 47 | 49 | 46 |
| 2014/10/29 02:56:30 | 47 | 48 | 46 |
| 2014/10/29 03:01:30 | 47 | 48 | 46 |
| 2014/10/29 03:06:30 | 47 | 48 | 46 |
| 2014/10/29 03:11:30 | 47 | 47 | 46 |
| 2014/10/29 03:16:30 | 47 | 47 | 46 |
| 2014/10/29 03:21:30 | 47 | 48 | 46 |
| 2014/10/29 03:26:30 | 47 | 48 | 46 |
| 2014/10/29 03:31:30 | 47 | 48 | 46 |
| 2014/10/29 03:36:30 | 47 | 48 | 46 |
| 2014/10/29 03:41:30 | 48 | 49 | 46 |
| 2014/10/29 03:46:30 | 47 | 49 | 46 |
| 2014/10/29 03:51:30 | 47 | 47 | 46 |
| 2014/10/29 03:56:30 | 47 | 48 | 46 |
| 2014/10/29 04:01:30 | 48 | 48 | 46 |
| 2014/10/29 04:06:30 | 47 | 47 | 46 |
| 2014/10/29 04:11:30 | 47 | 48 | 46 |
| 2014/10/29 04:16:30 | 48 | 48 | 46 |
| 2014/10/29 04:21:30 | 47 | 48 | 47 |
| 2014/10/29 04:26:30 | 47 | 48 | 46 |
| 2014/10/29 04:31:30 | 47 | 47 | 46 |
| 2014/10/29 04:36:30 | 47 | 48 | 46 |
| 2014/10/29 04:41:30 | 47 | 48 | 46 |
| 2014/10/29 04:46:30 | 47 | 48 | 46 |
| 2014/10/29 04:51:30 | 48 | 50 | 46 |
| 2014/10/29 04:56:30 | 47 | 47 | 46 |
| 2014/10/29 05:01:30 | 48 | 49 | 46 |
| 2014/10/29 05:06:30 | 47 | 49 | 46 |
| 2014/10/29 05:11:30 | 47 | 48 | 47 |
| 2014/10/29 05:16:30 | 47 | 47 | 46 |
| 2014/10/29 05:21:30 | 47 | 48 | 46 |
| 2014/10/29 05:26:30 | 47 | 48 | 46 |
| 2014/10/29 05:31:30 | 48 | 49 | 47 |
| 2014/10/29 05:36:30 | 48 | 49 | 47 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/29 05:41:30 | 47 | 48 | 46 |
| 2014/10/29 05:46:30 | 48 | 49 | 47 |
| 2014/10/29 05:51:30 | 50 | 52 | 47 |
| 2014/10/29 05:56:30 | 49 | 50 | 47 |
| 2014/10/29 06:01:30 | 48 | 49 | 47 |
| 2014/10/29 06:06:30 | 50 | 51 | 47 |
| 2014/10/29 06:11:30 | 48 | 49 | 47 |
| 2014/10/29 06:16:30 | 48 | 49 | 47 |
| 2014/10/29 06:21:30 | 48 | 49 | 47 |
| 2014/10/29 06:26:30 | 49 | 50 | 48 |
| 2014/10/29 06:31:30 | 49 | 50 | 47 |
| 2014/10/29 06:36:30 | 48 | 49 | 47 |
| 2014/10/29 06:41:30 | 48 | 49 | 47 |
| 2014/10/29 06:46:30 | 49 | 50 | 47 |
| 2014/10/29 06:51:30 | 51 | 53 | 47 |
| 2014/10/29 06:56:30 | 50 | 50 | 48 |
| 2014/10/29 23:01:30 | 48 | 50 | 45 |
| 2014/10/29 23:06:30 | 48 | 50 | 46 |
| 2014/10/29 23:11:30 | 50 | 52 | 47 |
| 2014/10/29 23:16:30 | 48 | 50 | 46 |
| 2014/10/29 23:21:30 | 49 | 50 | 46 |
| 2014/10/29 23:26:30 | 49 | 50 | 47 |
| 2014/10/29 23:31:30 | 49 | 50 | 47 |
| 2014/10/29 23:36:30 | 51 | 53 | 47 |
| 2014/10/29 23:41:30 | 50 | 52 | 48 |
| 2014/10/29 23:46:30 | 52 | 55 | 48 |
| 2014/10/29 23:51:30 | 49 | 50 | 46 |
| 2014/10/29 23:56:30 | 49 | 51 | 46 |
| 2014/10/30 00:01:30 | 52 | 54 | 48 |
| 2014/10/30 00:06:30 | 52 | 53 | 48 |
| 2014/10/30 00:11:30 | 49 | 51 | 47 |
| 2014/10/30 00:16:30 | 49 | 51 | 46 |
| 2014/10/30 00:21:30 | 50 | 52 | 47 |
| 2014/10/30 00:26:30 | 48 | 50 | 46 |
| 2014/10/30 00:31:30 | 48 | 50 | 46 |
| 2014/10/30 00:36:30 | 49 | 50 | 46 |
| 2014/10/30 00:41:30 | 49 | 50 | 46 |
| 2014/10/30 00:46:30 | 48 | 50 | 46 |
| 2014/10/30 00:51:30 | 49 | 51 | 47 |
| 2014/10/30 00:56:30 | 47 | 49 | 46 |
| 2014/10/30 01:01:30 | 48 | 50 | 46 |
| 2014/10/30 01:06:30 | 48 | 50 | 46 |
| 2014/10/30 01:11:30 | 48 | 50 | 46 |
| 2014/10/30 01:16:30 | 48 | 50 | 45 |
| 2014/10/30 01:21:30 | 49 | 51 | 46 |
| 2014/10/30 01:26:30 | 47 | 48 | 44 |
| 2014/10/30 01:31:30 | 48 | 50 | 46 |
| 2014/10/30 01:36:30 | 49 | 51 | 47 |
| 2014/10/30 01:41:30 | 49 | 52 | 46 |
| 2014/10/30 01:46:30 | 47 | 49 | 45 |
| 2014/10/30 01:51:30 | 47 | 49 | 45 |
| 2014/10/30 01:56:30 | 47 | 49 | 45 |
| 2014/10/30 02:01:30 | 47 | 49 | 44 |
| 2014/10/30 02:06:30 | 46 | 48 | 45 |
| 2014/10/30 02:11:30 | 48 | 49 | 45 |
| 2014/10/30 02:16:30 | 46 | 47 | 44 |
| 2014/10/30 02:21:30 | 46 | 47 | 44 |
| 2014/10/30 02:26:30 | 50 | 53 | 46 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/30 02:31:30 | 46 | 47 | 44 |
| 2014/10/30 02:36:30 | 47 | 49 | 45 |
| 2014/10/30 02:41:30 | 45 | 47 | 43 |
| 2014/10/30 02:46:30 | 46 | 48 | 44 |
| 2014/10/30 02:51:30 | 46 | 48 | 44 |
| 2014/10/30 02:56:30 | 45 | 47 | 44 |
| 2014/10/30 03:01:30 | 47 | 49 | 45 |
| 2014/10/30 03:06:30 | 47 | 48 | 44 |
| 2014/10/30 03:11:30 | 45 | 47 | 43 |
| 2014/10/30 03:16:30 | 45 | 46 | 43 |
| 2014/10/30 03:21:30 | 46 | 49 | 43 |
| 2014/10/30 03:26:30 | 45 | 47 | 42 |
| 2014/10/30 03:31:30 | 43 | 44 | 42 |
| 2014/10/30 03:36:30 | 44 | 45 | 42 |
| 2014/10/30 03:41:30 | 44 | 45 | 43 |
| 2014/10/30 03:46:30 | 45 | 46 | 43 |
| 2014/10/30 03:51:30 | 46 | 48 | 44 |
| 2014/10/30 03:56:30 | 44 | 44 | 43 |
| 2014/10/30 04:01:30 | 44 | 45 | 42 |
| 2014/10/30 04:06:30 | 45 | 46 | 43 |
| 2014/10/30 04:11:30 | 44 | 45 | 43 |
| 2014/10/30 04:16:30 | 44 | 46 | 42 |
| 2014/10/30 04:21:30 | 45 | 47 | 43 |
| 2014/10/30 04:26:30 | 46 | 49 | 44 |
| 2014/10/30 04:31:30 | 44 | 45 | 43 |
| 2014/10/30 04:36:30 | 45 | 46 | 43 |
| 2014/10/30 04:41:30 | 45 | 46 | 43 |
| 2014/10/30 04:46:30 | 46 | 47 | 43 |
| 2014/10/30 04:51:30 | 48 | 51 | 44 |
| 2014/10/30 04:56:30 | 46 | 48 | 43 |
| 2014/10/30 05:01:30 | 46 | 47 | 44 |
| 2014/10/30 05:06:30 | 45 | 46 | 43 |
| 2014/10/30 05:11:30 | 45 | 45 | 43 |
| 2014/10/30 05:16:30 | 52 | 56 | 44 |
| 2014/10/30 05:21:30 | 44 | 46 | 43 |
| 2014/10/30 05:26:30 | 44 | 44 | 43 |
| 2014/10/30 05:31:30 | 46 | 48 | 43 |
| 2014/10/30 05:36:30 | 45 | 46 | 43 |
| 2014/10/30 05:41:30 | 49 | 51 | 44 |
| 2014/10/30 05:46:30 | 47 | 49 | 44 |
| 2014/10/30 05:51:30 | 47 | 49 | 43 |
| 2014/10/30 05:56:30 | 46 | 49 | 43 |
| 2014/10/30 06:01:30 | 44 | 45 | 43 |
| 2014/10/30 06:06:30 | 51 | 55 | 45 |
| 2014/10/30 06:11:30 | 47 | 49 | 45 |
| 2014/10/30 06:16:30 | 47 | 48 | 45 |
| 2014/10/30 06:21:30 | 47 | 49 | 46 |
| 2014/10/30 06:26:30 | 46 | 47 | 45 |
| 2014/10/30 06:31:30 | 47 | 48 | 46 |
| 2014/10/30 06:36:30 | 50 | 51 | 46 |
| 2014/10/30 06:41:30 | 49 | 51 | 46 |
| 2014/10/30 06:46:30 | 49 | 50 | 45 |
| 2014/10/30 06:51:30 | 48 | 50 | 45 |
| 2014/10/30 06:56:30 | 49 | 51 | 46 |
| 2014/10/30 23:01:30 | 56 | 56 | 54 |
| 2014/10/30 23:06:30 | 55 | 55 | 54 |
| 2014/10/30 23:11:30 | 55 | 56 | 54 |
| 2014/10/30 23:16:30 | 55 | 56 | 54 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/30 23:21:30 | 55 | 56 | 54 |
| 2014/10/30 23:26:30 | 56 | 57 | 54 |
| 2014/10/30 23:31:30 | 55 | 56 | 54 |
| 2014/10/30 23:36:30 | 56 | 58 | 54 |
| 2014/10/30 23:41:30 | 55 | 55 | 54 |
| 2014/10/30 23:46:30 | 54 | 55 | 54 |
| 2014/10/30 23:51:30 | 54 | 55 | 53 |
| 2014/10/30 23:56:30 | 54 | 55 | 54 |
| 2014/10/31 00:01:30 | 54 | 55 | 54 |
| 2014/10/31 00:06:30 | 54 | 55 | 54 |
| 2014/10/31 00:11:30 | 55 | 56 | 54 |
| 2014/10/31 00:16:30 | 54 | 55 | 54 |
| 2014/10/31 00:21:30 | 54 | 55 | 54 |
| 2014/10/31 00:26:30 | 55 | 56 | 54 |
| 2014/10/31 00:31:30 | 54 | 55 | 53 |
| 2014/10/31 00:36:30 | 54 | 55 | 53 |
| 2014/10/31 00:41:30 | 55 | 56 | 54 |
| 2014/10/31 00:46:30 | 55 | 56 | 54 |
| 2014/10/31 00:51:30 | 54 | 55 | 54 |
| 2014/10/31 00:56:30 | 54 | 55 | 54 |
| 2014/10/31 01:01:30 | 55 | 55 | 54 |
| 2014/10/31 01:06:30 | 55 | 55 | 54 |
| 2014/10/31 01:11:30 | 55 | 56 | 53 |
| 2014/10/31 01:16:30 | 55 | 55 | 54 |
| 2014/10/31 01:21:30 | 54 | 55 | 53 |
| 2014/10/31 01:26:30 | 54 | 55 | 53 |
| 2014/10/31 01:31:30 | 54 | 55 | 53 |
| 2014/10/31 01:36:30 | 54 | 55 | 53 |
| 2014/10/31 01:41:30 | 53 | 54 | 53 |
| 2014/10/31 01:46:30 | 54 | 54 | 53 |
| 2014/10/31 01:51:30 | 54 | 55 | 53 |
| 2014/10/31 01:56:30 | 54 | 55 | 53 |
| 2014/10/31 02:01:30 | 54 | 55 | 53 |
| 2014/10/31 02:06:30 | 54 | 55 | 53 |
| 2014/10/31 02:11:30 | 54 | 55 | 53 |
| 2014/10/31 02:16:30 | 54 | 55 | 53 |
| 2014/10/31 02:21:30 | 54 | 55 | 53 |
| 2014/10/31 02:26:30 | 54 | 54 | 53 |
| 2014/10/31 02:31:30 | 53 | 54 | 52 |
| 2014/10/31 02:36:30 | 51 | 51 | 50 |
| 2014/10/31 02:41:30 | 51 | 51 | 50 |
| 2014/10/31 02:46:30 | 51 | 52 | 50 |
| 2014/10/31 02:51:30 | 51 | 52 | 50 |
| 2014/10/31 02:56:30 | 50 | 51 | 50 |
| 2014/10/31 03:01:30 | 53 | 55 | 50 |
| 2014/10/31 03:06:30 | 51 | 52 | 50 |
| 2014/10/31 03:11:30 | 51 | 52 | 50 |
| 2014/10/31 03:16:30 | 51 | 51 | 50 |
| 2014/10/31 03:21:30 | 51 | 51 | 50 |
| 2014/10/31 03:26:30 | 51 | 52 | 50 |
| 2014/10/31 03:31:30 | 50 | 52 | 50 |
| 2014/10/31 03:36:30 | 50 | 51 | 50 |
| 2014/10/31 03:41:30 | 51 | 52 | 50 |
| 2014/10/31 03:46:30 | 51 | 53 | 50 |
| 2014/10/31 03:51:30 | 52 | 53 | 50 |
| 2014/10/31 03:56:30 | 51 | 53 | 50 |
| 2014/10/31 04:01:30 | 50 | 51 | 50 |
| 2014/10/31 04:06:30 | 51 | 51 | 50 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/10/31 04:11:30 | 51 | 52 | 50 |
| 2014/10/31 04:16:30 | 50 | 51 | 50 |
| 2014/10/31 04:21:30 | 51 | 52 | 50 |
| 2014/10/31 04:26:30 | 51 | 52 | 50 |
| 2014/10/31 04:31:30 | 50 | 52 | 50 |
| 2014/10/31 04:36:30 | 51 | 52 | 50 |
| 2014/10/31 04:41:30 | 50 | 50 | 49 |
| 2014/10/31 04:46:30 | 50 | 51 | 50 |
| 2014/10/31 04:51:30 | 51 | 51 | 50 |
| 2014/10/31 04:56:30 | 53 | 56 | 50 |
| 2014/10/31 05:01:30 | 52 | 53 | 50 |
| 2014/10/31 05:06:30 | 53 | 55 | 50 |
| 2014/10/31 05:11:30 | 50 | 51 | 50 |
| 2014/10/31 05:16:30 | 50 | 51 | 50 |
| 2014/10/31 05:21:30 | 51 | 52 | 50 |
| 2014/10/31 05:26:30 | 50 | 51 | 50 |
| 2014/10/31 05:31:30 | 50 | 51 | 50 |
| 2014/10/31 05:36:30 | 51 | 53 | 50 |
| 2014/10/31 05:41:30 | 50 | 51 | 49 |
| 2014/10/31 05:46:30 | 50 | 51 | 50 |
| 2014/10/31 05:51:30 | 51 | 52 | 50 |
| 2014/10/31 05:56:30 | 51 | 52 | 50 |
| 2014/10/31 06:01:30 | 51 | 51 | 50 |
| 2014/10/31 06:06:30 | 50 | 51 | 50 |
| 2014/10/31 06:11:30 | 50 | 51 | 50 |
| 2014/10/31 06:16:30 | 50 | 51 | 50 |
| 2014/10/31 06:21:30 | 51 | 52 | 51 |
| 2014/10/31 06:26:30 | 51 | 51 | 50 |
| 2014/10/31 06:31:30 | 50 | 51 | 50 |
| 2014/10/31 06:36:30 | 52 | 54 | 50 |
| 2014/10/31 06:41:30 | 49 | 51 | 47 |
| 2014/10/31 06:46:30 | 49 | 51 | 47 |
| 2014/10/31 06:51:30 | 51 | 54 | 47 |
| 2014/10/31 06:56:30 | 50 | 52 | 46 |
| 2014/10/31 23:03:53 | 53 | 54 | 52 |
| 2014/10/31 23:08:53 | 53 | 54 | 52 |
| 2014/10/31 23:13:53 | 53 | 54 | 52 |
| 2014/10/31 23:18:53 | 55 | 57 | 52 |
| 2014/10/31 23:23:53 | 57 | 58 | 53 |
| 2014/10/31 23:28:53 | 53 | 55 | 52 |
| 2014/10/31 23:33:53 | 55 | 56 | 52 |
| 2014/10/31 23:38:53 | 54 | 55 | 53 |
| 2014/10/31 23:43:53 | 53 | 54 | 52 |
| 2014/10/31 23:48:53 | 54 | 55 | 52 |
| 2014/10/31 23:53:53 | 53 | 54 | 51 |
| 2014/10/31 23:58:53 | 54 | 55 | 52 |
| 2014/11/01 00:03:53 | 53 | 55 | 52 |
| 2014/11/01 00:08:53 | 52 | 53 | 51 |
| 2014/11/01 00:13:53 | 53 | 55 | 52 |
| 2014/11/01 00:18:53 | 54 | 55 | 52 |
| 2014/11/01 00:23:53 | 52 | 53 | 51 |
| 2014/11/01 00:28:53 | 53 | 54 | 52 |
| 2014/11/01 00:33:53 | 55 | 58 | 52 |
| 2014/11/01 00:38:53 | 54 | 55 | 52 |
| 2014/11/01 00:43:53 | 53 | 55 | 51 |
| 2014/11/01 00:48:53 | 53 | 54 | 52 |
| 2014/11/01 00:53:53 | 53 | 55 | 51 |
| 2014/11/01 00:58:53 | 52 | 54 | 51 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/01 01:03:53 | 53 | 55 | 51 |
| 2014/11/01 01:08:53 | 53 | 55 | 51 |
| 2014/11/01 01:13:53 | 53 | 54 | 51 |
| 2014/11/01 01:18:53 | 53 | 55 | 51 |
| 2014/11/01 01:23:53 | 55 | 58 | 51 |
| 2014/11/01 01:28:53 | 52 | 54 | 50 |
| 2014/11/01 01:33:53 | 52 | 53 | 50 |
| 2014/11/01 01:38:53 | 52 | 54 | 50 |
| 2014/11/01 01:43:53 | 52 | 53 | 50 |
| 2014/11/01 01:48:53 | 51 | 53 | 50 |
| 2014/11/01 01:53:53 | 52 | 54 | 51 |
| 2014/11/01 01:58:53 | 52 | 54 | 51 |
| 2014/11/01 02:03:53 | 51 | 53 | 49 |
| 2014/11/01 02:08:53 | 50 | 52 | 48 |
| 2014/11/01 02:13:53 | 51 | 53 | 49 |
| 2014/11/01 02:18:53 | 50 | 52 | 48 |
| 2014/11/01 02:23:53 | 52 | 55 | 48 |
| 2014/11/01 02:28:53 | 51 | 55 | 48 |
| 2014/11/01 02:33:53 | 50 | 52 | 47 |
| 2014/11/01 02:38:53 | 50 | 52 | 47 |
| 2014/11/01 02:43:53 | 48 | 49 | 47 |
| 2014/11/01 02:48:53 | 50 | 53 | 45 |
| 2014/11/01 02:53:53 | 46 | 48 | 43 |
| 2014/11/01 02:58:53 | 43 | 44 | 42 |
| 2014/11/01 03:03:53 | 50 | 54 | 44 |
| 2014/11/01 03:08:53 | 45 | 46 | 42 |
| 2014/11/01 03:13:53 | 50 | 54 | 42 |
| 2014/11/01 03:18:53 | 48 | 51 | 43 |
| 2014/11/01 03:23:53 | 48 | 50 | 45 |
| 2014/11/01 03:28:53 | 45 | 46 | 43 |
| 2014/11/01 03:33:53 | 49 | 51 | 43 |
| 2014/11/01 03:38:53 | 49 | 53 | 43 |
| 2014/11/01 03:43:53 | 47 | 48 | 43 |
| 2014/11/01 03:48:53 | 49 | 53 | 42 |
| 2014/11/01 03:53:53 | 51 | 55 | 42 |
| 2014/11/01 03:58:53 | 45 | 47 | 42 |
| 2014/11/01 04:03:53 | 44 | 47 | 42 |
| 2014/11/01 04:08:53 | 47 | 48 | 42 |
| 2014/11/01 04:13:53 | 45 | 49 | 42 |
| 2014/11/01 04:18:53 | 47 | 49 | 42 |
| 2014/11/01 04:23:53 | 45 | 47 | 43 |
| 2014/11/01 04:28:53 | 47 | 50 | 42 |
| 2014/11/01 04:33:53 | 50 | 50 | 44 |
| 2014/11/01 04:38:53 | 49 | 51 | 43 |
| 2014/11/01 04:43:53 | 45 | 45 | 42 |
| 2014/11/01 04:48:53 | 45 | 46 | 43 |
| 2014/11/01 04:53:53 | 50 | 51 | 44 |
| 2014/11/01 04:58:53 | 49 | 51 | 43 |
| 2014/11/01 05:03:53 | 51 | 52 | 44 |
| 2014/11/01 05:08:53 | 54 | 58 | 49 |
| 2014/11/01 05:13:53 | 49 | 52 | 45 |
| 2014/11/01 05:18:53 | 45 | 46 | 44 |
| 2014/11/01 05:23:53 | 47 | 49 | 44 |
| 2014/11/01 05:28:53 | 45 | 46 | 43 |
| 2014/11/01 05:33:53 | 48 | 49 | 43 |
| 2014/11/01 05:38:53 | 48 | 50 | 42 |
| 2014/11/01 05:43:53 | 51 | 53 | 47 |
| 2014/11/01 05:48:53 | 47 | 50 | 44 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/01 05:53:53 | 47 | 50 | 44 |
| 2014/11/01 05:58:53 | 47 | 49 | 43 |
| 2014/11/01 06:03:53 | 50 | 53 | 46 |
| 2014/11/01 06:08:53 | 47 | 50 | 44 |
| 2014/11/01 06:13:53 | 48 | 50 | 43 |
| 2014/11/01 06:18:53 | 50 | 52 | 44 |
| 2014/11/01 06:23:53 | 50 | 51 | 43 |
| 2014/11/01 06:28:53 | 48 | 51 | 44 |
| 2014/11/01 06:33:53 | 52 | 55 | 48 |
| 2014/11/01 06:38:53 | 50 | 52 | 45 |
| 2014/11/01 06:43:53 | 47 | 48 | 45 |
| 2014/11/01 06:48:53 | 48 | 50 | 45 |
| 2014/11/01 06:53:53 | 50 | 54 | 46 |
| 2014/11/01 06:58:53 | 50 | 52 | 48 |
| 2014/11/01 23:03:53 | 55 | 58 | 52 |
| 2014/11/01 23:08:53 | 52 | 53 | 51 |
| 2014/11/01 23:13:53 | 53 | 53 | 52 |
| 2014/11/01 23:18:53 | 53 | 55 | 52 |
| 2014/11/01 23:23:53 | 53 | 54 | 52 |
| 2014/11/01 23:28:53 | 53 | 54 | 52 |
| 2014/11/01 23:33:53 | 53 | 53 | 52 |
| 2014/11/01 23:38:53 | 53 | 54 | 52 |
| 2014/11/01 23:43:53 | 53 | 54 | 52 |
| 2014/11/01 23:48:53 | 51 | 52 | 50 |
| 2014/11/01 23:53:53 | 51 | 52 | 50 |
| 2014/11/01 23:58:53 | 52 | 53 | 51 |
| 2014/11/02 00:03:53 | 51 | 52 | 50 |
| 2014/11/02 00:08:53 | 52 | 52 | 50 |
| 2014/11/02 00:13:53 | 53 | 55 | 50 |
| 2014/11/02 00:18:53 | 52 | 54 | 51 |
| 2014/11/02 00:23:53 | 52 | 53 | 51 |
| 2014/11/02 00:28:53 | 52 | 53 | 51 |
| 2014/11/02 00:33:53 | 52 | 53 | 51 |
| 2014/11/02 00:38:53 | 51 | 53 | 50 |
| 2014/11/02 00:43:53 | 51 | 52 | 50 |
| 2014/11/02 00:48:53 | 52 | 53 | 51 |
| 2014/11/02 00:53:53 | 51 | 52 | 50 |
| 2014/11/02 00:58:53 | 52 | 53 | 51 |
| 2014/11/02 01:03:53 | 52 | 54 | 51 |
| 2014/11/02 01:08:53 | 52 | 55 | 50 |
| 2014/11/02 01:13:53 | 52 | 53 | 50 |
| 2014/11/02 01:18:53 | 52 | 53 | 50 |
| 2014/11/02 01:23:53 | 51 | 52 | 50 |
| 2014/11/02 01:28:53 | 52 | 53 | 50 |
| 2014/11/02 01:33:53 | 51 | 52 | 50 |
| 2014/11/02 01:38:53 | 51 | 52 | 50 |
| 2014/11/02 01:43:53 | 51 | 52 | 50 |
| 2014/11/02 01:48:53 | 51 | 53 | 50 |
| 2014/11/02 01:53:53 | 51 | 52 | 50 |
| 2014/11/02 01:58:53 | 49 | 50 | 47 |
| 2014/11/02 02:03:53 | 50 | 52 | 48 |
| 2014/11/02 02:08:53 | 52 | 52 | 51 |
| 2014/11/02 02:13:53 | 51 | 52 | 50 |
| 2014/11/02 02:18:53 | 51 | 52 | 50 |
| 2014/11/02 02:23:53 | 52 | 53 | 50 |
| 2014/11/02 02:28:53 | 51 | 52 | 50 |
| 2014/11/02 02:33:53 | 51 | 52 | 50 |
| 2014/11/02 02:38:53 | 51 | 52 | 50 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/02 02:43:53 | 52 | 54 | 51 |
| 2014/11/02 02:48:53 | 52 | 54 | 50 |
| 2014/11/02 02:53:53 | 51 | 52 | 50 |
| 2014/11/02 02:58:53 | 52 | 53 | 51 |
| 2014/11/02 03:03:53 | 50 | 51 | 49 |
| 2014/11/02 03:08:53 | 51 | 52 | 50 |
| 2014/11/02 03:13:53 | 51 | 52 | 50 |
| 2014/11/02 03:18:53 | 50 | 51 | 49 |
| 2014/11/02 03:23:53 | 51 | 52 | 50 |
| 2014/11/02 03:28:53 | 51 | 52 | 49 |
| 2014/11/02 03:33:53 | 52 | 53 | 50 |
| 2014/11/02 03:38:53 | 50 | 51 | 50 |
| 2014/11/02 03:43:53 | 50 | 51 | 49 |
| 2014/11/02 03:48:53 | 51 | 52 | 50 |
| 2014/11/02 03:53:53 | 50 | 51 | 50 |
| 2014/11/02 03:58:53 | 52 | 54 | 49 |
| 2014/11/02 04:03:53 | 51 | 53 | 50 |
| 2014/11/02 04:08:53 | 50 | 51 | 49 |
| 2014/11/02 04:13:53 | 54 | 57 | 50 |
| 2014/11/02 04:18:53 | 52 | 54 | 50 |
| 2014/11/02 04:23:53 | 50 | 51 | 49 |
| 2014/11/02 04:28:53 | 51 | 53 | 49 |
| 2014/11/02 04:33:53 | 51 | 53 | 50 |
| 2014/11/02 04:38:53 | 50 | 51 | 50 |
| 2014/11/02 04:43:53 | 50 | 50 | 49 |
| 2014/11/02 04:48:53 | 50 | 51 | 49 |
| 2014/11/02 04:53:53 | 53 | 55 | 50 |
| 2014/11/02 04:58:53 | 50 | 52 | 49 |
| 2014/11/02 05:03:53 | 50 | 51 | 49 |
| 2014/11/02 05:08:53 | 54 | 57 | 50 |
| 2014/11/02 05:13:53 | 51 | 53 | 50 |
| 2014/11/02 05:18:53 | 50 | 52 | 49 |
| 2014/11/02 05:23:53 | 50 | 50 | 49 |
| 2014/11/02 05:28:53 | 51 | 51 | 49 |
| 2014/11/02 05:33:53 | 53 | 56 | 49 |
| 2014/11/02 05:38:53 | 50 | 51 | 49 |
| 2014/11/02 05:43:53 | 50 | 50 | 49 |
| 2014/11/02 05:48:53 | 51 | 52 | 49 |
| 2014/11/02 05:53:53 | 51 | 52 | 49 |
| 2014/11/02 05:58:53 | 51 | 53 | 50 |
| 2014/11/02 06:03:53 | 50 | 52 | 49 |
| 2014/11/02 06:08:53 | 51 | 52 | 50 |
| 2014/11/02 06:13:53 | 51 | 51 | 49 |
| 2014/11/02 06:18:53 | 53 | 54 | 50 |
| 2014/11/02 06:23:53 | 50 | 51 | 49 |
| 2014/11/02 06:28:53 | 51 | 52 | 49 |
| 2014/11/02 06:33:53 | 52 | 53 | 50 |
| 2014/11/02 06:38:53 | 51 | 53 | 50 |
| 2014/11/02 06:43:53 | 52 | 55 | 50 |
| 2014/11/02 06:48:53 | 51 | 52 | 50 |
| 2014/11/02 06:53:53 | 53 | 56 | 50 |
| 2014/11/02 06:58:53 | 51 | 52 | 50 |
| 2014/11/02 23:03:53 | 53 | 53 | 52 |
| 2014/11/02 23:08:53 | 53 | 53 | 52 |
| 2014/11/02 23:13:53 | 54 | 55 | 52 |
| 2014/11/02 23:18:53 | 52 | 53 | 52 |
| 2014/11/02 23:23:53 | 53 | 54 | 52 |
| 2014/11/02 23:28:53 | 53 | 54 | 52 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/02 23:33:53 | 53 | 54 | 52 |
| 2014/11/02 23:38:53 | 53 | 53 | 52 |
| 2014/11/02 23:43:53 | 53 | 53 | 52 |
| 2014/11/02 23:48:53 | 52 | 53 | 51 |
| 2014/11/02 23:53:53 | 52 | 53 | 52 |
| 2014/11/02 23:58:53 | 52 | 53 | 52 |
| 2014/11/03 00:03:53 | 53 | 54 | 52 |
| 2014/11/03 00:08:53 | 53 | 54 | 52 |
| 2014/11/03 00:13:53 | 53 | 54 | 52 |
| 2014/11/03 00:18:53 | 53 | 53 | 52 |
| 2014/11/03 00:23:53 | 52 | 53 | 51 |
| 2014/11/03 00:28:53 | 52 | 53 | 51 |
| 2014/11/03 00:33:53 | 53 | 54 | 52 |
| 2014/11/03 00:38:53 | 52 | 53 | 51 |
| 2014/11/03 00:43:53 | 52 | 52 | 51 |
| 2014/11/03 00:48:53 | 52 | 53 | 52 |
| 2014/11/03 00:53:53 | 52 | 53 | 52 |
| 2014/11/03 00:58:53 | 53 | 53 | 52 |
| 2014/11/03 01:03:53 | 53 | 54 | 52 |
| 2014/11/03 01:08:53 | 52 | 53 | 49 |
| 2014/11/03 01:13:53 | 49 | 50 | 48 |
| 2014/11/03 01:18:53 | 49 | 51 | 48 |
| 2014/11/03 01:23:53 | 50 | 51 | 47 |
| 2014/11/03 01:28:53 | 48 | 50 | 47 |
| 2014/11/03 01:33:53 | 47 | 49 | 46 |
| 2014/11/03 01:38:53 | 47 | 48 | 46 |
| 2014/11/03 01:43:53 | 46 | 47 | 45 |
| 2014/11/03 01:48:53 | 47 | 47 | 46 |
| 2014/11/03 01:53:53 | 46 | 47 | 45 |
| 2014/11/03 01:58:53 | 46 | 47 | 45 |
| 2014/11/03 02:03:53 | 46 | 47 | 45 |
| 2014/11/03 02:08:53 | 47 | 48 | 45 |
| 2014/11/03 02:13:53 | 47 | 48 | 46 |
| 2014/11/03 02:18:53 | 48 | 50 | 46 |
| 2014/11/03 02:23:53 | 48 | 50 | 46 |
| 2014/11/03 02:28:53 | 47 | 48 | 46 |
| 2014/11/03 02:33:53 | 46 | 47 | 45 |
| 2014/11/03 02:38:53 | 46 | 47 | 45 |
| 2014/11/03 02:43:53 | 46 | 47 | 45 |
| 2014/11/03 02:48:53 | 50 | 52 | 46 |
| 2014/11/03 02:53:53 | 49 | 50 | 47 |
| 2014/11/03 02:58:53 | 48 | 49 | 47 |
| 2014/11/03 03:03:53 | 47 | 49 | 46 |
| 2014/11/03 03:08:53 | 48 | 50 | 46 |
| 2014/11/03 03:13:53 | 47 | 50 | 46 |
| 2014/11/03 03:18:53 | 46 | 46 | 45 |
| 2014/11/03 03:23:53 | 47 | 49 | 46 |
| 2014/11/03 03:28:53 | 47 | 49 | 46 |
| 2014/11/03 03:33:53 | 46 | 47 | 45 |
| 2014/11/03 03:38:53 | 46 | 47 | 45 |
| 2014/11/03 03:43:53 | 46 | 46 | 45 |
| 2014/11/03 03:48:53 | 46 | 47 | 45 |
| 2014/11/03 03:53:53 | 46 | 48 | 45 |
| 2014/11/03 03:58:53 | 46 | 46 | 45 |
| 2014/11/03 04:03:53 | 46 | 47 | 45 |
| 2014/11/03 04:08:53 | 49 | 51 | 45 |
| 2014/11/03 04:13:53 | 51 | 55 | 45 |
| 2014/11/03 04:18:53 | 45 | 46 | 45 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/03 04:23:53 | 45 | 46 | 45 |
| 2014/11/03 04:28:53 | 45 | 46 | 45 |
| 2014/11/03 04:33:53 | 45 | 46 | 45 |
| 2014/11/03 04:38:53 | 45 | 46 | 45 |
| 2014/11/03 04:43:53 | 45 | 46 | 45 |
| 2014/11/03 04:48:53 | 46 | 47 | 45 |
| 2014/11/03 04:53:53 | 47 | 49 | 46 |
| 2014/11/03 04:58:53 | 46 | 46 | 45 |
| 2014/11/03 05:03:53 | 46 | 46 | 45 |
| 2014/11/03 05:08:53 | 46 | 47 | 45 |
| 2014/11/03 05:13:53 | 46 | 47 | 46 |
| 2014/11/03 05:18:53 | 46 | 47 | 45 |
| 2014/11/03 05:23:53 | 49 | 51 | 46 |
| 2014/11/03 05:28:53 | 49 | 53 | 46 |
| 2014/11/03 05:33:53 | 50 | 55 | 45 |
| 2014/11/03 05:38:53 | 47 | 48 | 46 |
| 2014/11/03 05:43:53 | 47 | 49 | 46 |
| 2014/11/03 05:48:53 | 48 | 50 | 46 |
| 2014/11/03 05:53:53 | 49 | 50 | 46 |
| 2014/11/03 05:58:53 | 47 | 48 | 45 |
| 2014/11/03 06:03:53 | 47 | 48 | 46 |
| 2014/11/03 06:08:53 | 46 | 47 | 45 |
| 2014/11/03 06:13:53 | 47 | 48 | 46 |
| 2014/11/03 06:18:53 | 48 | 49 | 46 |
| 2014/11/03 06:23:53 | 47 | 48 | 46 |
| 2014/11/03 06:28:53 | 47 | 48 | 46 |
| 2014/11/03 06:33:53 | 47 | 48 | 46 |
| 2014/11/03 06:38:53 | 51 | 53 | 48 |
| 2014/11/03 06:43:53 | 55 | 60 | 47 |
| 2014/11/03 06:48:53 | 50 | 52 | 47 |
| 2014/11/03 06:53:53 | 50 | 52 | 48 |
| 2014/11/03 06:58:53 | 48 | 50 | 46 |
| 2014/11/03 23:03:53 | 49 | 51 | 45 |
| 2014/11/03 23:08:53 | 51 | 55 | 45 |
| 2014/11/03 23:13:53 | 50 | 52 | 47 |
| 2014/11/03 23:18:53 | 50 | 53 | 46 |
| 2014/11/03 23:23:53 | 49 | 52 | 45 |
| 2014/11/03 23:28:53 | 48 | 51 | 44 |
| 2014/11/03 23:33:53 | 49 | 52 | 45 |
| 2014/11/03 23:38:53 | 48 | 51 | 44 |
| 2014/11/03 23:43:53 | 49 | 51 | 45 |
| 2014/11/03 23:48:53 | 47 | 48 | 44 |
| 2014/11/03 23:53:53 | 47 | 48 | 45 |
| 2014/11/03 23:58:53 | 47 | 49 | 45 |
| 2014/11/04 00:03:53 | 49 | 52 | 46 |
| 2014/11/04 00:08:53 | 49 | 52 | 46 |
| 2014/11/04 00:13:53 | 51 | 54 | 47 |
| 2014/11/04 00:18:53 | 48 | 51 | 46 |
| 2014/11/04 00:23:53 | 47 | 48 | 45 |
| 2014/11/04 00:28:53 | 48 | 51 | 45 |
| 2014/11/04 00:33:53 | 47 | 48 | 44 |
| 2014/11/04 00:38:53 | 46 | 47 | 44 |
| 2014/11/04 00:43:53 | 49 | 51 | 45 |
| 2014/11/04 00:48:53 | 49 | 53 | 45 |
| 2014/11/04 00:53:53 | 48 | 52 | 43 |
| 2014/11/04 00:58:53 | 45 | 47 | 43 |
| 2014/11/04 01:03:53 | 47 | 49 | 43 |
| 2014/11/04 01:08:53 | 45 | 46 | 43 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/04 01:13:53 | 45 | 47 | 43 |
| 2014/11/04 01:18:53 | 45 | 46 | 43 |
| 2014/11/04 01:23:53 | 45 | 46 | 43 |
| 2014/11/04 01:28:53 | 46 | 48 | 43 |
| 2014/11/04 01:33:53 | 44 | 46 | 42 |
| 2014/11/04 01:38:53 | 46 | 50 | 42 |
| 2014/11/04 01:43:53 | 47 | 49 | 44 |
| 2014/11/04 01:48:53 | 45 | 47 | 43 |
| 2014/11/04 01:53:53 | 44 | 46 | 42 |
| 2014/11/04 01:58:53 | 44 | 46 | 42 |
| 2014/11/04 02:03:53 | 44 | 47 | 42 |
| 2014/11/04 02:08:53 | 44 | 45 | 42 |
| 2014/11/04 02:13:53 | 45 | 46 | 43 |
| 2014/11/04 02:18:53 | 45 | 47 | 43 |
| 2014/11/04 02:23:53 | 43 | 45 | 42 |
| 2014/11/04 02:28:53 | 43 | 45 | 41 |
| 2014/11/04 02:33:53 | 43 | 45 | 41 |
| 2014/11/04 02:38:53 | 43 | 46 | 41 |
| 2014/11/04 02:43:53 | 42 | 43 | 41 |
| 2014/11/04 02:48:53 | 41 | 42 | 40 |
| 2014/11/04 02:53:53 | 42 | 43 | 40 |
| 2014/11/04 02:58:53 | 44 | 47 | 41 |
| 2014/11/04 03:03:53 | 41 | 42 | 40 |
| 2014/11/04 03:08:53 | 42 | 42 | 40 |
| 2014/11/04 03:13:53 | 41 | 42 | 40 |
| 2014/11/04 03:18:53 | 40 | 41 | 40 |
| 2014/11/04 03:23:53 | 42 | 43 | 40 |
| 2014/11/04 03:28:53 | 44 | 48 | 41 |
| 2014/11/04 03:33:53 | 42 | 44 | 40 |
| 2014/11/04 03:38:53 | 43 | 45 | 41 |
| 2014/11/04 03:43:53 | 42 | 43 | 41 |
| 2014/11/04 03:48:53 | 41 | 42 | 40 |
| 2014/11/04 03:53:53 | 44 | 47 | 41 |
| 2014/11/04 03:58:53 | 41 | 42 | 40 |
| 2014/11/04 04:03:53 | 41 | 42 | 40 |
| 2014/11/04 04:08:53 | 42 | 43 | 41 |
| 2014/11/04 04:13:53 | 49 | 53 | 42 |
| 2014/11/04 04:18:53 | 42 | 43 | 41 |
| 2014/11/04 04:23:53 | 46 | 49 | 42 |
| 2014/11/04 04:28:53 | 43 | 44 | 41 |
| 2014/11/04 04:33:53 | 53 | 58 | 41 |
| 2014/11/04 04:38:53 | 43 | 44 | 40 |
| 2014/11/04 04:43:53 | 42 | 43 | 40 |
| 2014/11/04 04:48:53 | 41 | 43 | 40 |
| 2014/11/04 04:53:53 | 43 | 44 | 41 |
| 2014/11/04 04:58:53 | 45 | 50 | 41 |
| 2014/11/04 05:03:53 | 44 | 47 | 41 |
| 2014/11/04 05:08:53 | 48 | 51 | 41 |
| 2014/11/04 05:13:53 | 50 | 54 | 42 |
| 2014/11/04 05:18:53 | 43 | 46 | 41 |
| 2014/11/04 05:23:53 | 46 | 48 | 43 |
| 2014/11/04 05:28:53 | 47 | 50 | 42 |
| 2014/11/04 05:33:53 | 46 | 48 | 43 |
| 2014/11/04 05:38:53 | 45 | 48 | 42 |
| 2014/11/04 05:43:53 | 43 | 44 | 41 |
| 2014/11/04 05:48:53 | 47 | 50 | 42 |
| 2014/11/04 05:53:53 | 46 | 48 | 42 |
| 2014/11/04 05:58:53 | 46 | 49 | 42 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/04 06:03:53 | 46 | 48 | 44 |
| 2014/11/04 06:08:53 | 45 | 47 | 44 |
| 2014/11/04 06:13:53 | 44 | 47 | 42 |
| 2014/11/04 06:18:53 | 47 | 49 | 43 |
| 2014/11/04 06:23:53 | 47 | 51 | 44 |
| 2014/11/04 06:28:53 | 50 | 55 | 45 |
| 2014/11/04 06:33:53 | 47 | 49 | 44 |
| 2014/11/04 06:38:53 | 48 | 50 | 46 |
| 2014/11/04 06:43:53 | 46 | 48 | 43 |
| 2014/11/04 06:48:53 | 47 | 49 | 44 |
| 2014/11/04 06:53:53 | 47 | 50 | 44 |
| 2014/11/04 06:58:53 | 48 | 49 | 45 |
| 2014/11/04 23:01:10 | 52 | 55 | 47 |
| 2014/11/04 23:06:10 | 52 | 55 | 46 |
| 2014/11/04 23:11:10 | 53 | 55 | 49 |
| 2014/11/04 23:16:10 | 50 | 53 | 46 |
| 2014/11/04 23:21:10 | 52 | 55 | 47 |
| 2014/11/04 23:26:10 | 51 | 54 | 46 |
| 2014/11/04 23:31:10 | 52 | 55 | 47 |
| 2014/11/04 23:36:10 | 55 | 58 | 49 |
| 2014/11/04 23:41:10 | 52 | 55 | 47 |
| 2014/11/04 23:46:10 | 52 | 54 | 47 |
| 2014/11/04 23:51:10 | 50 | 53 | 46 |
| 2014/11/04 23:56:10 | 51 | 54 | 46 |
| 2014/11/05 00:01:10 | 51 | 54 | 46 |
| 2014/11/05 00:06:10 | 51 | 54 | 47 |
| 2014/11/05 00:11:10 | 52 | 55 | 46 |
| 2014/11/05 00:16:10 | 52 | 55 | 48 |
| 2014/11/05 00:21:10 | 51 | 54 | 46 |
| 2014/11/05 00:26:10 | 52 | 55 | 48 |
| 2014/11/05 00:31:10 | 53 | 56 | 48 |
| 2014/11/05 00:36:10 | 51 | 54 | 47 |
| 2014/11/05 00:41:10 | 52 | 55 | 47 |
| 2014/11/05 00:46:10 | 52 | 55 | 47 |
| 2014/11/05 00:51:10 | 52 | 55 | 47 |
| 2014/11/05 00:56:10 | 53 | 56 | 47 |
| 2014/11/05 01:01:10 | 52 | 55 | 48 |
| 2014/11/05 01:06:10 | 51 | 54 | 46 |
| 2014/11/05 01:11:10 | 51 | 53 | 46 |
| 2014/11/05 01:16:10 | 52 | 55 | 48 |
| 2014/11/05 01:21:10 | 51 | 53 | 46 |
| 2014/11/05 01:26:10 | 50 | 53 | 46 |
| 2014/11/05 01:31:10 | 51 | 54 | 46 |
| 2014/11/05 01:36:10 | 50 | 53 | 46 |
| 2014/11/05 01:41:10 | 50 | 53 | 47 |
| 2014/11/05 01:46:10 | 51 | 53 | 46 |
| 2014/11/05 01:51:10 | 49 | 52 | 45 |
| 2014/11/05 01:56:10 | 51 | 53 | 47 |
| 2014/11/05 02:01:10 | 50 | 52 | 46 |
| 2014/11/05 02:06:10 | 50 | 52 | 45 |
| 2014/11/05 02:11:10 | 50 | 53 | 44 |
| 2014/11/05 02:16:10 | 49 | 52 | 44 |
| 2014/11/05 02:21:10 | 49 | 52 | 43 |
| 2014/11/05 02:26:10 | 48 | 51 | 43 |
| 2014/11/05 02:31:10 | 49 | 53 | 43 |
| 2014/11/05 02:36:10 | 49 | 52 | 43 |
| 2014/11/05 02:41:10 | 48 | 52 | 43 |
| 2014/11/05 02:46:10 | 49 | 52 | 43 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/05 02:51:10 | 46 | 49 | 42 |
| 2014/11/05 02:56:10 | 43 | 45 | 42 |
| 2014/11/05 03:01:10 | 44 | 46 | 42 |
| 2014/11/05 03:06:10 | 43 | 45 | 42 |
| 2014/11/05 03:11:10 | 43 | 44 | 42 |
| 2014/11/05 03:16:10 | 43 | 44 | 41 |
| 2014/11/05 03:21:10 | 43 | 44 | 42 |
| 2014/11/05 03:26:10 | 44 | 45 | 42 |
| 2014/11/05 03:31:10 | 47 | 49 | 43 |
| 2014/11/05 03:36:10 | 45 | 46 | 42 |
| 2014/11/05 03:41:10 | 45 | 45 | 42 |
| 2014/11/05 03:46:10 | 45 | 47 | 42 |
| 2014/11/05 03:51:10 | 46 | 48 | 43 |
| 2014/11/05 03:56:10 | 46 | 48 | 43 |
| 2014/11/05 04:01:10 | 42 | 43 | 42 |
| 2014/11/05 04:06:10 | 42 | 44 | 41 |
| 2014/11/05 04:11:10 | 42 | 43 | 41 |
| 2014/11/05 04:16:10 | 44 | 47 | 42 |
| 2014/11/05 04:21:10 | 43 | 44 | 42 |
| 2014/11/05 04:26:10 | 42 | 43 | 41 |
| 2014/11/05 04:31:10 | 42 | 43 | 41 |
| 2014/11/05 04:36:10 | 41 | 42 | 40 |
| 2014/11/05 04:41:10 | 42 | 44 | 41 |
| 2014/11/05 04:46:10 | 41 | 42 | 40 |
| 2014/11/05 04:51:10 | 42 | 42 | 41 |
| 2014/11/05 04:56:10 | 43 | 46 | 41 |
| 2014/11/05 05:01:10 | 42 | 43 | 41 |
| 2014/11/05 05:06:10 | 46 | 48 | 41 |
| 2014/11/05 05:11:10 | 45 | 48 | 42 |
| 2014/11/05 05:16:10 | 48 | 50 | 44 |
| 2014/11/05 05:21:10 | 47 | 52 | 42 |
| 2014/11/05 05:26:10 | 45 | 45 | 41 |
| 2014/11/05 05:31:10 | 42 | 44 | 41 |
| 2014/11/05 05:36:10 | 43 | 46 | 41 |
| 2014/11/05 05:41:10 | 44 | 46 | 41 |
| 2014/11/05 05:46:10 | 48 | 52 | 42 |
| 2014/11/05 05:51:10 | 46 | 48 | 43 |
| 2014/11/05 05:56:10 | 47 | 49 | 43 |
| 2014/11/05 06:01:10 | 45 | 46 | 42 |
| 2014/11/05 06:06:10 | 48 | 51 | 45 |
| 2014/11/05 06:11:10 | 46 | 48 | 44 |
| 2014/11/05 06:16:10 | 49 | 51 | 46 |
| 2014/11/05 06:21:10 | 50 | 54 | 47 |
| 2014/11/05 06:26:10 | 46 | 48 | 44 |
| 2014/11/05 06:31:10 | 45 | 46 | 43 |
| 2014/11/05 06:36:10 | 49 | 51 | 43 |
| 2014/11/05 06:41:10 | 48 | 50 | 45 |
| 2014/11/05 06:46:10 | 51 | 53 | 47 |
| 2014/11/05 06:51:10 | 47 | 48 | 45 |
| 2014/11/05 06:56:10 | 51 | 52 | 46 |
| 2014/11/05 23:01:10 | 52 | 56 | 45 |
| 2014/11/05 23:06:10 | 49 | 52 | 45 |
| 2014/11/05 23:11:10 | 53 | 57 | 47 |
| 2014/11/05 23:16:10 | 50 | 54 | 45 |
| 2014/11/05 23:21:10 | 48 | 50 | 45 |
| 2014/11/05 23:26:10 | 48 | 51 | 44 |
| 2014/11/05 23:31:10 | 47 | 49 | 44 |
| 2014/11/05 23:36:10 | 50 | 52 | 47 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/05 23:41:10 | 48 | 51 | 44 |
| 2014/11/05 23:46:10 | 49 | 52 | 45 |
| 2014/11/05 23:51:10 | 50 | 53 | 46 |
| 2014/11/05 23:56:10 | 50 | 53 | 45 |
| 2014/11/06 00:01:10 | 49 | 52 | 44 |
| 2014/11/06 00:06:10 | 49 | 52 | 45 |
| 2014/11/06 00:11:10 | 49 | 52 | 46 |
| 2014/11/06 00:16:10 | 47 | 49 | 44 |
| 2014/11/06 00:21:10 | 49 | 52 | 45 |
| 2014/11/06 00:26:10 | 52 | 54 | 48 |
| 2014/11/06 00:31:10 | 49 | 51 | 46 |
| 2014/11/06 00:36:10 | 49 | 52 | 46 |
| 2014/11/06 00:41:10 | 49 | 52 | 46 |
| 2014/11/06 00:46:10 | 48 | 51 | 45 |
| 2014/11/06 00:51:10 | 47 | 49 | 44 |
| 2014/11/06 00:56:10 | 47 | 49 | 44 |
| 2014/11/06 01:01:10 | 47 | 49 | 44 |
| 2014/11/06 01:06:10 | 47 | 49 | 44 |
| 2014/11/06 01:11:10 | 45 | 48 | 43 |
| 2014/11/06 01:16:10 | 46 | 49 | 43 |
| 2014/11/06 01:21:10 | 46 | 48 | 44 |
| 2014/11/06 01:26:10 | 46 | 48 | 42 |
| 2014/11/06 01:31:10 | 47 | 48 | 45 |
| 2014/11/06 01:36:10 | 47 | 50 | 44 |
| 2014/11/06 01:41:10 | 47 | 49 | 44 |
| 2014/11/06 01:46:10 | 45 | 47 | 43 |
| 2014/11/06 01:51:10 | 43 | 44 | 41 |
| 2014/11/06 01:56:10 | 44 | 45 | 42 |
| 2014/11/06 02:01:10 | 44 | 47 | 41 |
| 2014/11/06 02:06:10 | 43 | 45 | 41 |
| 2014/11/06 02:11:10 | 43 | 45 | 41 |
| 2014/11/06 02:16:10 | 44 | 46 | 41 |
| 2014/11/06 02:21:10 | 44 | 46 | 43 |
| 2014/11/06 02:26:10 | 43 | 44 | 42 |
| 2014/11/06 02:31:10 | 43 | 44 | 42 |
| 2014/11/06 02:36:10 | 45 | 47 | 42 |
| 2014/11/06 02:41:10 | 45 | 48 | 41 |
| 2014/11/06 02:46:10 | 46 | 48 | 43 |
| 2014/11/06 02:51:10 | 44 | 47 | 42 |
| 2014/11/06 02:56:10 | 49 | 52 | 45 |
| 2014/11/06 03:01:10 | 45 | 49 | 41 |
| 2014/11/06 03:06:10 | 45 | 48 | 41 |
| 2014/11/06 03:11:10 | 43 | 44 | 42 |
| 2014/11/06 03:16:10 | 43 | 44 | 42 |
| 2014/11/06 03:21:10 | 43 | 44 | 41 |
| 2014/11/06 03:26:10 | 46 | 50 | 42 |
| 2014/11/06 03:31:10 | 45 | 49 | 41 |
| 2014/11/06 03:36:10 | 44 | 44 | 42 |
| 2014/11/06 03:41:10 | 44 | 45 | 43 |
| 2014/11/06 03:46:10 | 44 | 45 | 43 |
| 2014/11/06 03:51:10 | 46 | 48 | 43 |
| 2014/11/06 03:56:10 | 51 | 56 | 43 |
| 2014/11/06 04:01:10 | 51 | 56 | 41 |
| 2014/11/06 04:06:10 | 44 | 46 | 41 |
| 2014/11/06 04:11:10 | 44 | 45 | 42 |
| 2014/11/06 04:16:10 | 45 | 47 | 43 |
| 2014/11/06 04:21:10 | 46 | 48 | 42 |
| 2014/11/06 04:26:10 | 44 | 46 | 41 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/06 04:31:10 | 44 | 47 | 40 |
| 2014/11/06 04:36:10 | 41 | 41 | 40 |
| 2014/11/06 04:41:10 | 41 | 41 | 40 |
| 2014/11/06 04:46:10 | 42 | 44 | 41 |
| 2014/11/06 04:51:10 | 40 | 41 | 40 |
| 2014/11/06 04:56:10 | 41 | 41 | 40 |
| 2014/11/06 05:01:10 | 42 | 44 | 40 |
| 2014/11/06 05:06:10 | 45 | 47 | 42 |
| 2014/11/06 05:11:10 | 47 | 50 | 40 |
| 2014/11/06 05:16:10 | 46 | 50 | 42 |
| 2014/11/06 05:21:10 | 47 | 50 | 43 |
| 2014/11/06 05:26:10 | 50 | 55 | 44 |
| 2014/11/06 05:31:10 | 45 | 47 | 43 |
| 2014/11/06 05:36:10 | 44 | 46 | 42 |
| 2014/11/06 05:41:10 | 48 | 49 | 43 |
| 2014/11/06 05:46:10 | 49 | 52 | 45 |
| 2014/11/06 05:51:10 | 47 | 49 | 42 |
| 2014/11/06 05:56:10 | 44 | 48 | 41 |
| 2014/11/06 06:01:10 | 45 | 47 | 41 |
| 2014/11/06 06:06:10 | 45 | 47 | 42 |
| 2014/11/06 06:11:10 | 44 | 45 | 41 |
| 2014/11/06 06:16:10 | 45 | 48 | 42 |
| 2014/11/06 06:21:10 | 48 | 51 | 43 |
| 2014/11/06 06:26:10 | 46 | 48 | 44 |
| 2014/11/06 06:31:10 | 46 | 49 | 44 |
| 2014/11/06 06:36:10 | 50 | 53 | 48 |
| 2014/11/06 06:41:10 | 49 | 52 | 45 |
| 2014/11/06 06:46:10 | 47 | 50 | 44 |
| 2014/11/06 06:51:10 | 51 | 54 | 48 |
| 2014/11/06 06:56:10 | 49 | 52 | 46 |
| 2014/11/06 23:01:10 | 53 | 55 | 50 |
| 2014/11/06 23:06:10 | 53 | 56 | 49 |
| 2014/11/06 23:11:10 | 52 | 54 | 48 |
| 2014/11/06 23:16:10 | 53 | 55 | 49 |
| 2014/11/06 23:21:10 | 53 | 55 | 49 |
| 2014/11/06 23:26:10 | 52 | 54 | 48 |
| 2014/11/06 23:31:10 | 54 | 56 | 48 |
| 2014/11/06 23:36:10 | 51 | 54 | 46 |
| 2014/11/06 23:41:10 | 51 | 53 | 45 |
| 2014/11/06 23:46:10 | 53 | 55 | 49 |
| 2014/11/06 23:51:10 | 51 | 53 | 46 |
| 2014/11/06 23:56:10 | 52 | 54 | 49 |
| 2014/11/07 00:01:10 | 52 | 54 | 48 |
| 2014/11/07 00:06:10 | 53 | 54 | 46 |
| 2014/11/07 00:11:10 | 58 | 59 | 50 |
| 2014/11/07 00:16:10 | 56 | 60 | 50 |
| 2014/11/07 00:21:10 | 54 | 56 | 51 |
| 2014/11/07 00:26:10 | 54 | 56 | 49 |
| 2014/11/07 00:31:10 | 58 | 61 | 52 |
| 2014/11/07 00:36:10 | 59 | 62 | 55 |
| 2014/11/07 00:41:10 | 59 | 62 | 55 |
| 2014/11/07 00:46:10 | 52 | 54 | 50 |
| 2014/11/07 00:51:10 | 50 | 51 | 48 |
| 2014/11/07 00:56:10 | 50 | 52 | 48 |
| 2014/11/07 01:01:10 | 52 | 54 | 50 |
| 2014/11/07 01:06:10 | 52 | 53 | 50 |
| 2014/11/07 01:11:10 | 50 | 52 | 48 |
| 2014/11/07 01:16:10 | 49 | 51 | 47 |

Baseline Noise Monitoring

All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

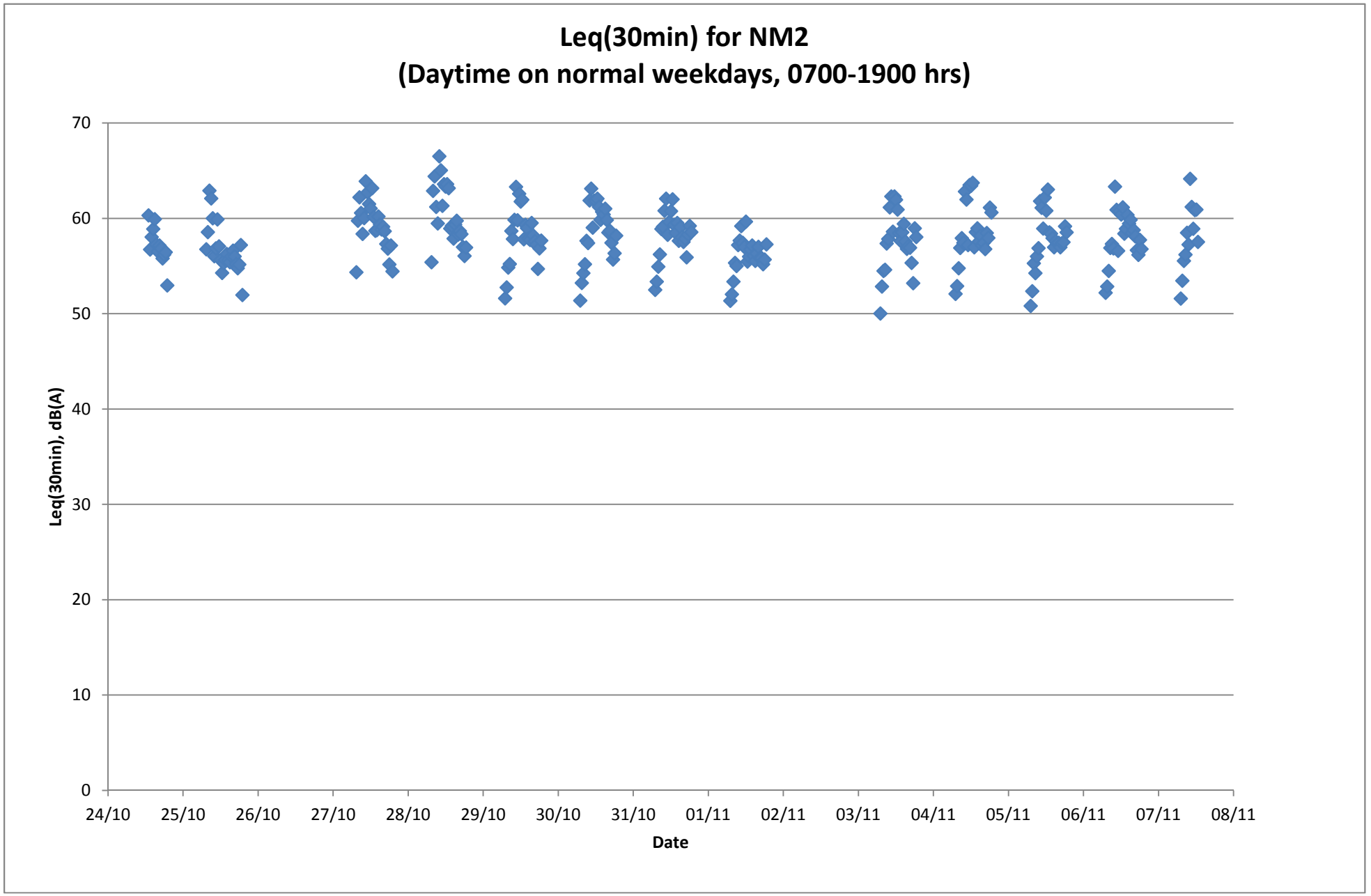
| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/07 01:21:10 | 49 | 50 | 46 |
| 2014/11/07 01:26:10 | 48 | 49 | 46 |
| 2014/11/07 01:31:10 | 49 | 50 | 46 |
| 2014/11/07 01:36:10 | 49 | 51 | 47 |
| 2014/11/07 01:41:10 | 52 | 52 | 50 |
| 2014/11/07 01:46:10 | 50 | 52 | 49 |
| 2014/11/07 01:51:10 | 50 | 52 | 48 |
| 2014/11/07 01:56:10 | 50 | 51 | 49 |
| 2014/11/07 02:01:10 | 48 | 49 | 47 |
| 2014/11/07 02:06:10 | 48 | 49 | 47 |
| 2014/11/07 02:11:10 | 49 | 51 | 47 |
| 2014/11/07 02:16:10 | 47 | 48 | 45 |
| 2014/11/07 02:21:10 | 48 | 49 | 46 |
| 2014/11/07 02:26:10 | 50 | 51 | 48 |
| 2014/11/07 02:31:10 | 48 | 49 | 47 |
| 2014/11/07 02:36:10 | 47 | 49 | 45 |
| 2014/11/07 02:41:10 | 48 | 49 | 45 |
| 2014/11/07 02:46:10 | 50 | 51 | 48 |
| 2014/11/07 02:51:10 | 50 | 51 | 49 |
| 2014/11/07 02:56:10 | 50 | 51 | 48 |
| 2014/11/07 03:01:10 | 48 | 50 | 47 |
| 2014/11/07 03:06:10 | 45 | 46 | 44 |
| 2014/11/07 03:11:10 | 44 | 45 | 43 |
| 2014/11/07 03:16:10 | 45 | 47 | 43 |
| 2014/11/07 03:21:10 | 44 | 45 | 43 |
| 2014/11/07 03:26:10 | 44 | 45 | 42 |
| 2014/11/07 03:31:10 | 43 | 44 | 42 |
| 2014/11/07 03:36:10 | 44 | 45 | 43 |
| 2014/11/07 03:41:10 | 46 | 47 | 42 |
| 2014/11/07 03:46:10 | 45 | 46 | 43 |
| 2014/11/07 03:51:10 | 48 | 50 | 44 |
| 2014/11/07 03:56:10 | 46 | 47 | 45 |
| 2014/11/07 04:01:10 | 47 | 48 | 46 |
| 2014/11/07 04:06:10 | 45 | 46 | 44 |
| 2014/11/07 04:11:10 | 44 | 45 | 43 |
| 2014/11/07 04:16:10 | 45 | 46 | 44 |
| 2014/11/07 04:21:10 | 44 | 46 | 43 |
| 2014/11/07 04:26:10 | 45 | 47 | 43 |
| 2014/11/07 04:31:10 | 43 | 45 | 42 |
| 2014/11/07 04:36:10 | 45 | 48 | 42 |
| 2014/11/07 04:41:10 | 50 | 54 | 44 |
| 2014/11/07 04:46:10 | 43 | 45 | 42 |
| 2014/11/07 04:51:10 | 44 | 45 | 42 |
| 2014/11/07 04:56:10 | 44 | 46 | 42 |
| 2014/11/07 05:01:10 | 43 | 44 | 42 |
| 2014/11/07 05:06:10 | 43 | 44 | 42 |
| 2014/11/07 05:11:10 | 43 | 44 | 42 |
| 2014/11/07 05:16:10 | 44 | 45 | 42 |
| 2014/11/07 05:21:10 | 43 | 44 | 42 |
| 2014/11/07 05:26:10 | 44 | 44 | 42 |
| 2014/11/07 05:31:10 | 45 | 46 | 44 |
| 2014/11/07 05:36:10 | 46 | 48 | 44 |
| 2014/11/07 05:41:10 | 45 | 46 | 43 |
| 2014/11/07 05:46:10 | 46 | 47 | 43 |
| 2014/11/07 05:51:10 | 46 | 48 | 43 |
| 2014/11/07 05:56:10 | 46 | 49 | 43 |
| 2014/11/07 06:01:10 | 45 | 47 | 43 |
| 2014/11/07 06:06:10 | 46 | 47 | 44 |

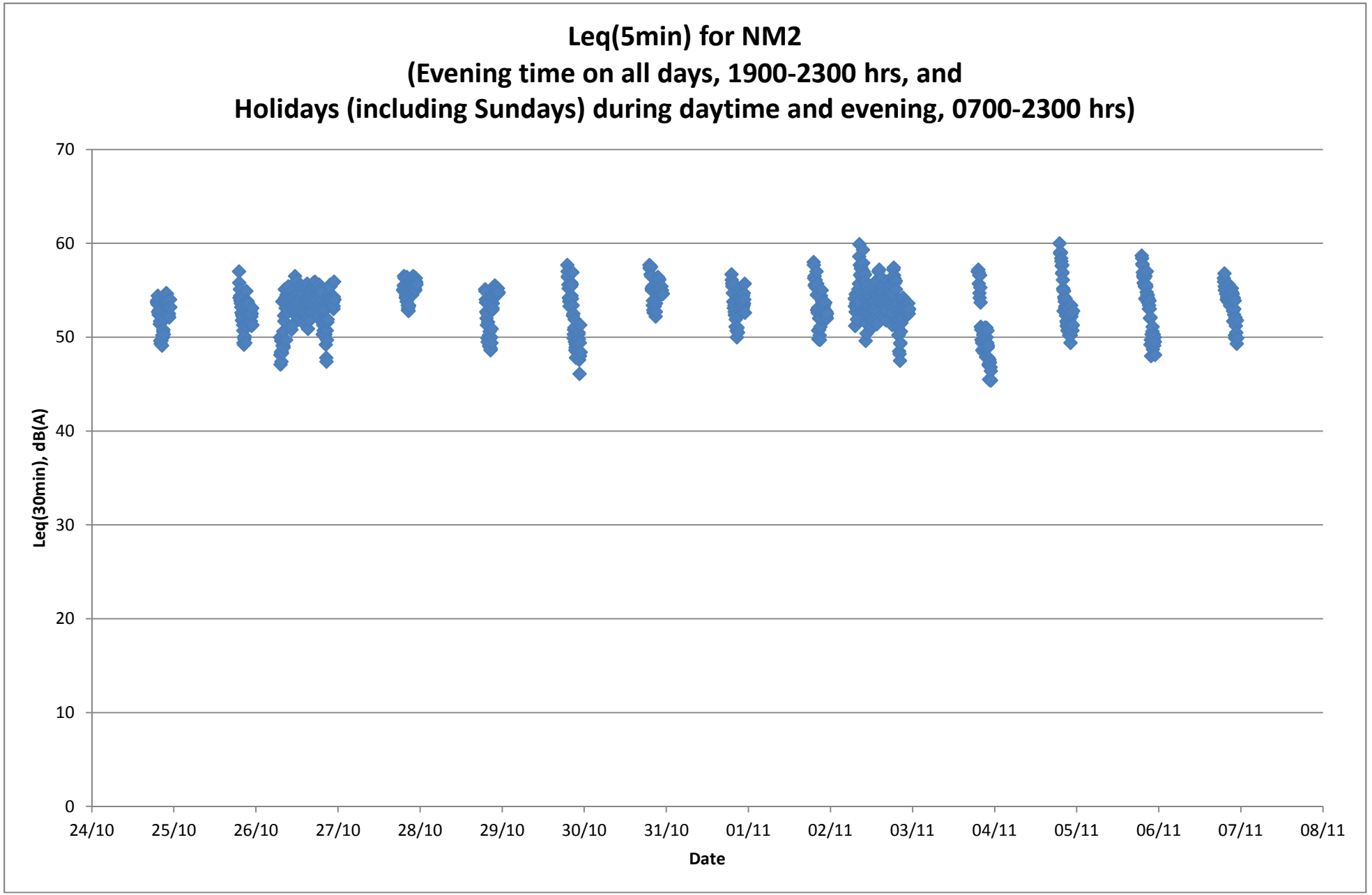
Baseline Noise Monitoring

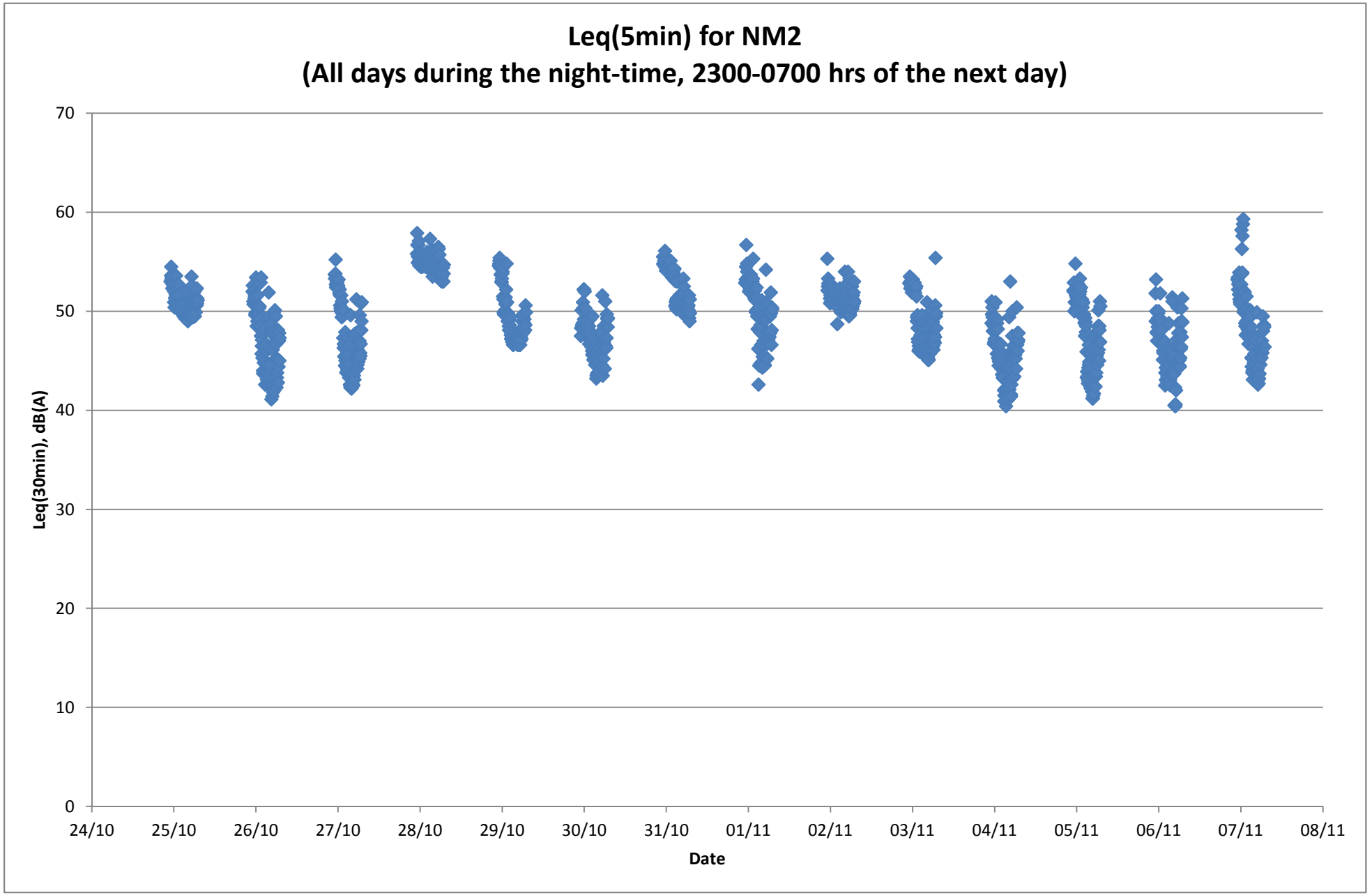
All days during the night-time
(2300-0700 hrs of the next day)

Station: NM2

| Date & Time | Leq (5mins), dB(A) | L10, dB(A) | L90, dB(A) |
|---|---|---|---|
| 2014/11/07 06:11:10 | 47 | 48 | 43 |
| 2014/11/07 06:16:10 | 46 | 48 | 44 |
| 2014/11/07 06:21:10 | 46 | 47 | 44 |
| 2014/11/07 06:26:10 | 50 | 53 | 45 |
| 2014/11/07 06:31:10 | 48 | 50 | 45 |
| 2014/11/07 06:36:10 | 46 | 48 | 44 |
| 2014/11/07 06:41:10 | 49 | 51 | 45 |
| 2014/11/07 06:46:10 | 49 | 51 | 45 |
| 2014/11/07 06:51:10 | 48 | 51 | 45 |
| 2014/11/07 06:56:10 | 46 | 48 | 45 |


Leq(30min) for NM2
(Daytime on normal weekdays, 0700-1900 hrs)
Leq(30min), dB(A)
70
60
50
40
30
20
10
0
24/10
25/10
26/10
27/10
28/10
29/10
30/10
31/10
01/11
02/11
03/11
04/11
05/11
06/11
07/11
08/11
Date

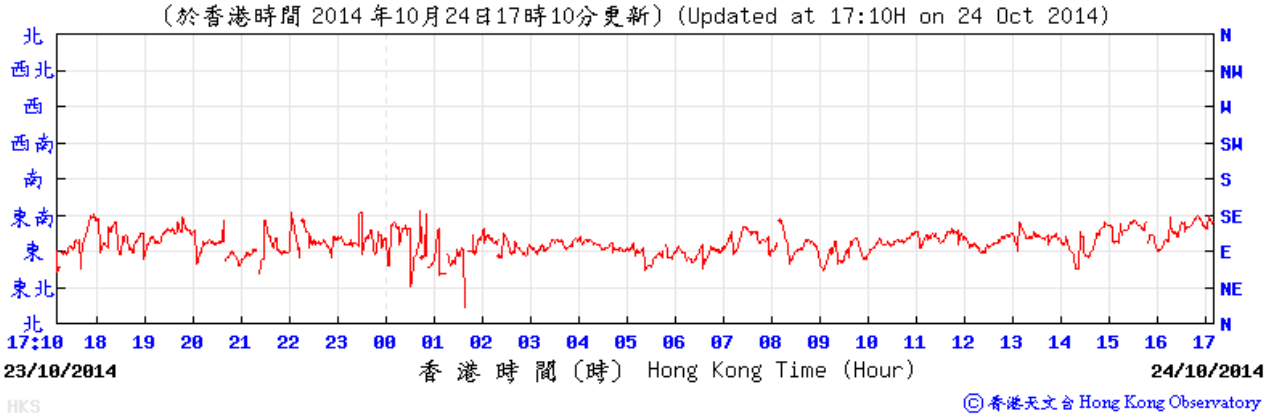

Leq(5min) for NM2
(Evening time on all days, 1900-2300 hrs, and
Holidays (including Sundays) during daytime and evening, 0700-2300 hrs)
Leq(30min), dB(A)
70
60
50
40
30
20
10
0
24/10
25/10
26/10
27/10
28/10
29/10
30/10
31/10
01/11
02/11
03/11
04/11
05/11
06/11
07/11
08/11
Date

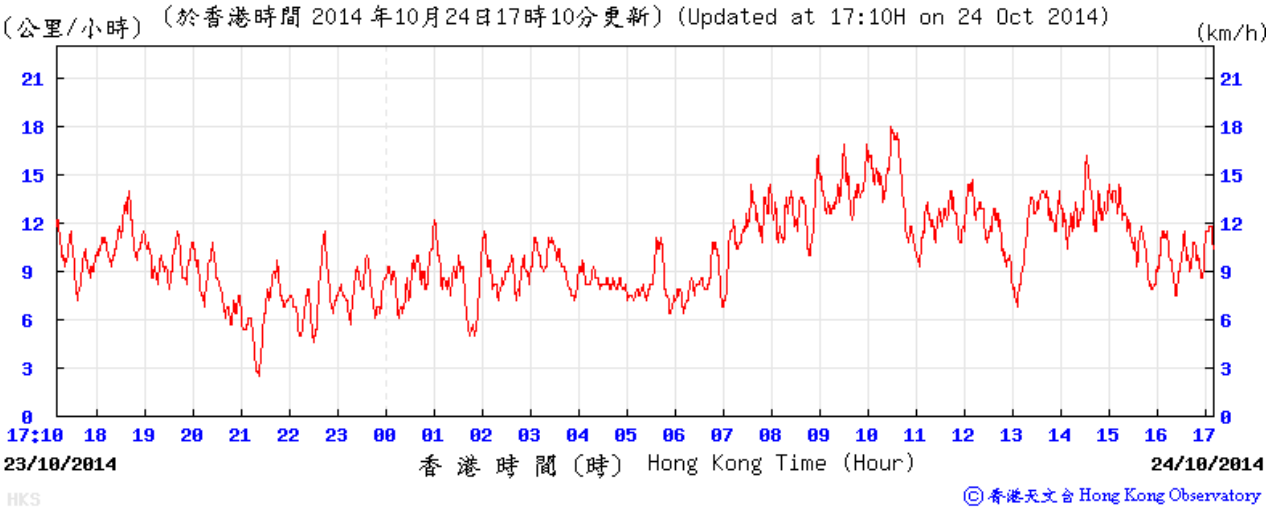

Leq(5min) for NM2
(All days during the night-time, 2300-0700 hrs of the next day)
Leq(30min), dB(A)
70
60
50
40
30
20
10
0
24/10
25/10
26/10
27/10
28/10
29/10
30/10
31/10
01/11
02/11
03/11
04/11
05/11
06/11
07/11
08/11
Date

# Appendix F. Wind data from Hong Kong Observatory Weather Station

# Wind Data for Wong Chuk Hang

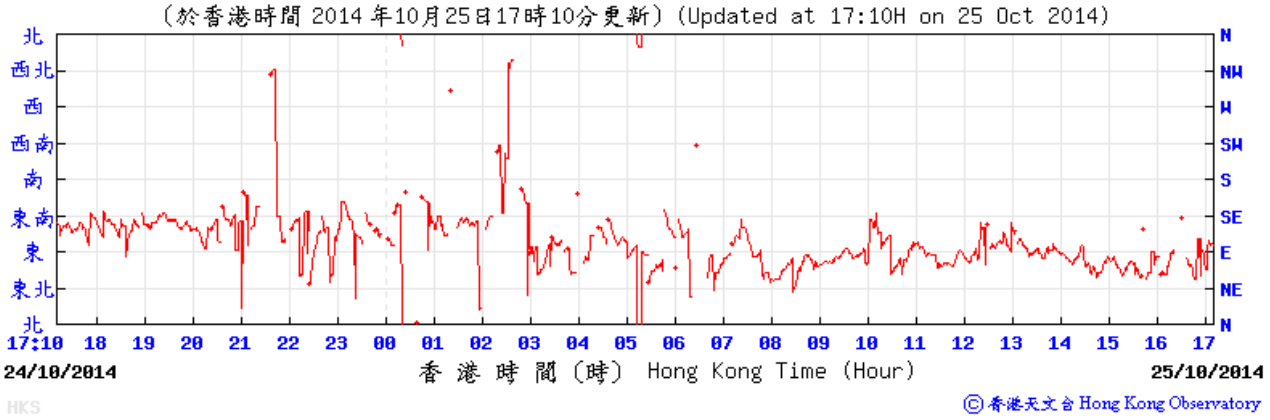
24 October 2014

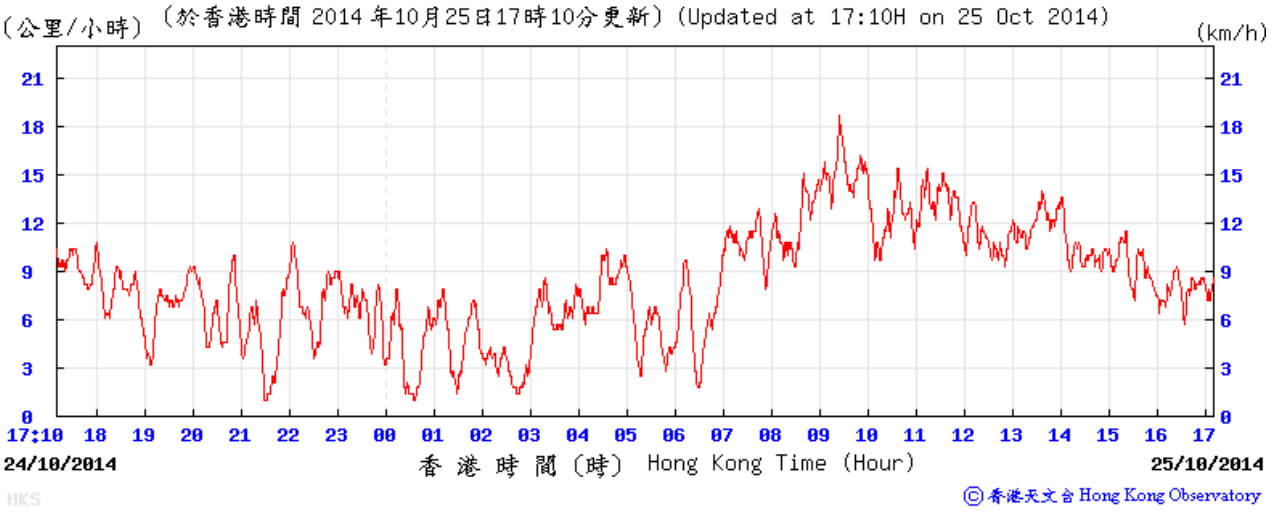


# Wind Data for Wong Chuk Hang

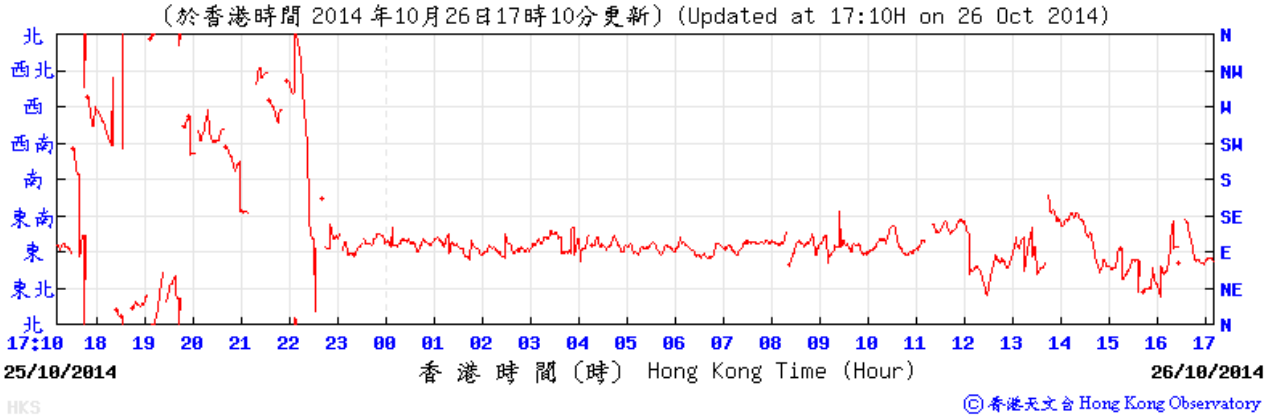
25 October 2014

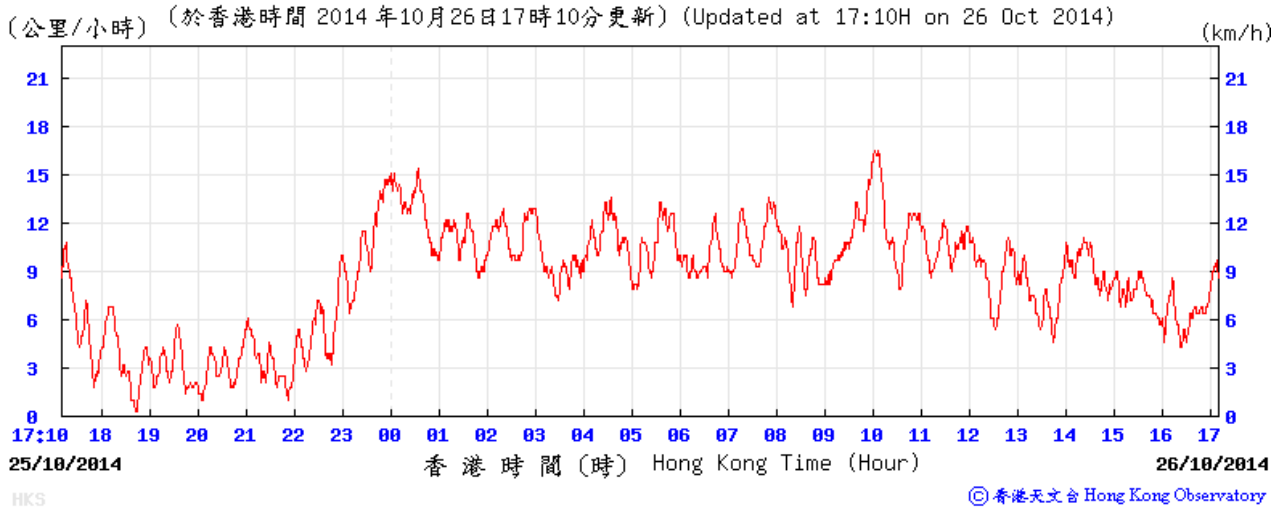


# Wind Data for Wong Chuk Hang

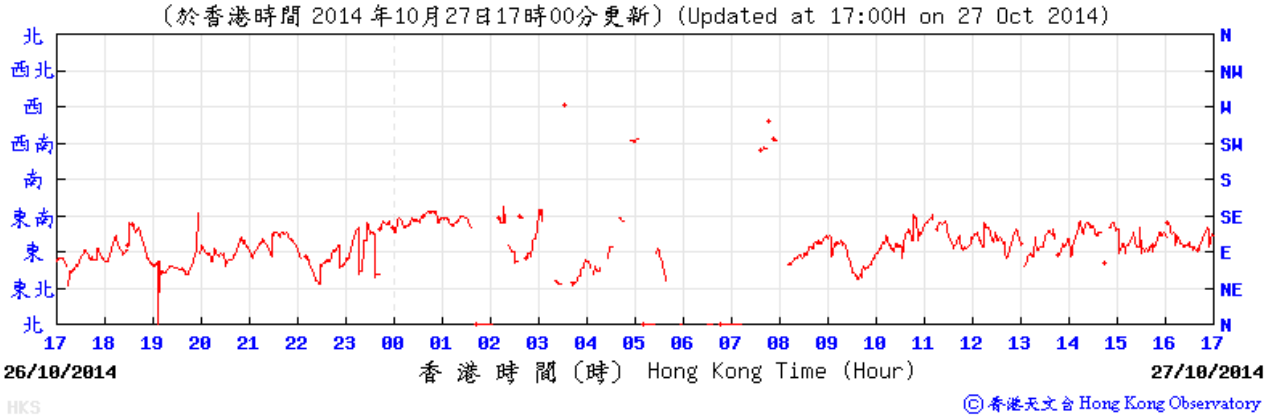
26 October 2014

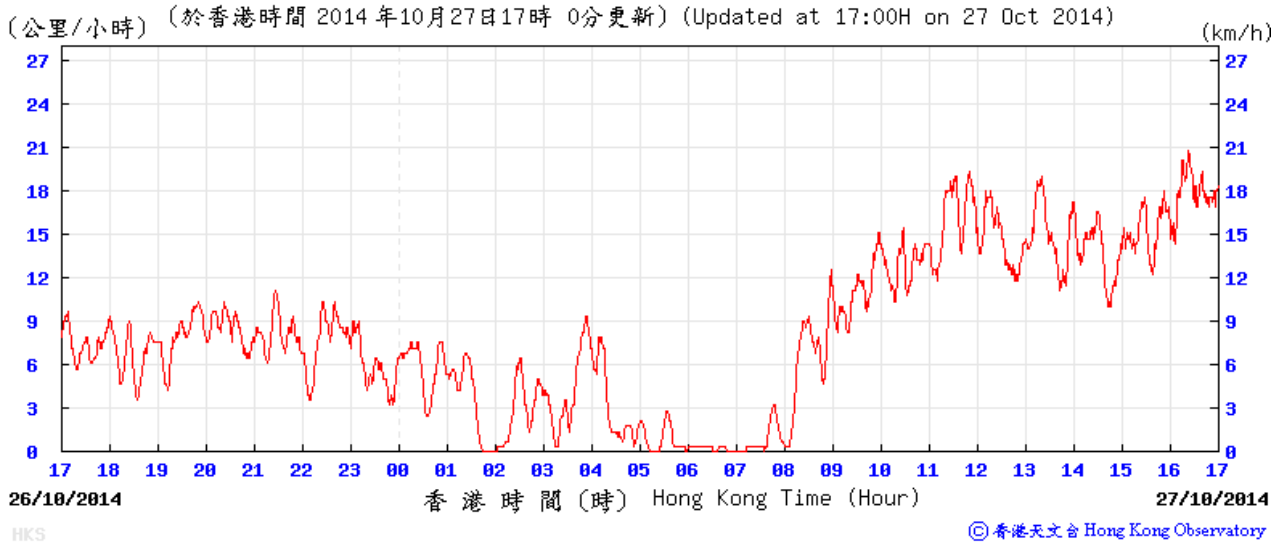


# Wind Data for Wong Chuk Hang

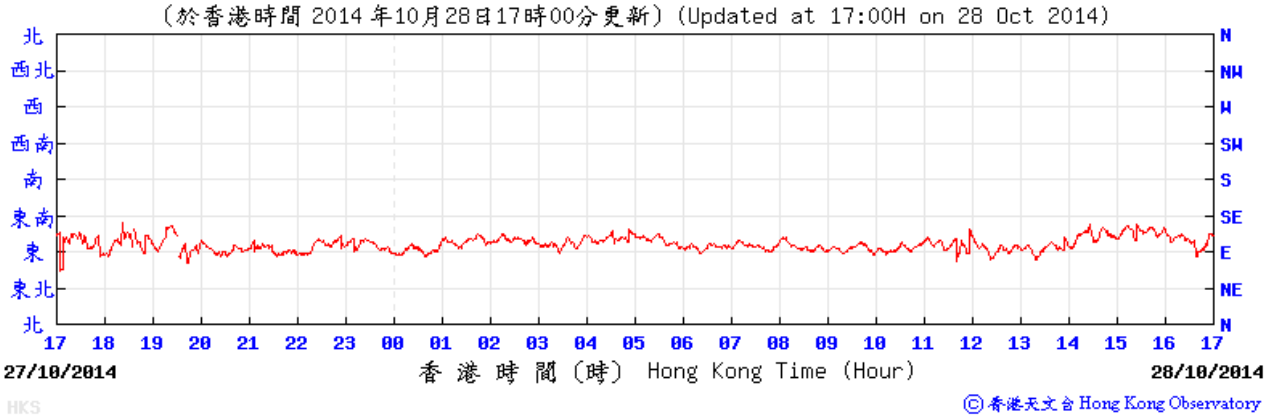
27 October 2014

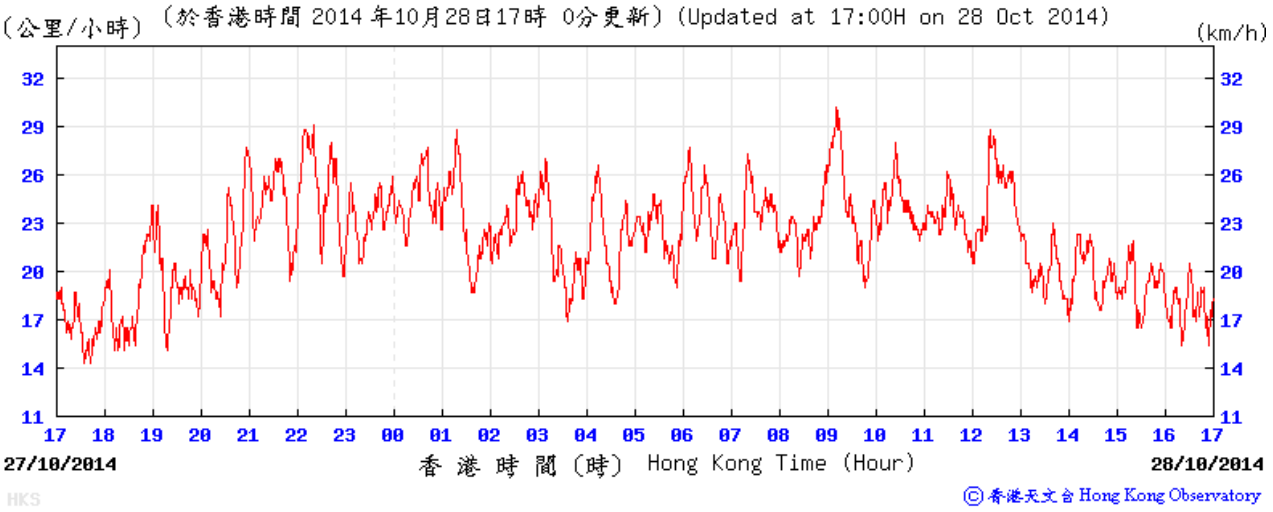


# Wind Data for Wong Chuk Hang

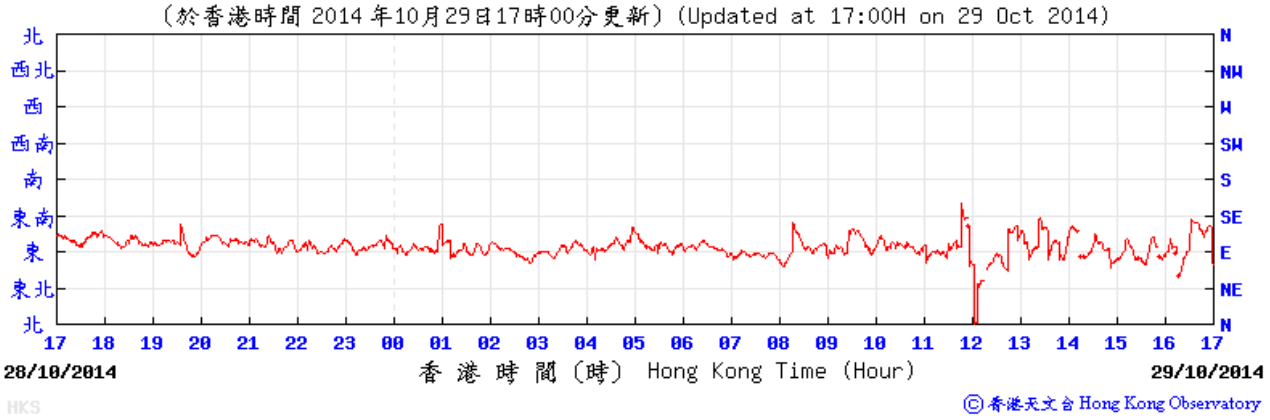
28 October 2014

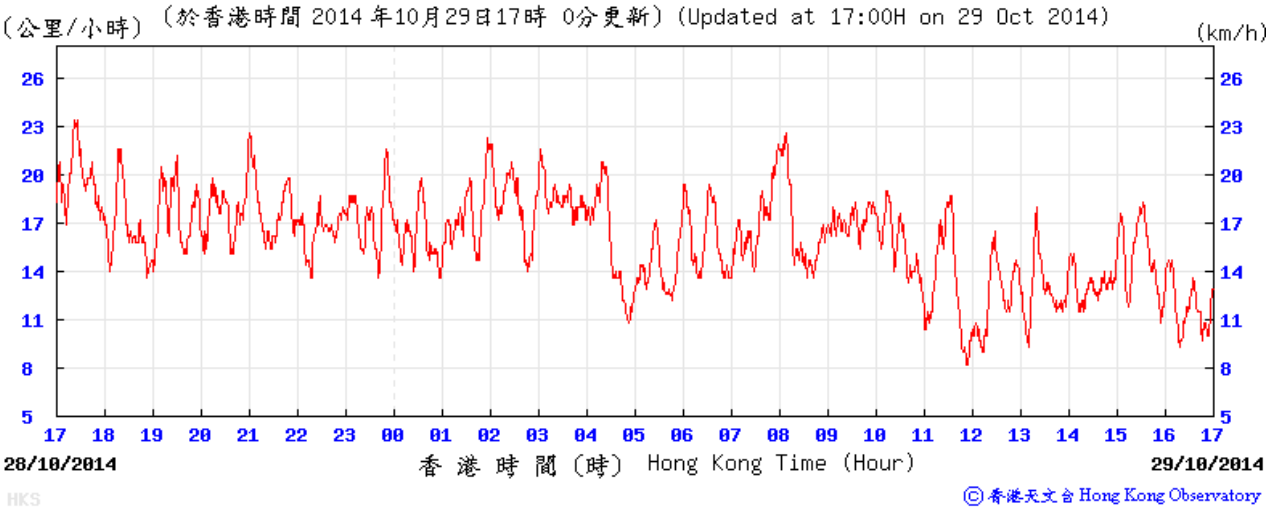


# Wind Data for Wong Chuk Hang

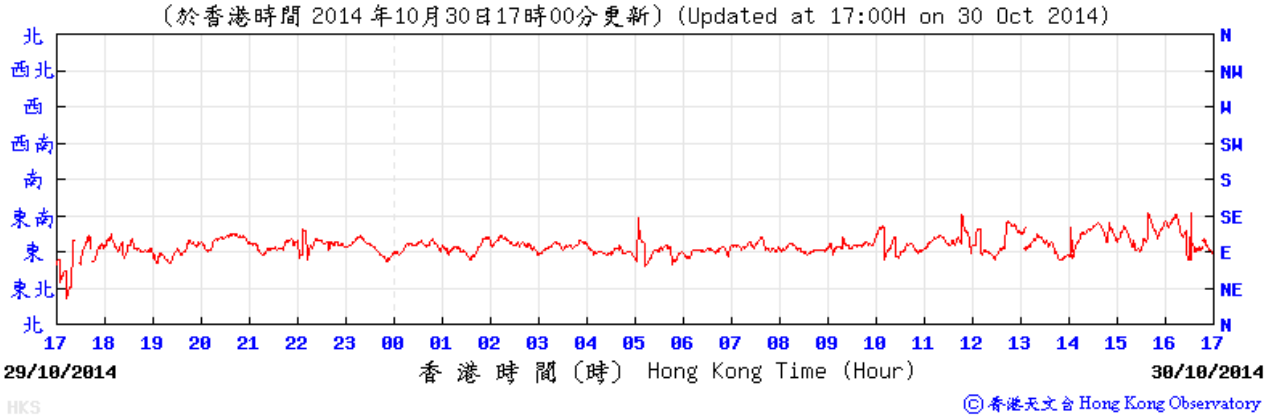
29 October 2014

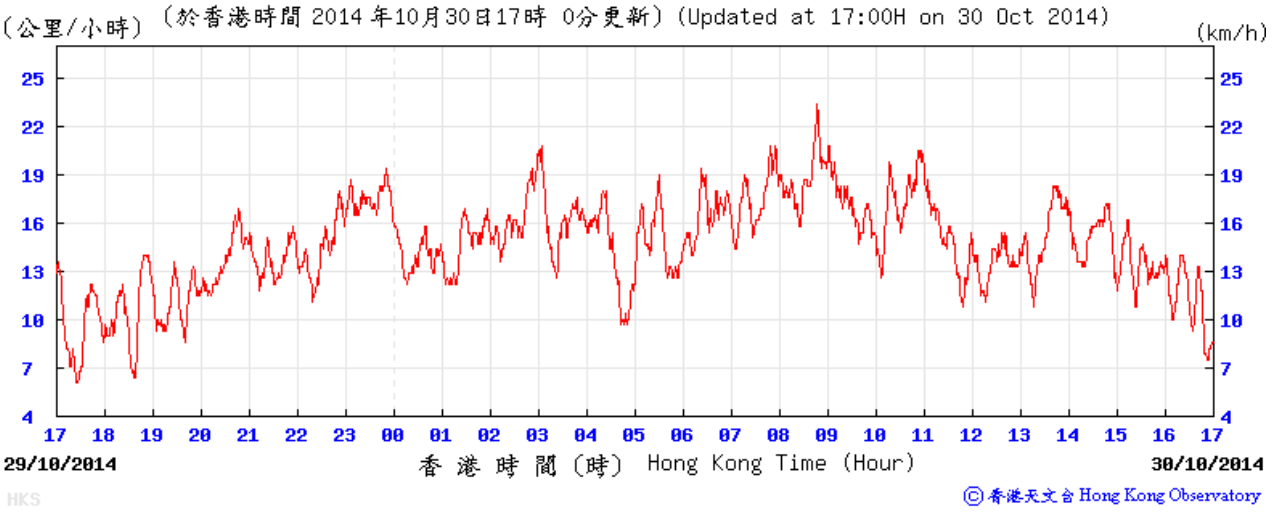


# Wind Data for Wong Chuk Hang

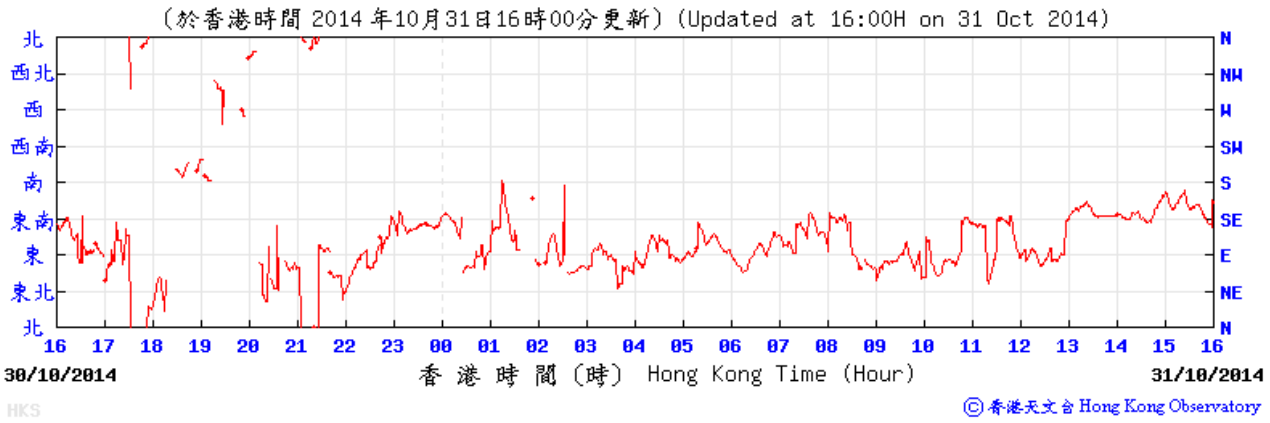
30 October 2014

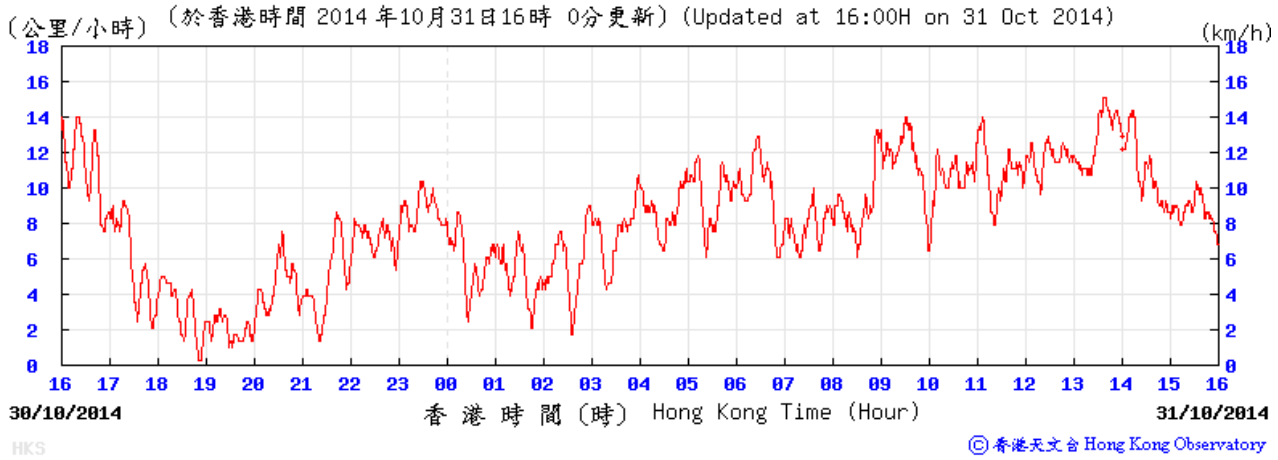


# Wind Data for Wong Chuk Hang

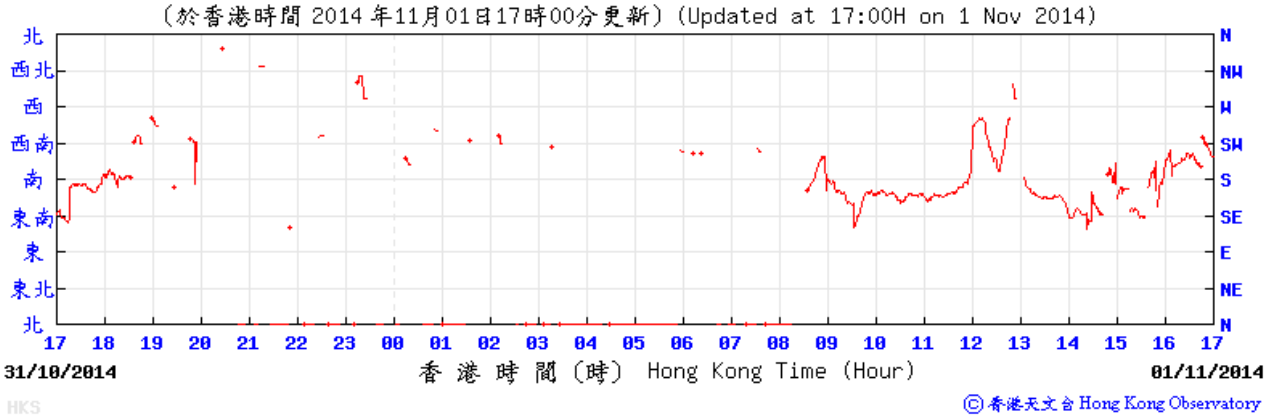
31 October 2014

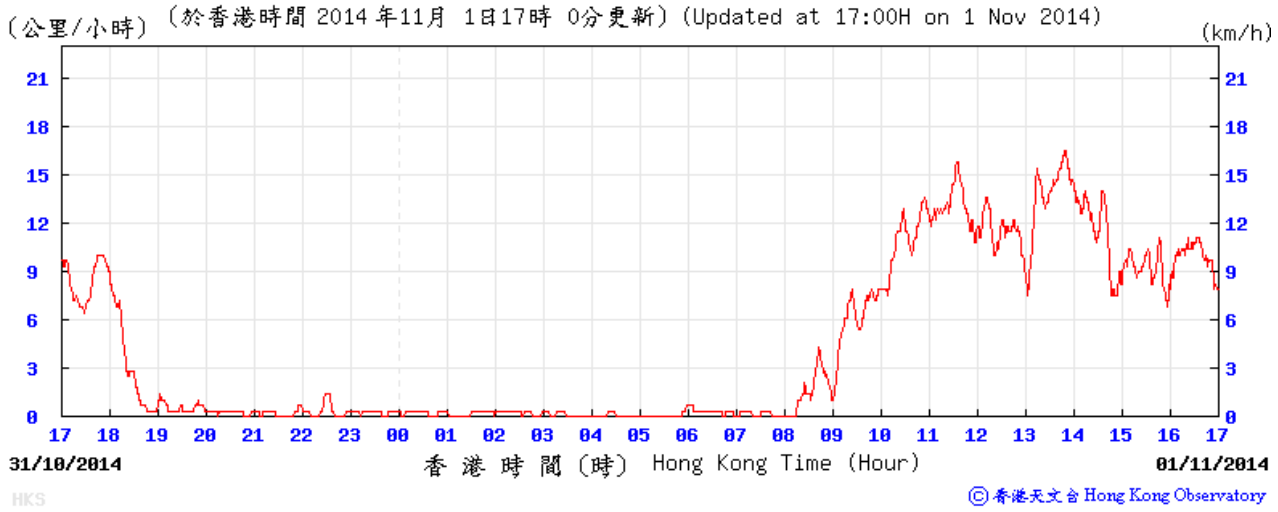


# Wind Data for Wong Chuk Hang

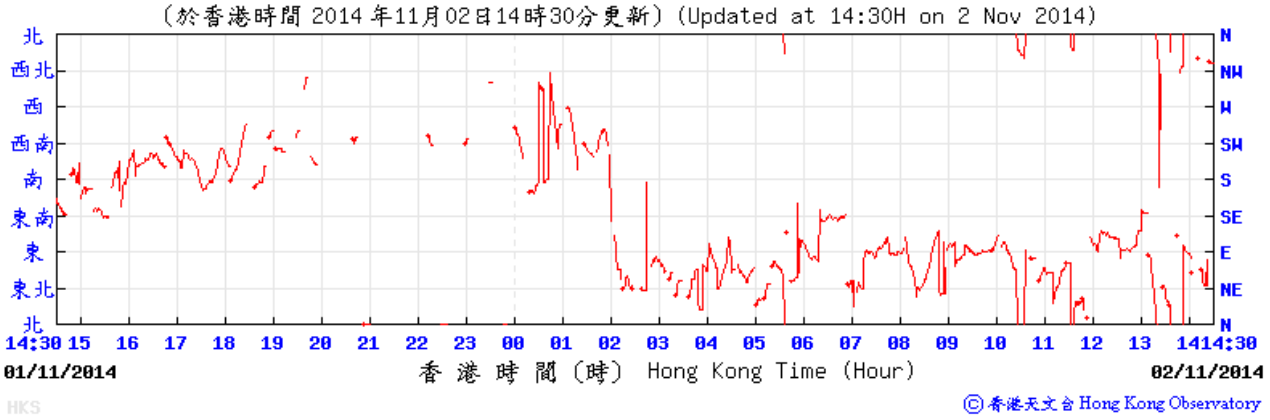
1 November 2014

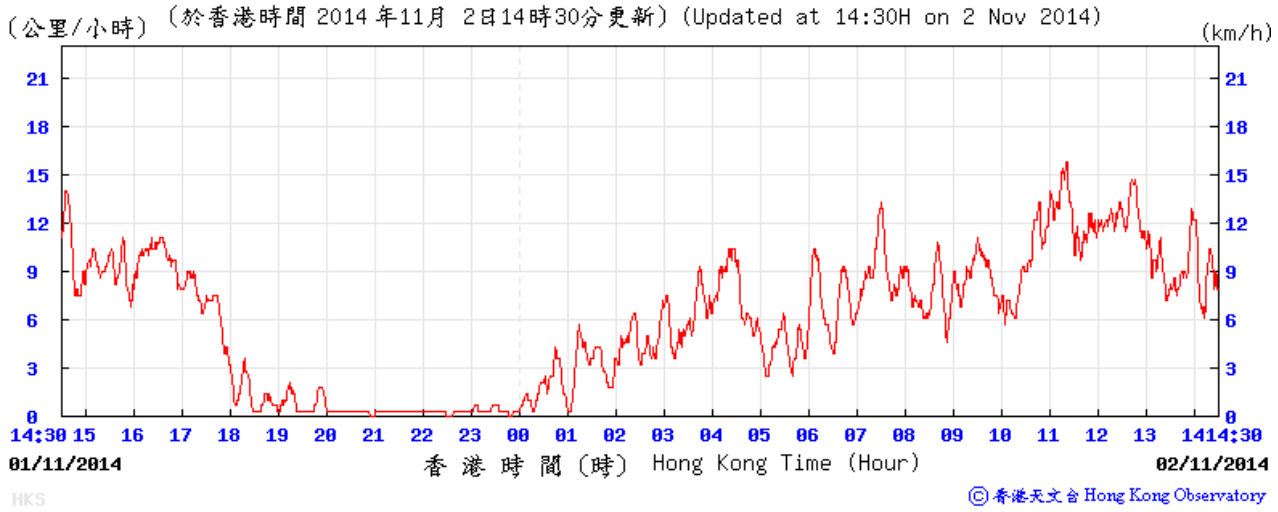


# Wind Data for Wong Chuk Hang

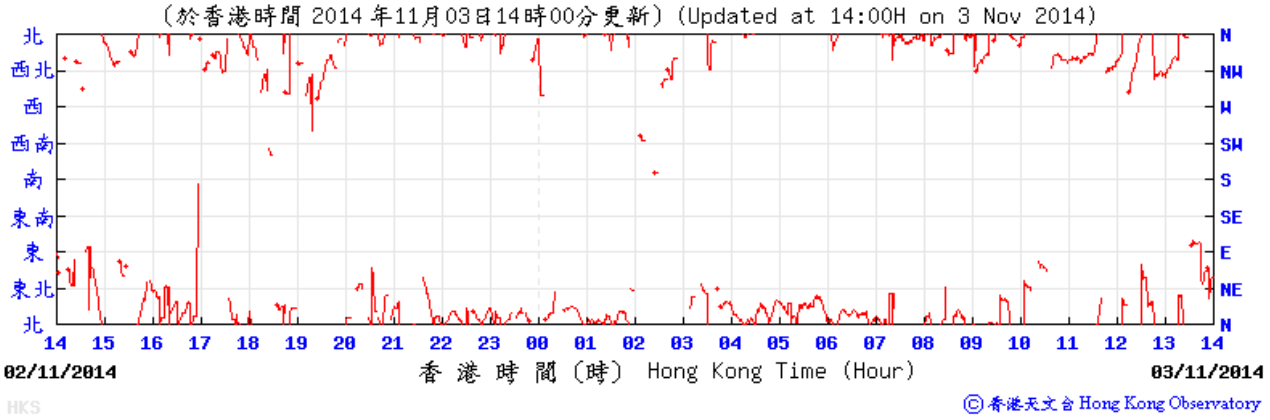
2 November 2014

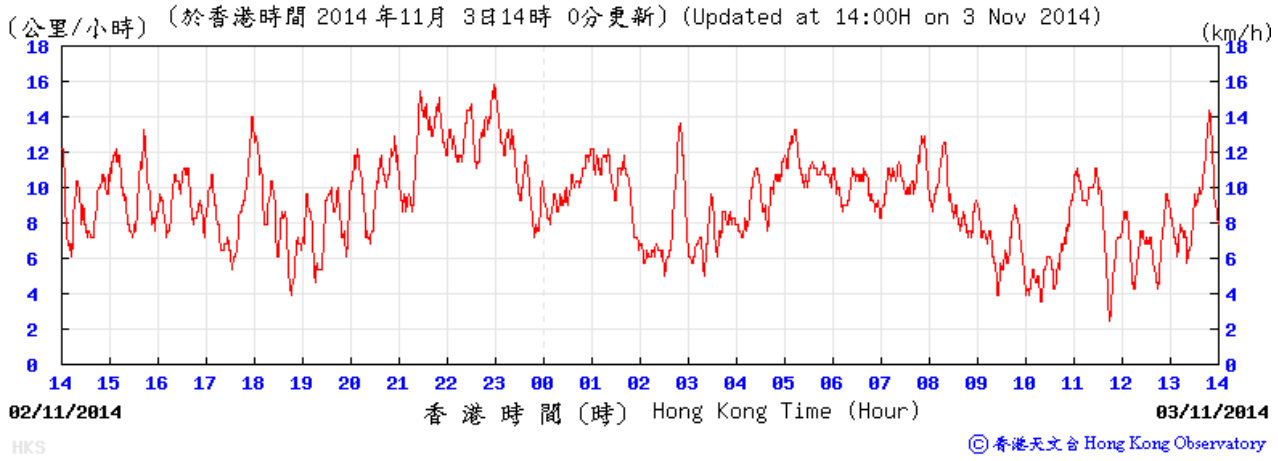


# Wind Data for Wong Chuk Hang

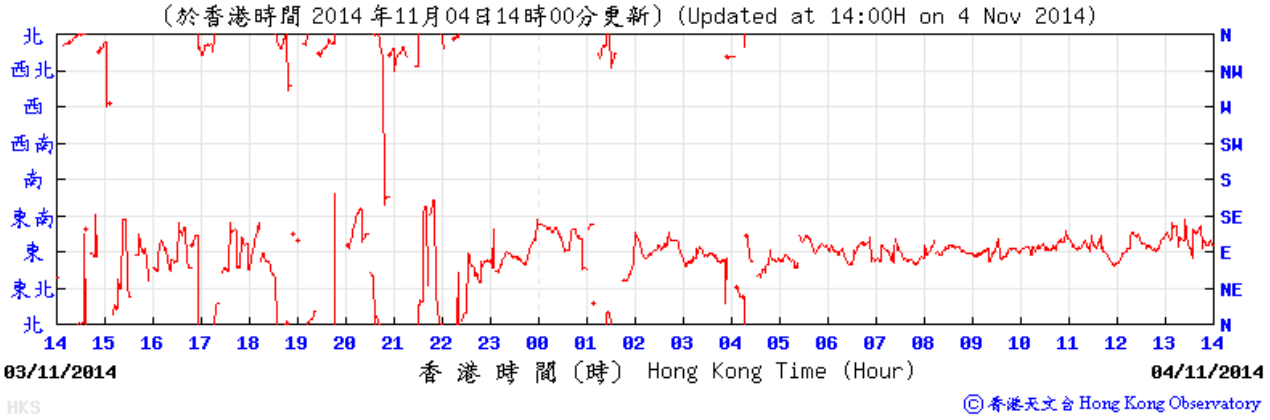
3 November 2014

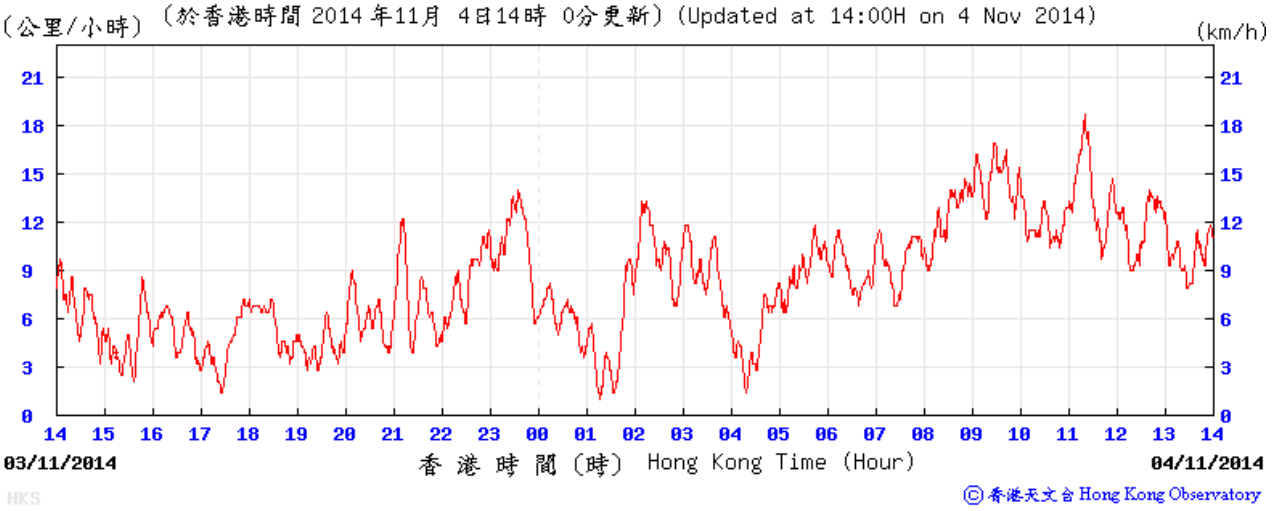


# Wind Data for Wong Chuk Hang

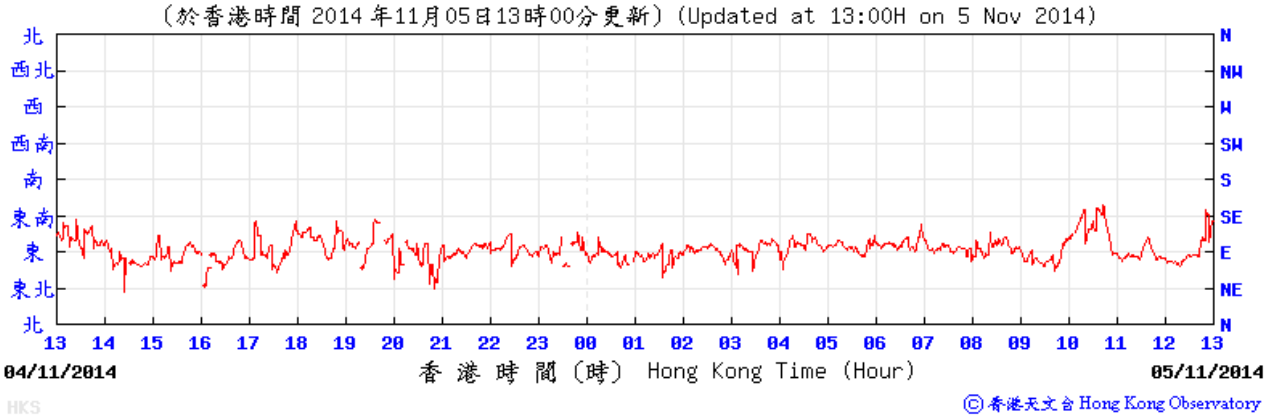
4 November 2014

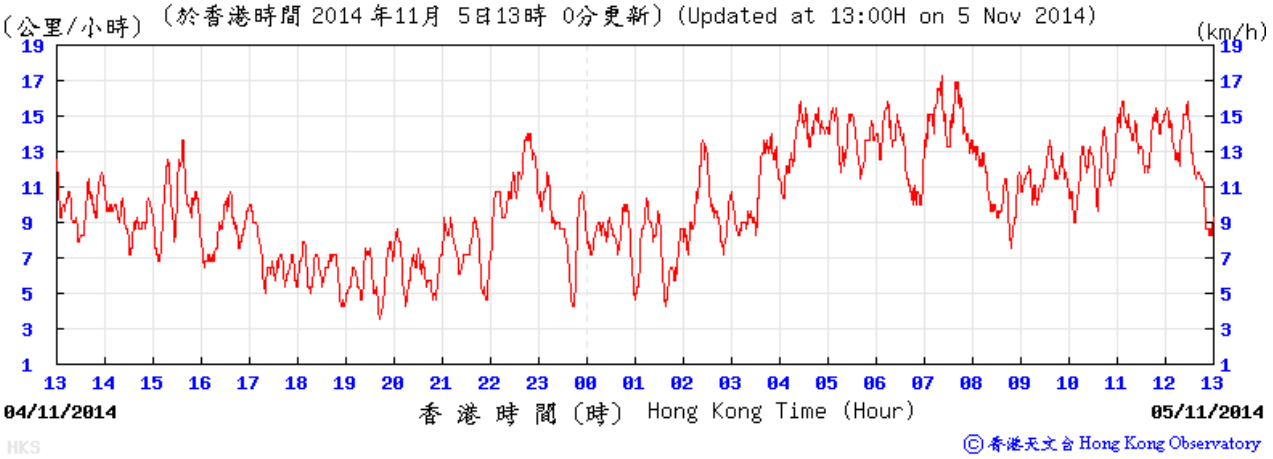


# Wind Data for Wong Chuk Hang

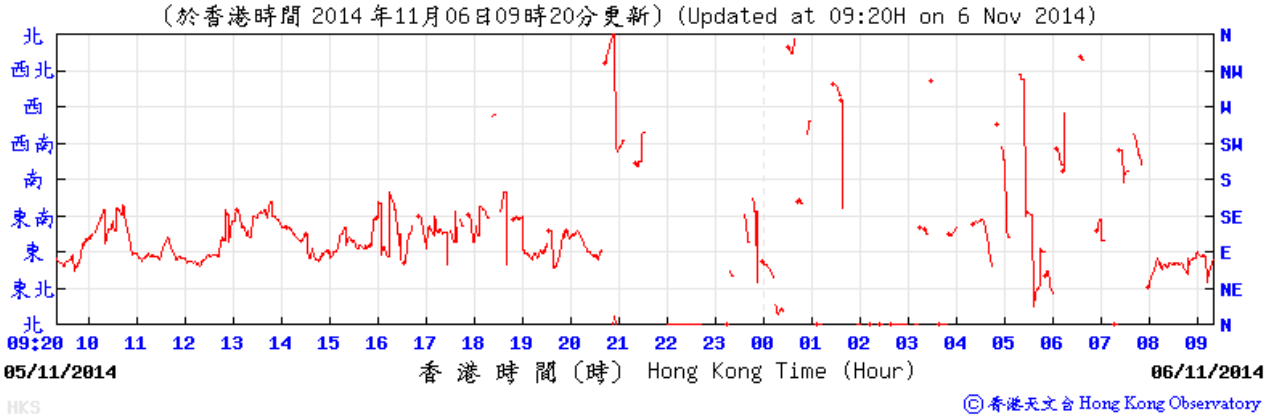
5 November 2014

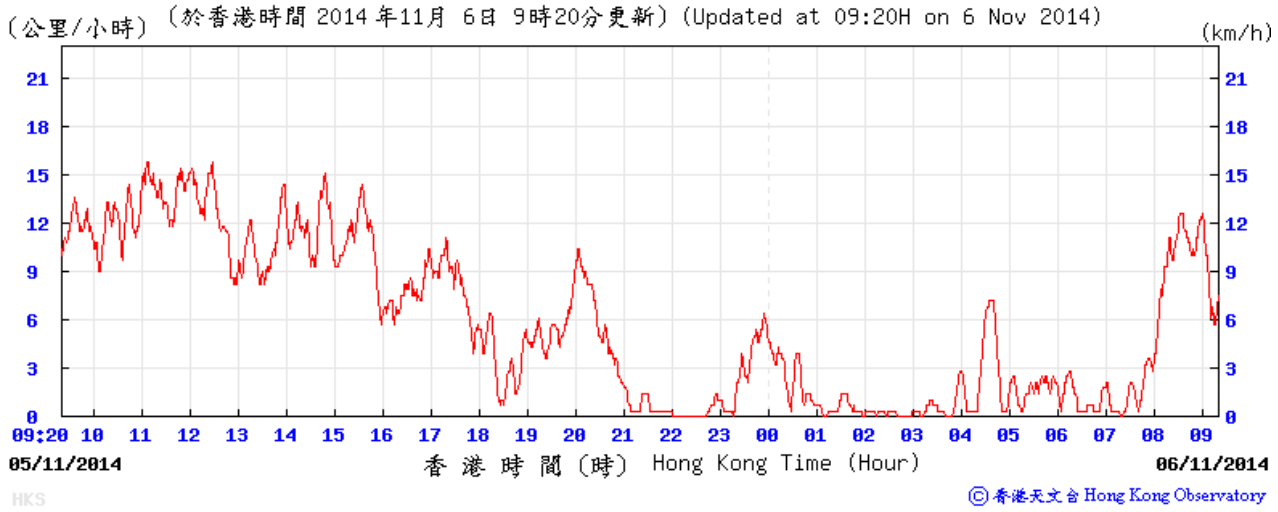


# Wind Data for Wong Chuk Hang

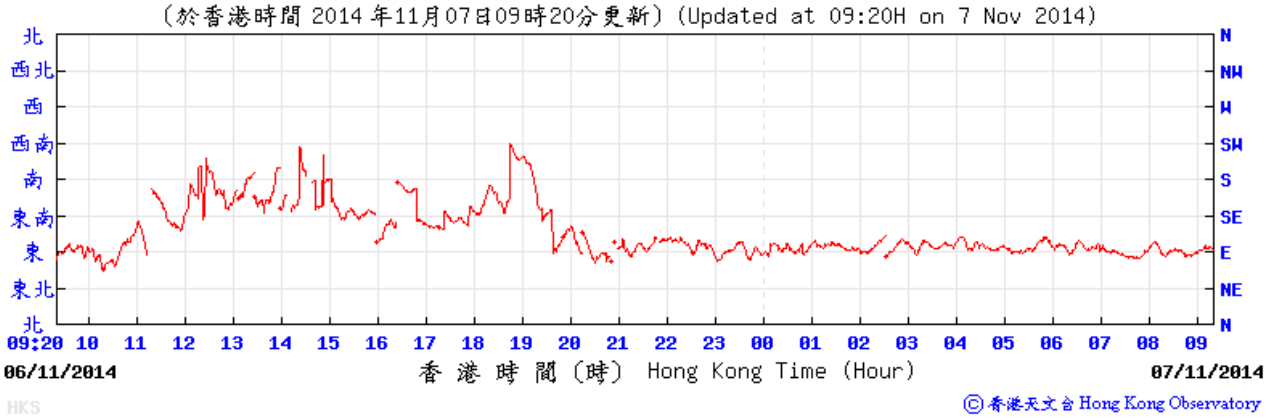
6 November 2014

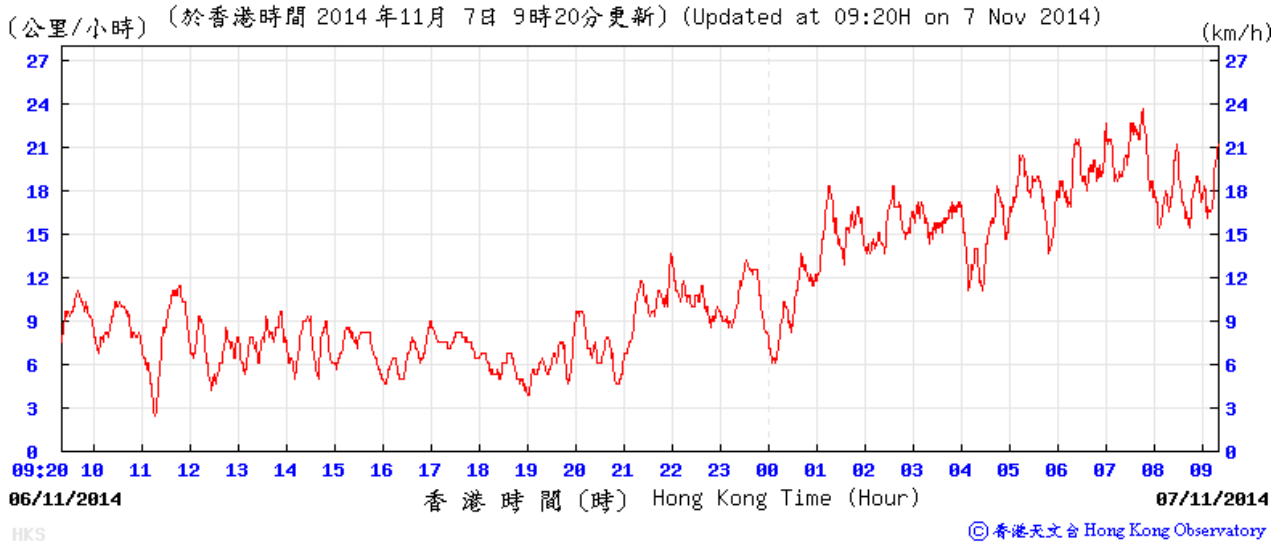


# Wind Data for Wong Chuk Hang

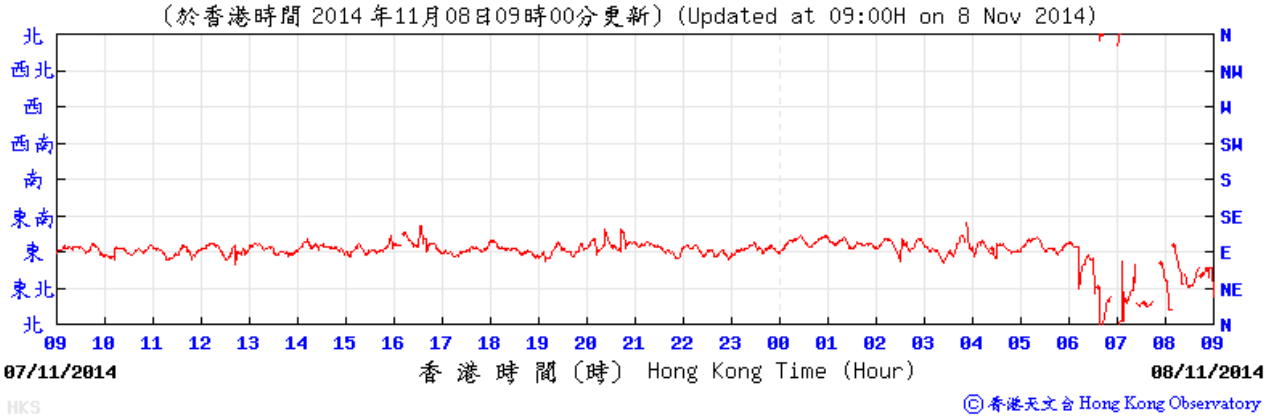
7 November 2014

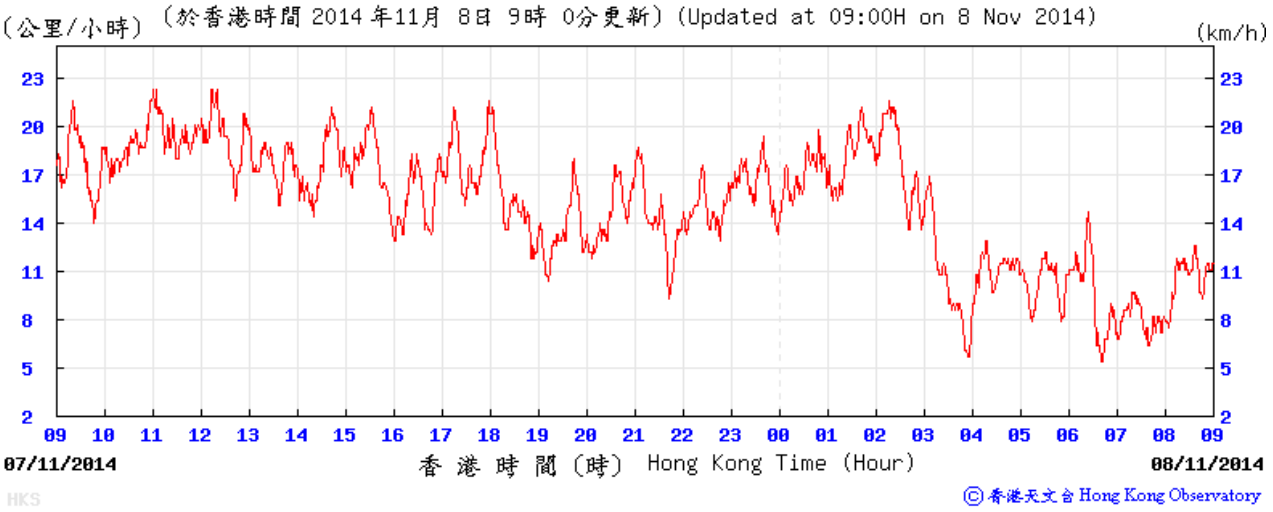


# Wind Data for Wong Chuk Hang

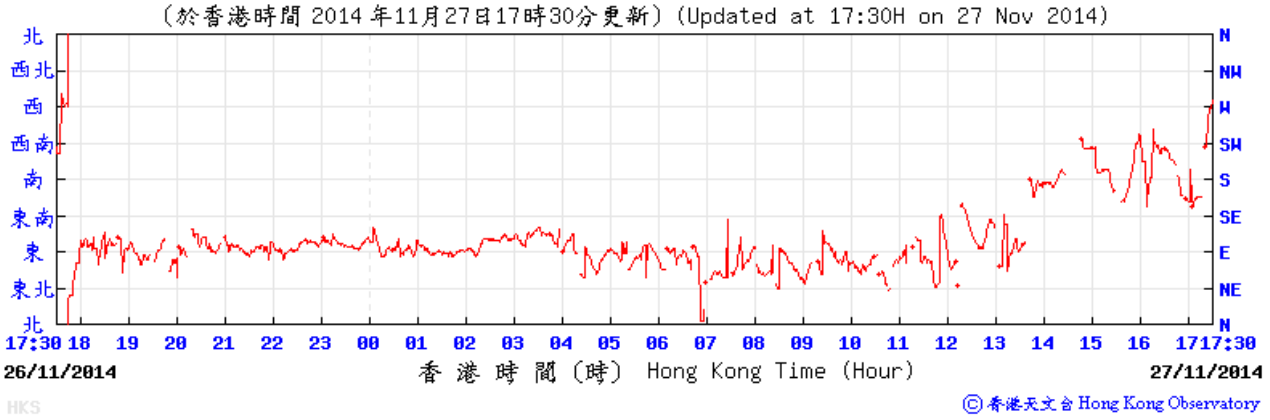
8 November 2014

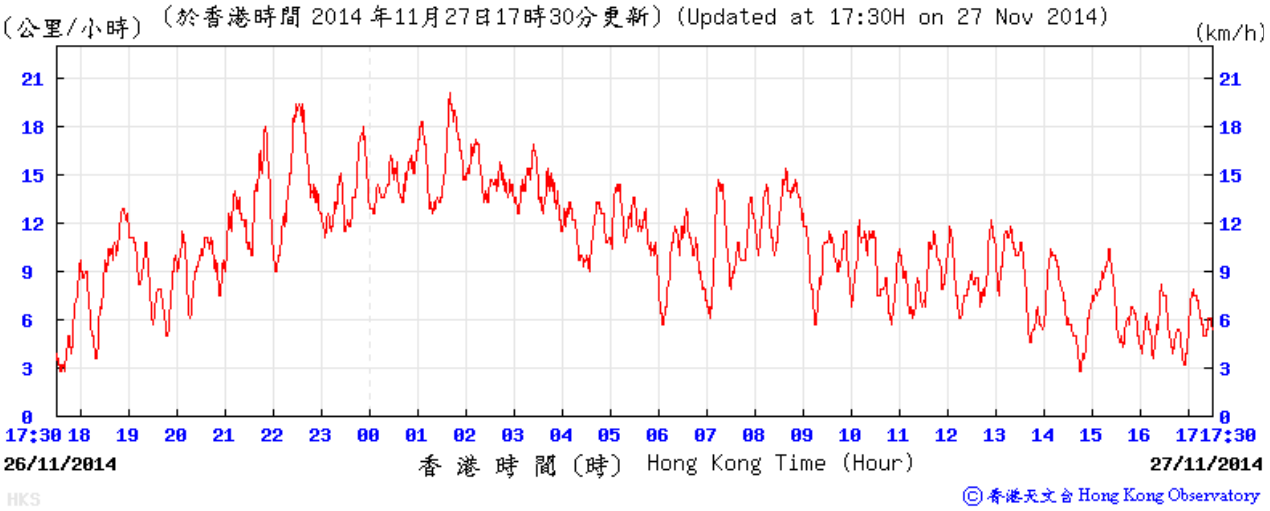


# Wind Data for Wong Chuk Hang

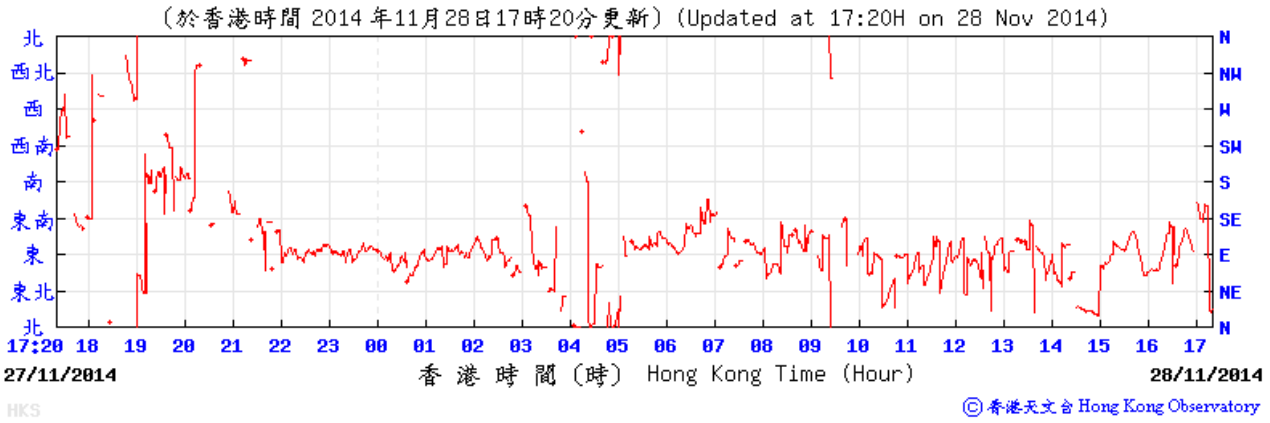
27 November 2014

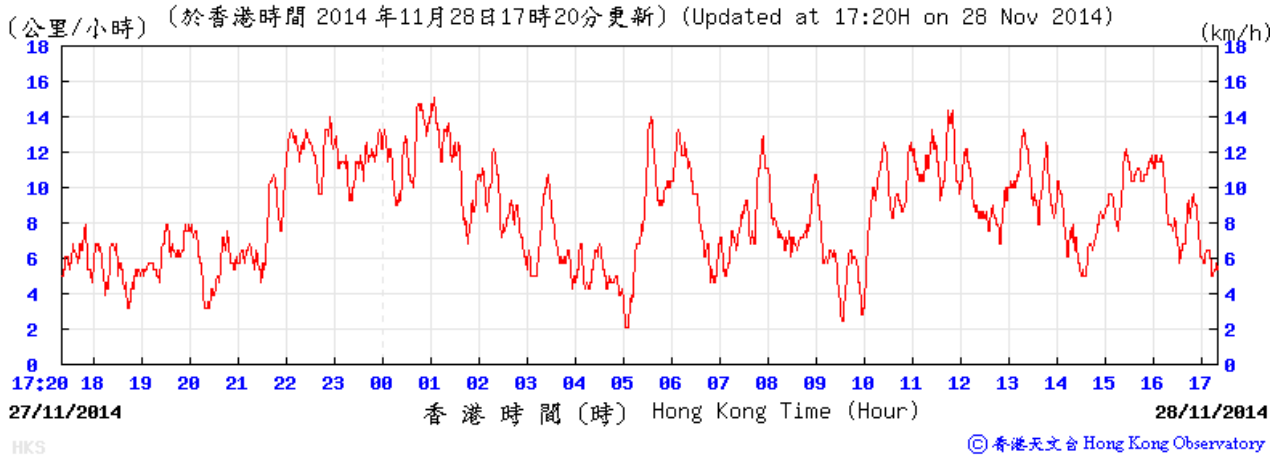


# Wind Data for Wong Chuk Hang

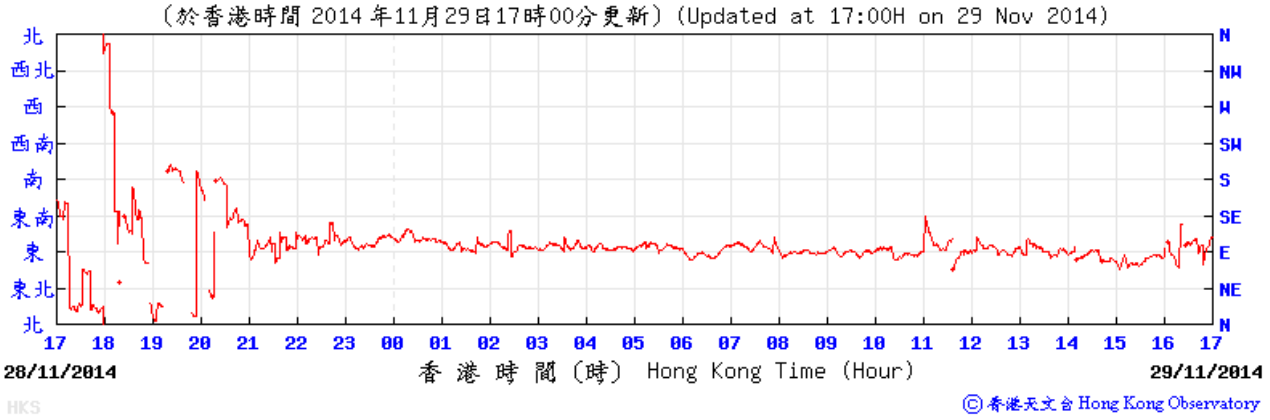
28 November 2014

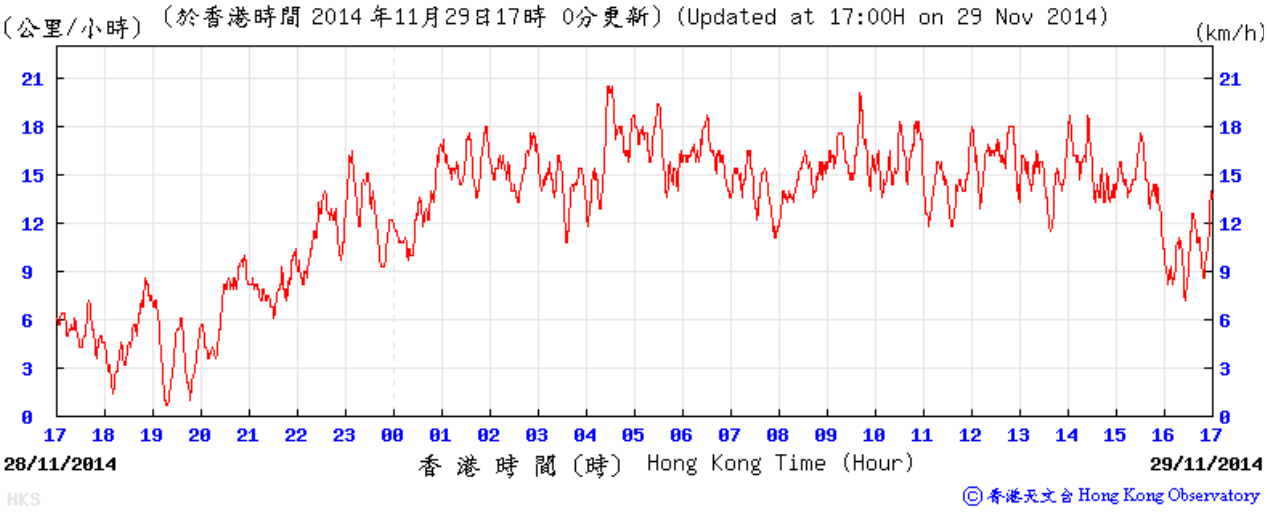


# Wind Data for Wong Chuk Hang

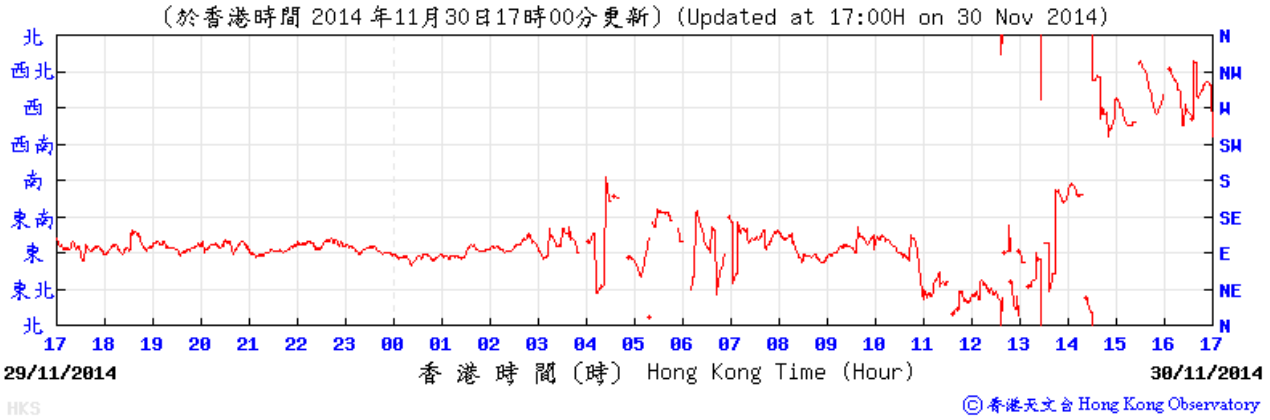
29 November 2014

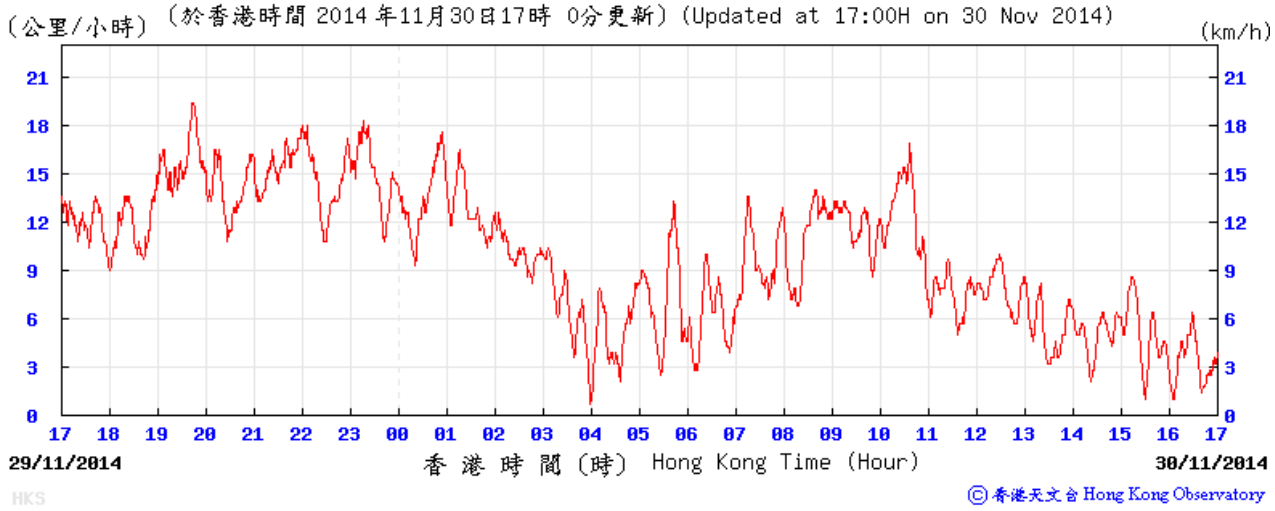


# Wind Data for Wong Chuk Hang

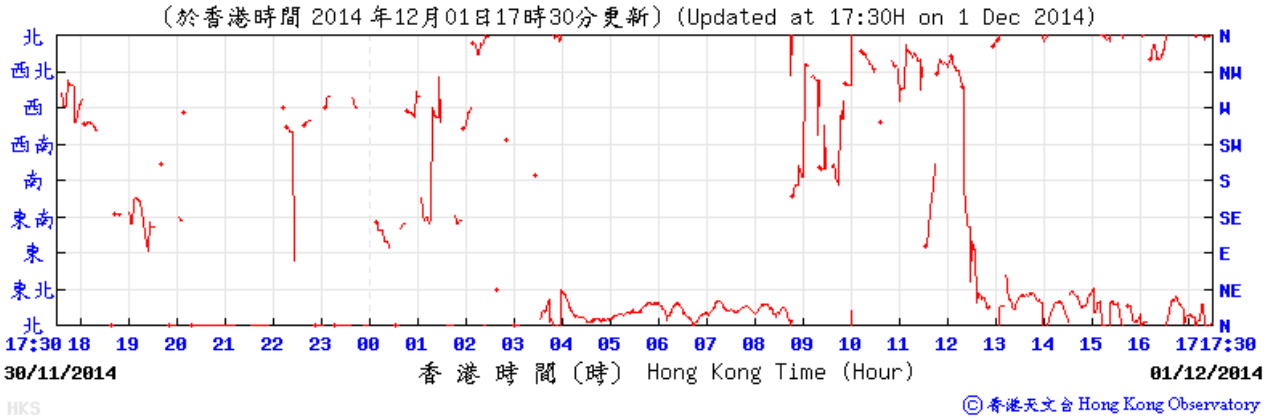
30 November 2014

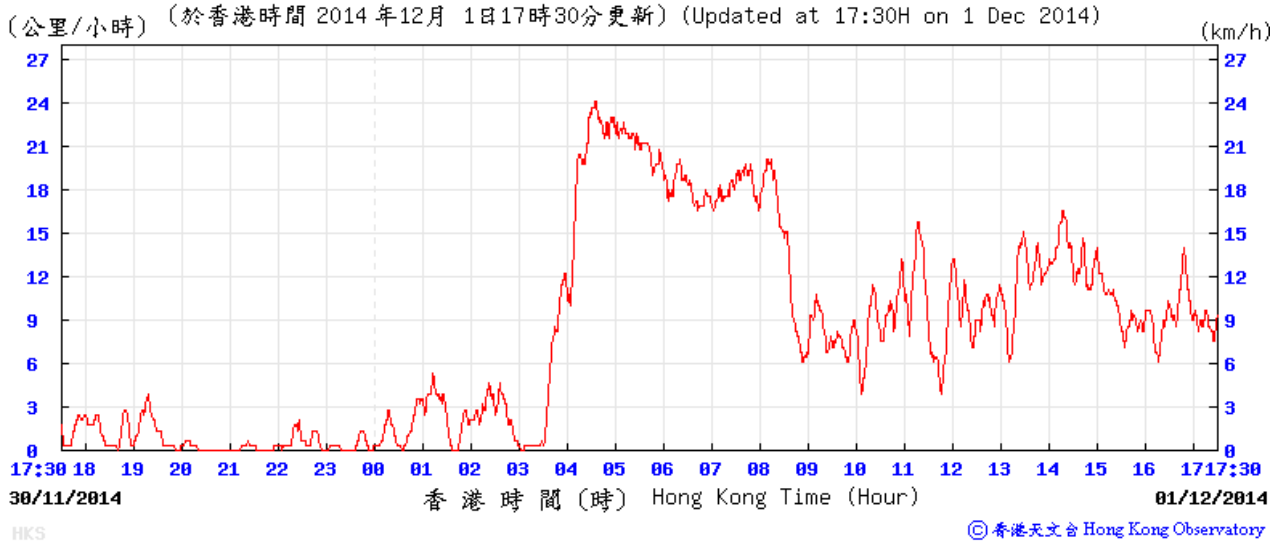


# Wind Data for Wong Chuk Hang

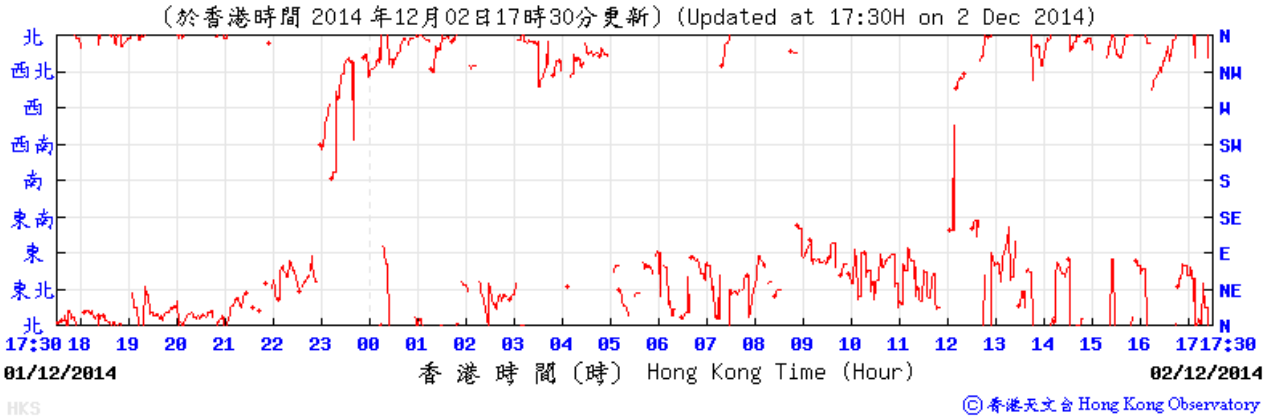
## 1 December 2014

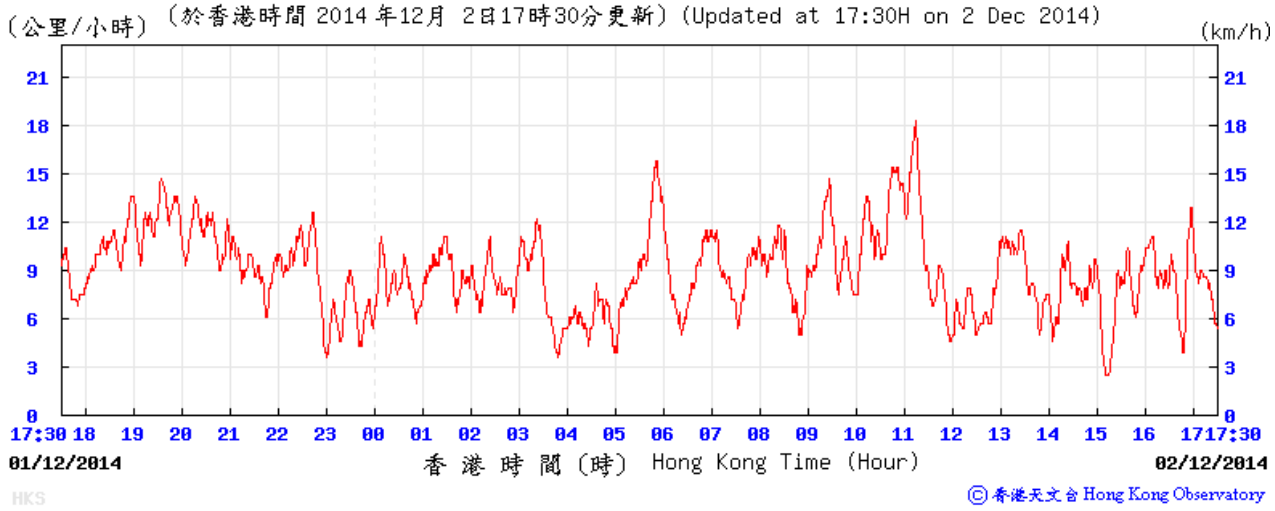


# Wind Data for Wong Chuk Hang

## 2 December 2014



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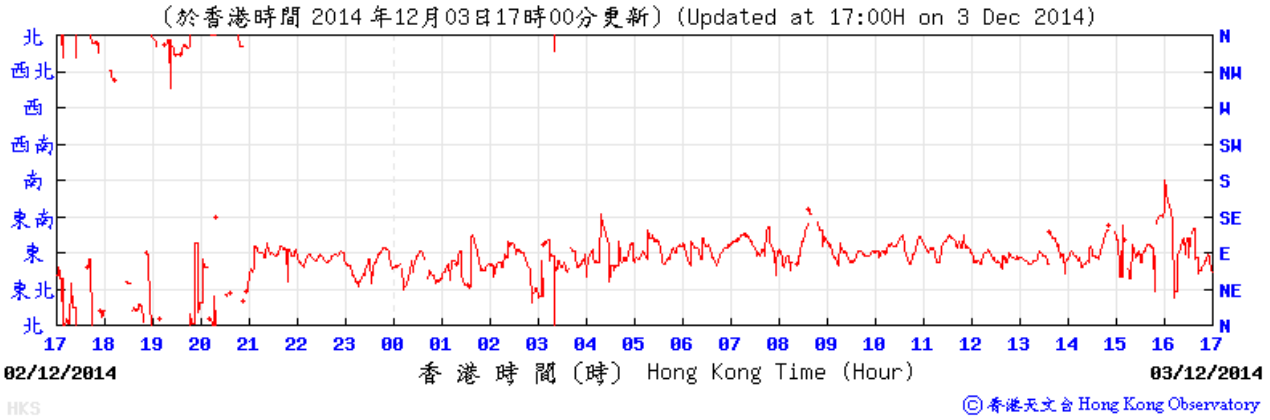


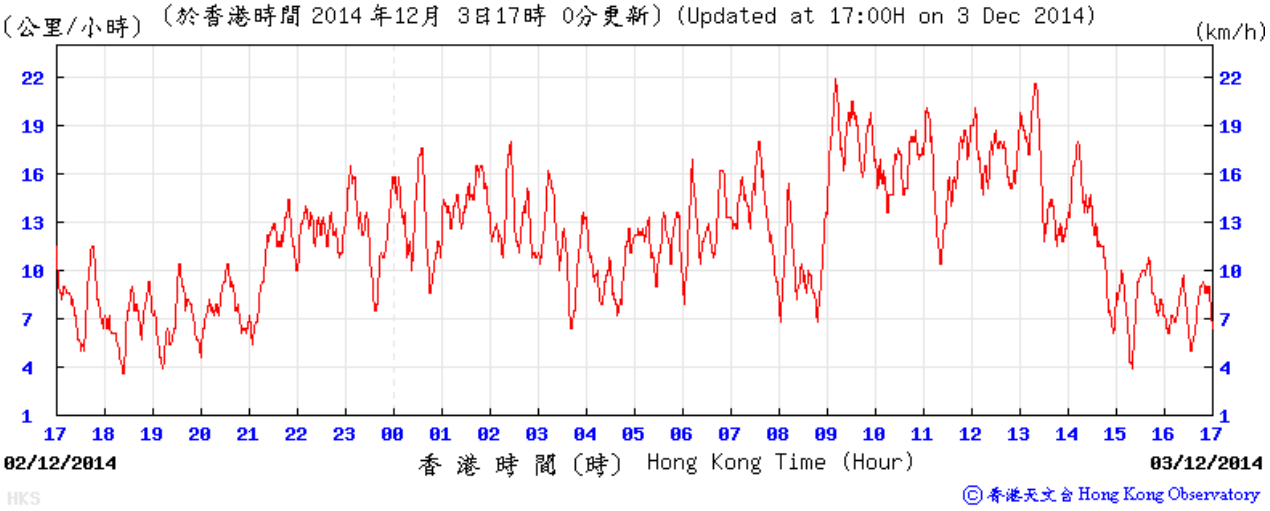

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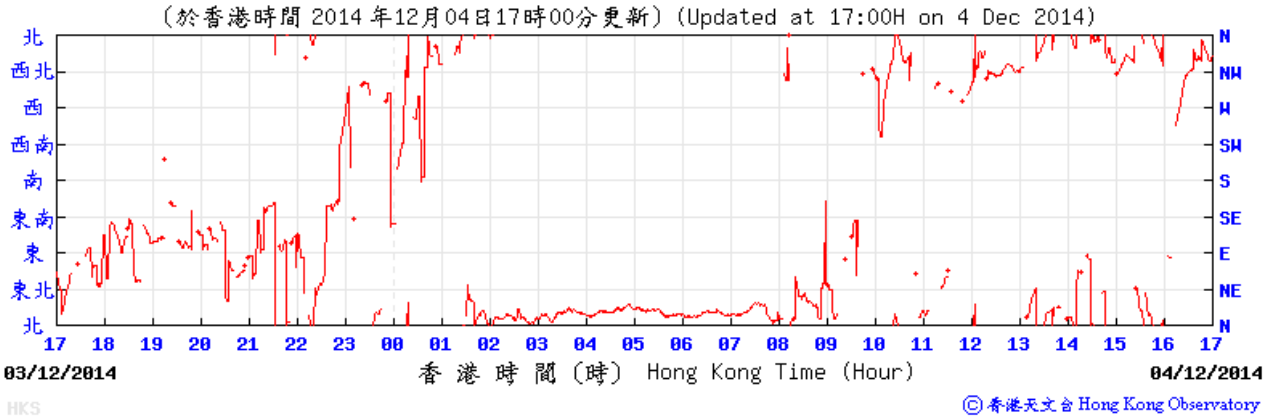


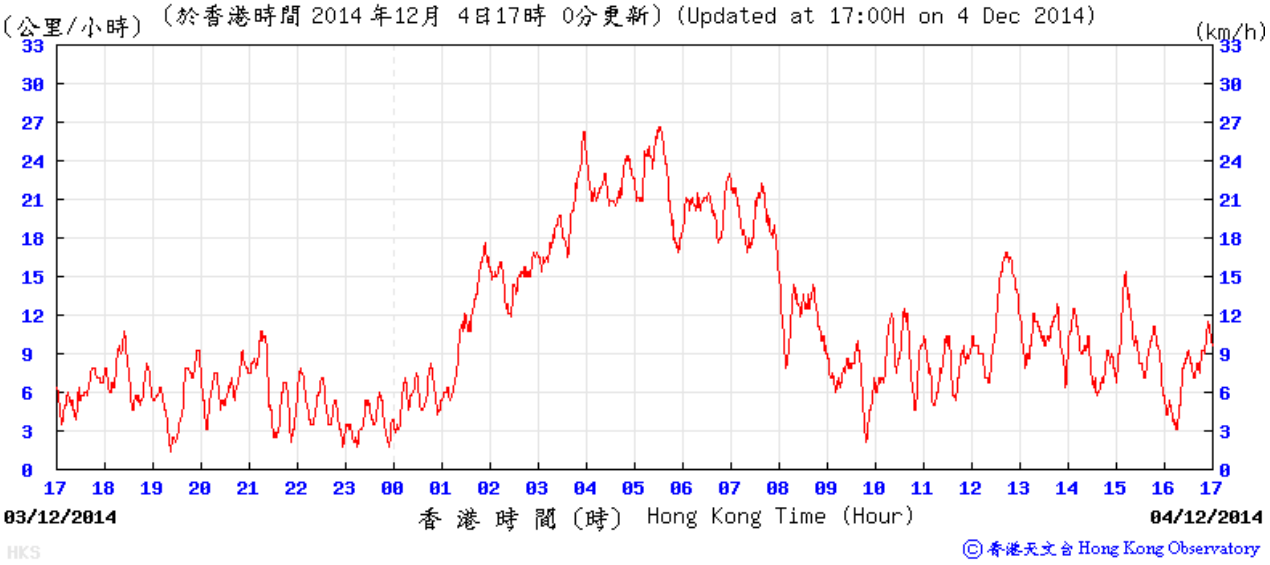

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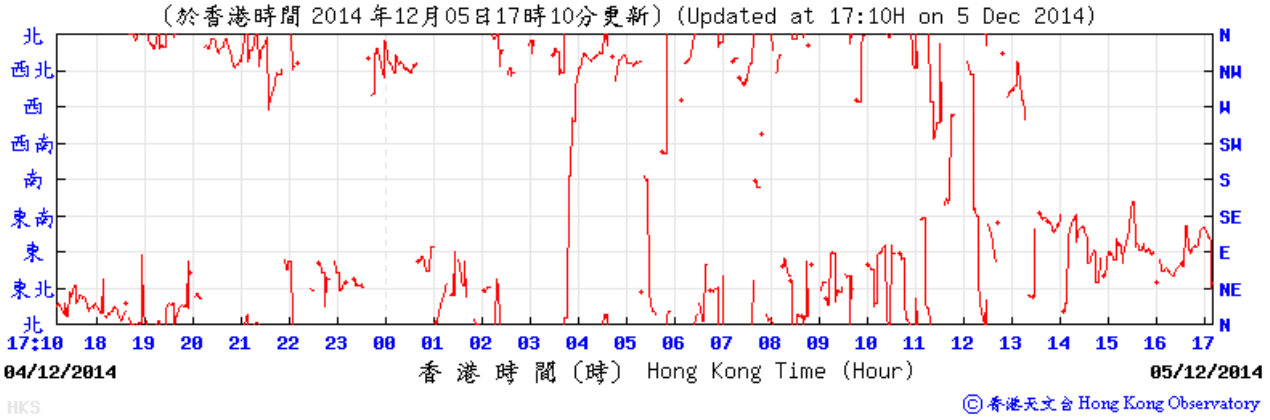


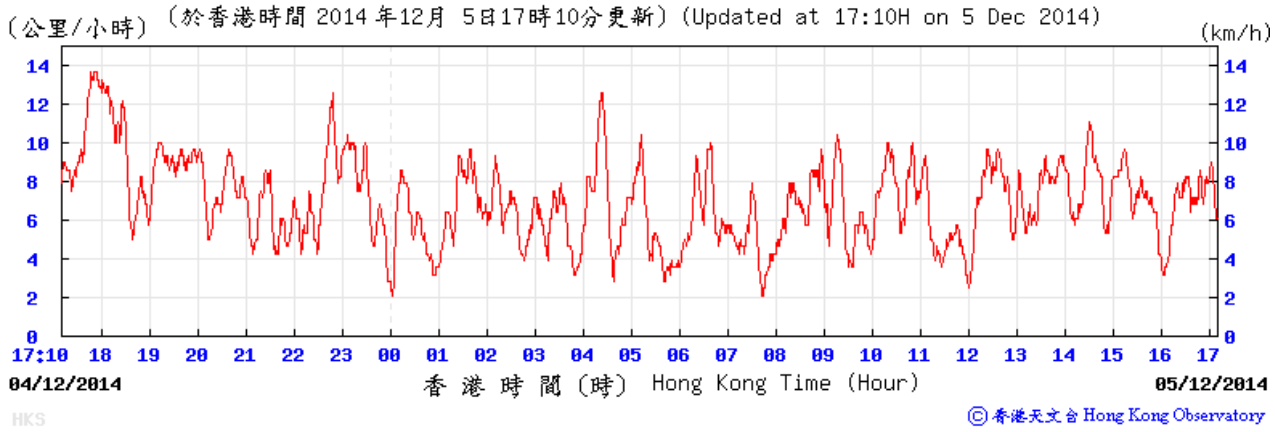

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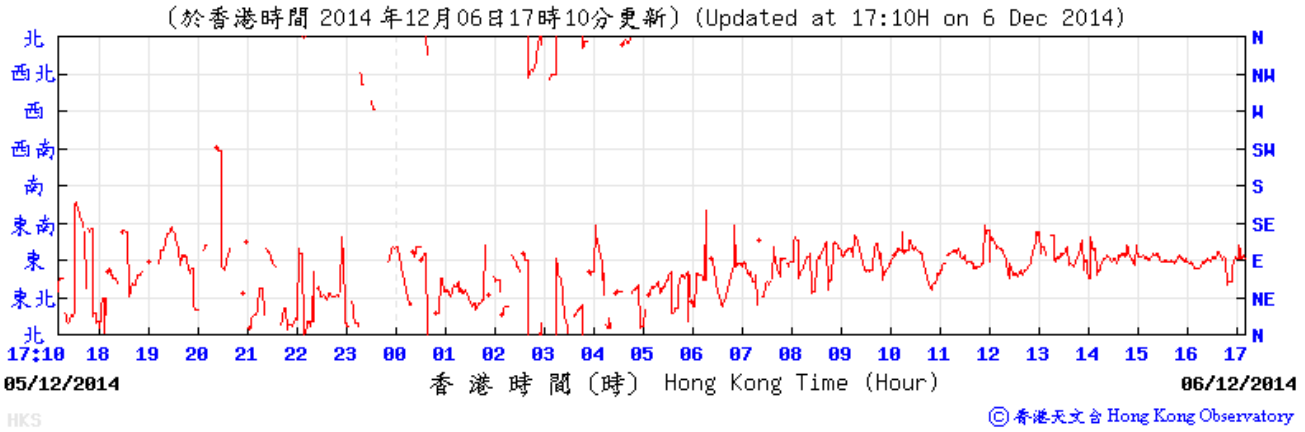


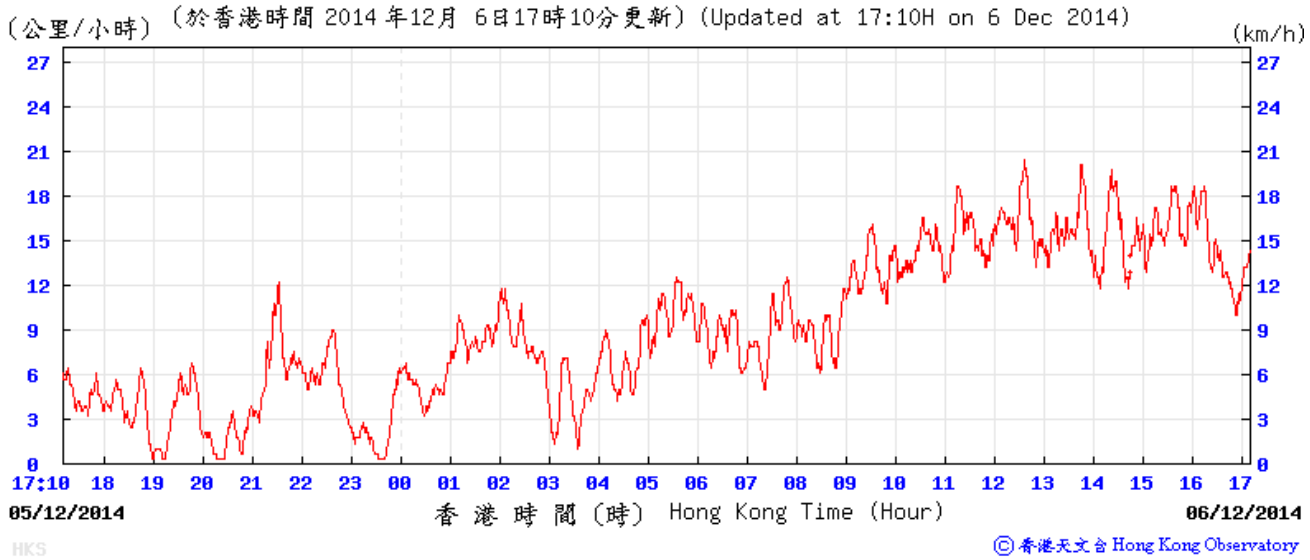

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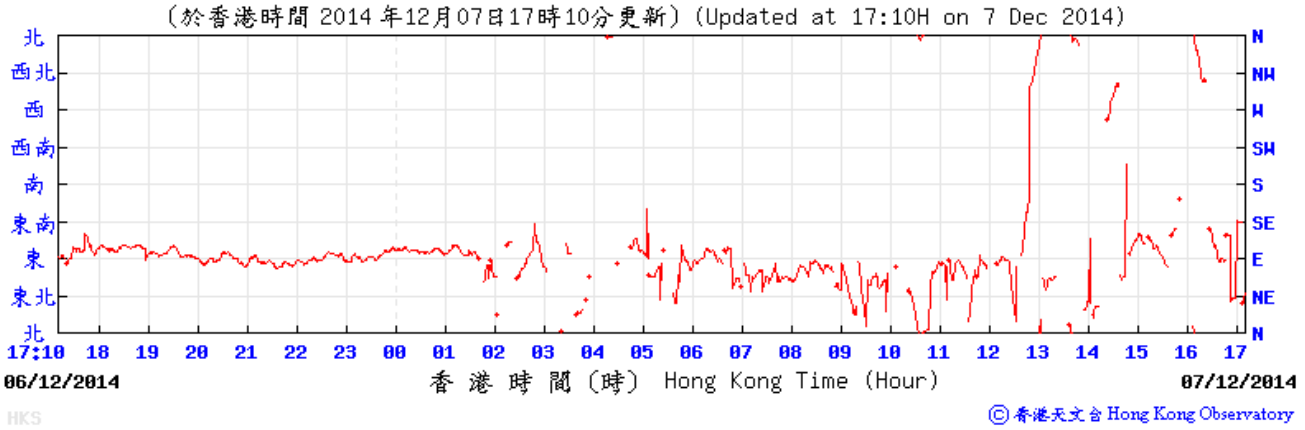


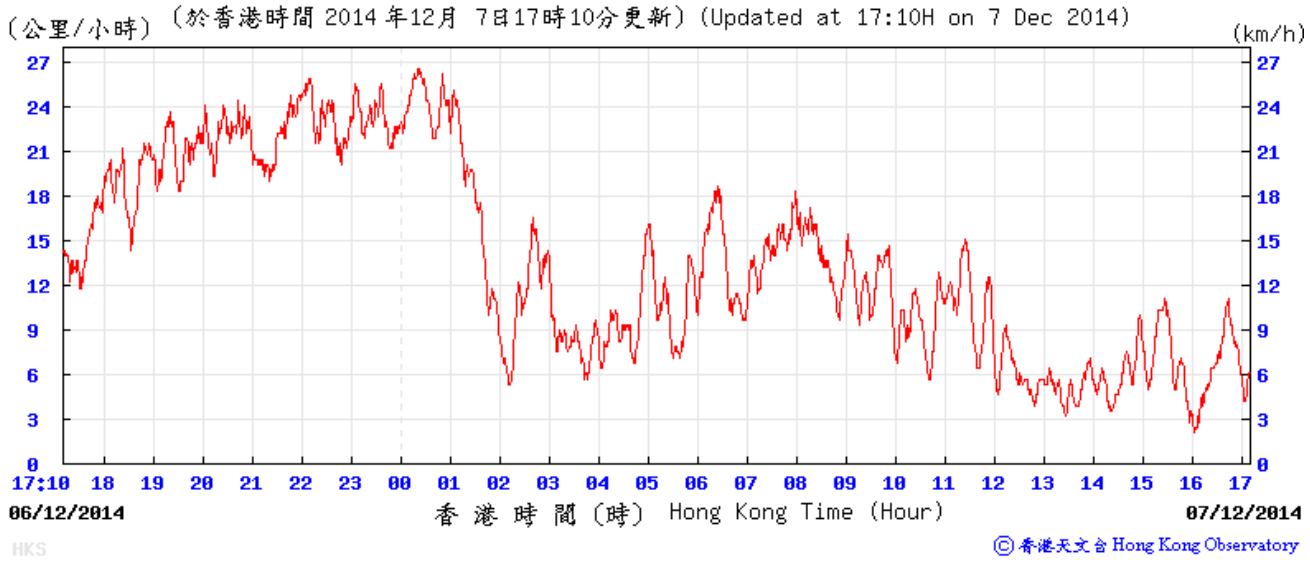

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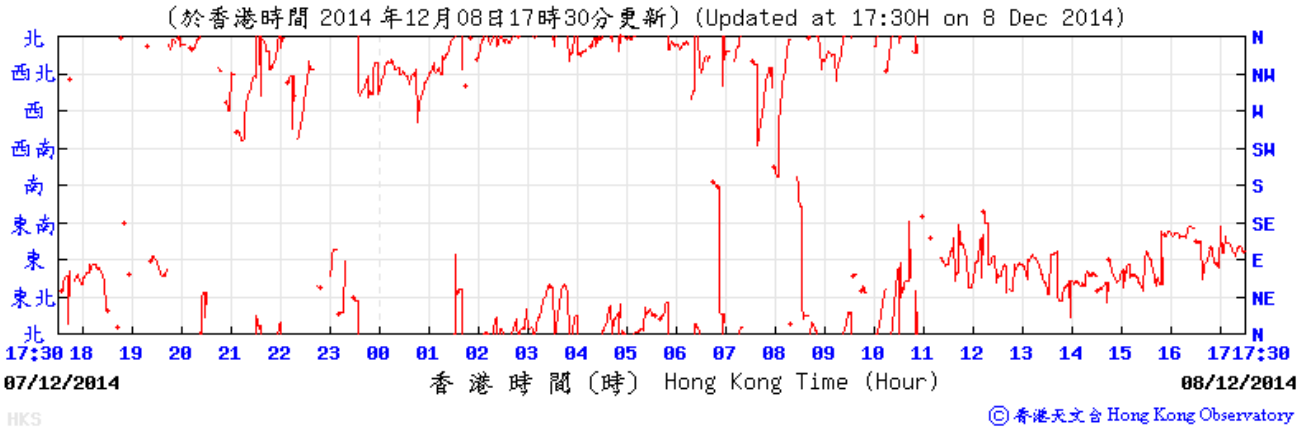


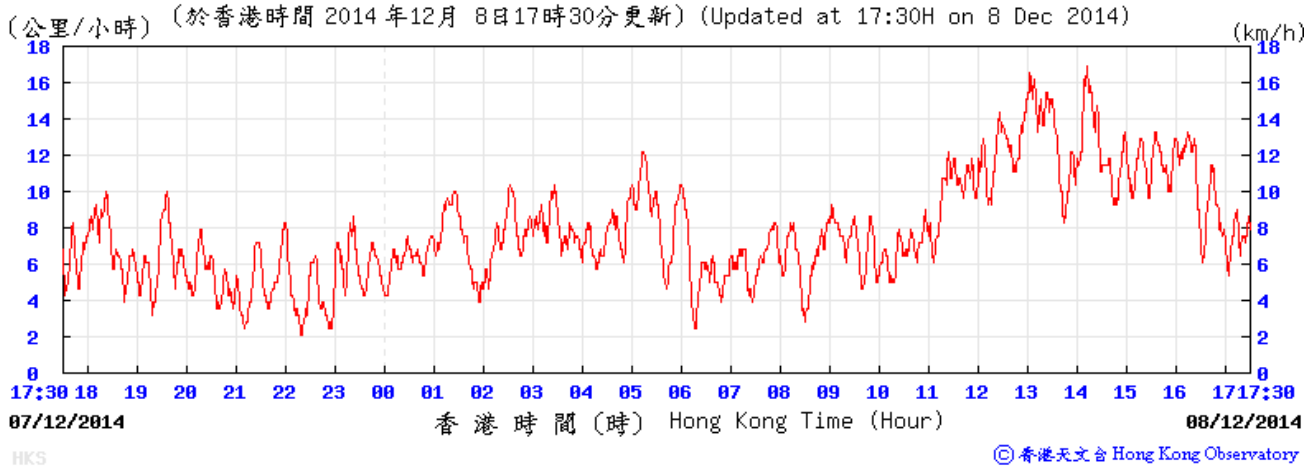

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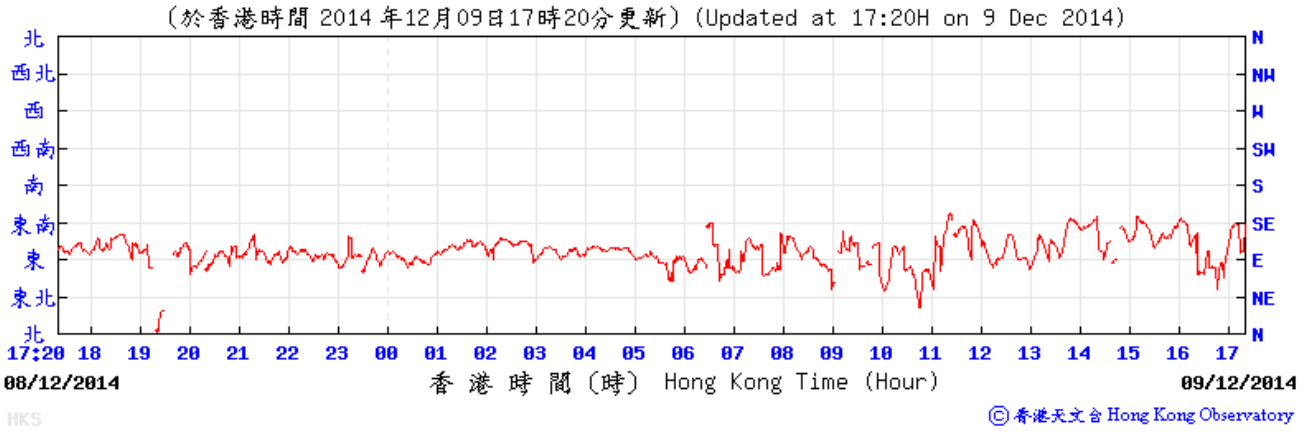


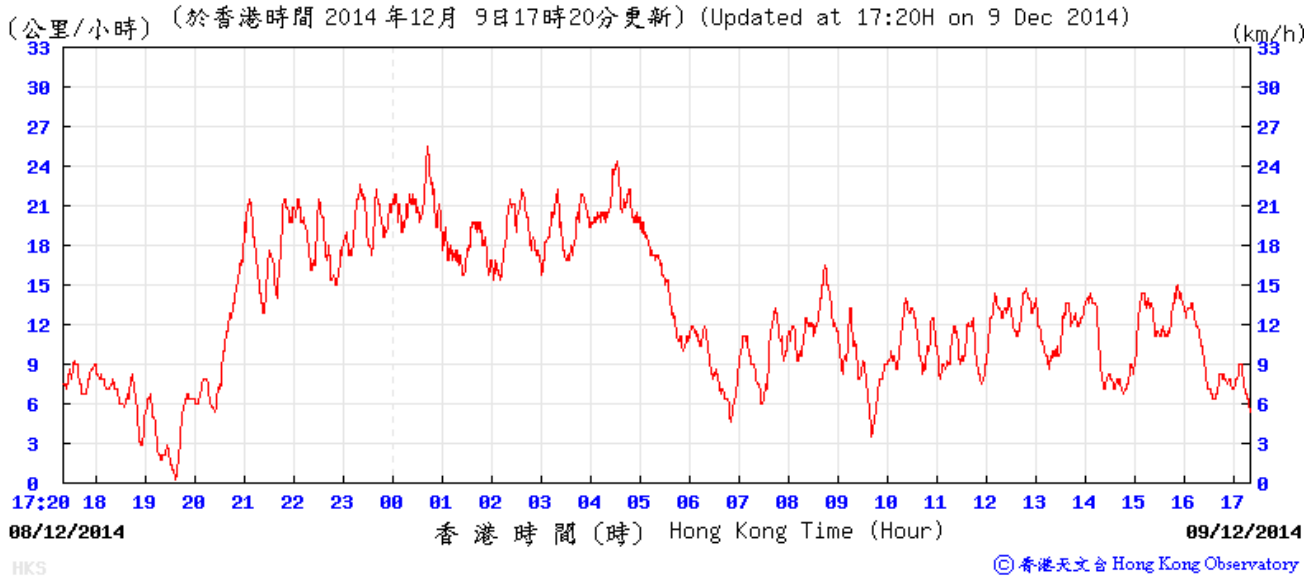

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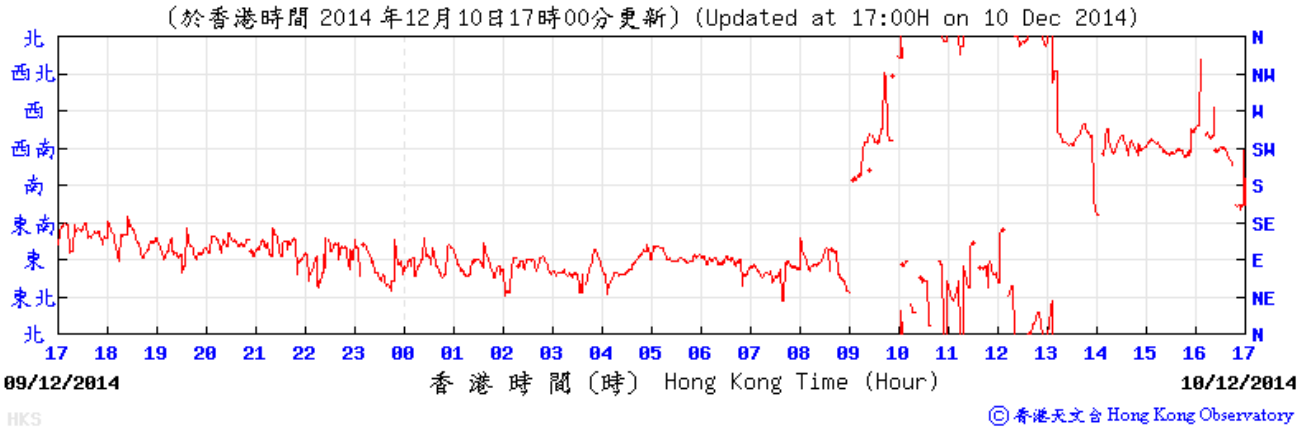


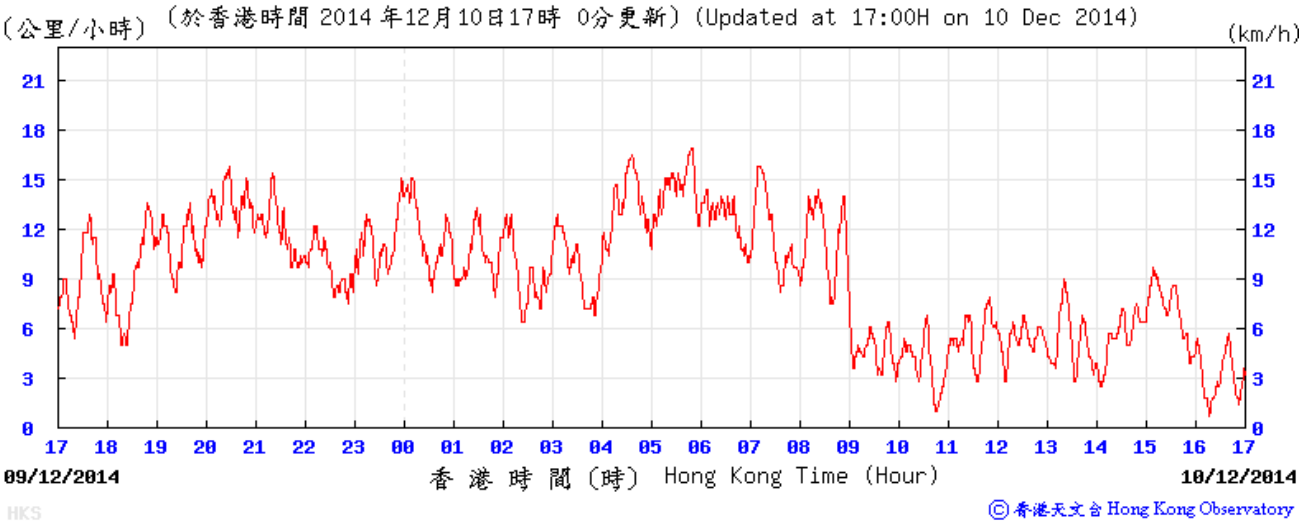

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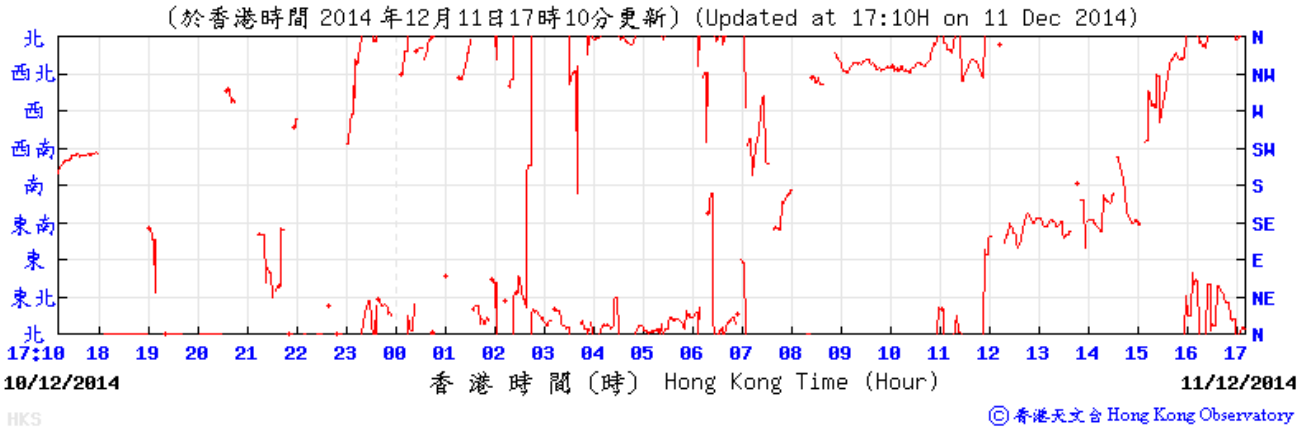


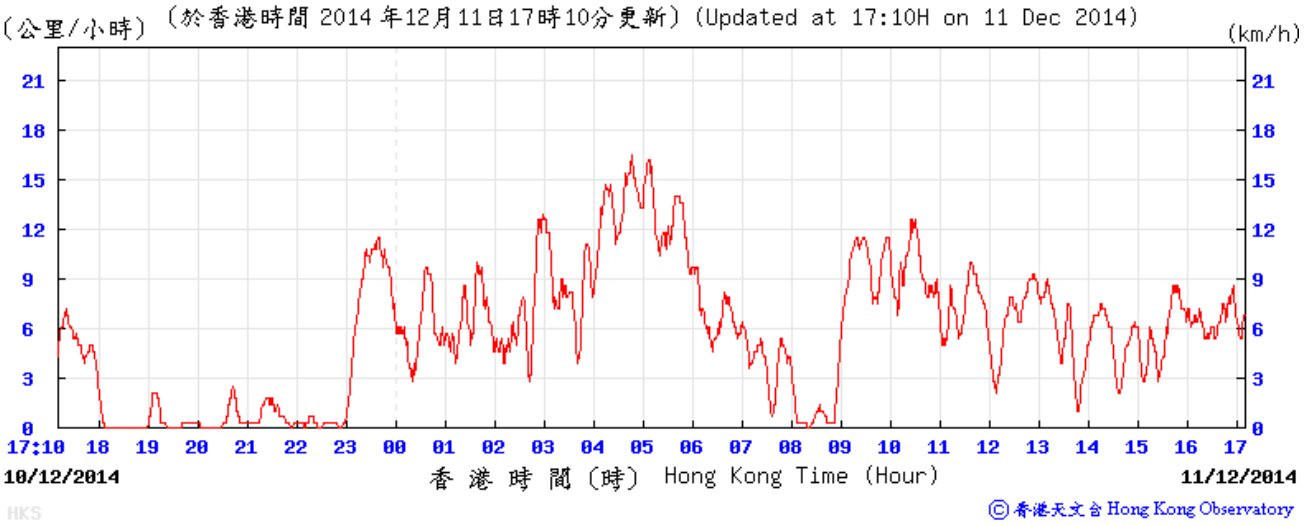

# Appendix G. Landscape and Visual Conditions – Baseline Review

# Tai Shue Wan Development at Ocean Park

Landscape and Visual Baseline Review Report (Rev.A)
Document No. 348152/05/01(LV)/B

December 2014
Ocean Park Corporation

Mott MacDonald

# Tai Shue Wan Development at Ocean Park

Landscape and Visual Baseline Review Report (Rev.A)
Document No. 348152/05/01(LV)/B

December 2014

Ocean Park Corporation

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# Issue and revision record

| Revision | Date | Originator | Checker | Approver | Description |
|---|---|---|---|---|---|
| A | 15 Nov 2014 | Pak Kin Chan | Gary Chow | Eric Ching | 1st Issue |
| B | 1 Dec 2014 | Pak Kin Chan | Gary Chow | Eric Ching | 2nd Issue |

**Pursuant to Condition 9.1 of EM&A Manual,**

**this Landscape and Visual Baseline Review Report has been reviewed and certified by the Registered Landscape Architect (RLA).**

**Certified by:**


Aloysius Wong
Registered Landscape Architect (RLA)

Date 19 November 2014

# Content



## Figures



## Appendices

# 1. Introduction

## 1.1 Background

In August 2013, Ocean Park Corporation (OPC) commissioned Mott MacDonald Hong Kong Limited (MMHK) to carry out the Environmental Impact Assessment (EIA) study for the proposed Tai Shue Wan Development at Ocean Park (hereafter referred as "the Project") for the construction and operation.

The Project Profile for the Project was submitted to Environmental Protection Department (EPD) on 10 May 2013, and was exhibited for public consultation between 11 May 2013 and 24 May 2013. EPD issued an EIA Study Brief for the Project (ESB-261/2013) on 13 June 2013.

The EIA report was submitted to EPD on 31 March 2014 and approved with condition on 27 August 2014 (Register No. AEIAR-184/2014). EPD issued an Environmental Permit (EP) for the Project (EP-487/2014) on 27 August 2014.

As stipulated in Section 9.2 of the EM&A Manual, a landscape and visual baseline review shall be undertaken as a one-off site survey prior to commencement of construction works. Representative photographs of all Landscape Resources (LRs) within the Project site shall be included in the baseline review report. This Landscape and Visual Baseline Review Report is prepared to meet this requirement in the EM&A Manual.

## 1.2 Objectives of Landscape and Visual Baseline Review

The objectives of the landscape and visual baseline review are:

- to verify the status of the LRs within and in close proximity to the construction site and works areas;
- to determine whether any change has occurred to the status of the LRs since the EIA;
- to determine whether amendments in the design of the landscape and visual mitigation measures are required for any identified changes in the status of the LRs; and
- to recommend any necessary amendments to the design of the landscape and visual mitigation measures.

# 2. Landscape and Visual Baseline Review

## 2.1 Landscape Resources identified in the EIA

In Section 12.7 of the approved EIA report (Register No. AEIAR-184/2014), 12 LRs have been identified within the 500m Landscape Impact Assessment Area. These LRs are mapped on **Figure 2.1**.

As shown in **Figure 2.1**, out of the 12 LRs within the Landscape Impact Assessment Area, 9 of them are within the Project Area. Relevant descriptions of these 9 LRs within the Study Area are extracted from the approved EIA report as follows. Photographs of these LRs as shown in the approved EIA report are illustrated in **Appendix A**.

*LR1.1 – Tall shrubland*

This LR is mainly located along the west-facing down slope of Nam Long Shan east of the Project area. This LR is co-dominated by shrubs and trees. Dominant species include *Acronychia pedunculata*, *Alangium chinense*, *Aporusa dioica*, *Breynia fruticosa*, *Bridelia tomentosa*, *Celtis sinensis*, *Cratoxylum cochinchinense*, *Dalbergia hancei*, *Diospyros vaccinioides*, *Ilex asprella*, *Litsea glutinosa*, *Litsea rotundifolia*, *Macaranga tanarius*, *Mallotus paniculatus*, *Melastoma sanguineum*, *Microcos nervosa*, *Polyspora axillaris*, *Rhaphiolepis indica*, *Rhodomyrtus tomentosa*, *Rhus hypoleuca*, *Rhus succedanea*, *Sageretia thea*, *Schima superb*, *Sinosideroxylon wightianum* and *Sterculia lanceolata*. There are trees in this LR with heights mainly range from 3m to 5m.

*LR1.2 – Shrubland*

This LR is located on the upper slopes of Brick Hill and the coastal hill slopes east and south of Ocean Park. This LR is dominated by shrubs and herbaceous plants, with *Polyspora axillaris* being the dominant species. Other common species include *Acronychia pedunculata, Aporusa dioica, Baeckea frutescens, Breynia fruticosa, Cratoxylum cochinchinense, Cyclobalanopsis myrsinifolia, Dalbergia hancei, Diospyros vaccinioides, Ilex asprella, Litsea rotundifolia, Mallotus paniculatus, Melastoma sanguineum, Melodinus suaveolens, Phyllanthus cochinchinensis, Polyspora axillaris, Rhaphiolepis indica, Rhodomyrtus tomentosa, Rhus hypoleuca, Rhus succedanea, Sageretia thea, Schima superb, Sinosideroxylon wightianum, Strophanthus divaricatus*, and *Strychnos angustiflora*. Heights of vegetation predominantly range from 1m to 2m.

*LR1.4 – Woodland*

This LR is mainly located along the down slope of Nam Long Shan north and northwest of the Project area. This LR is dominated by young trees. Dominant species include *Acronychia pedunculata, Alangium chinense, Aporusa dioica, Bridelia tomentosa, Celtis sinensis, Cratoxylum cochinchinense, Mallotus paniculatus, Pinus massoniana, Polyspora axillaris, Psychotria asiatica, Rhus hypoleuca, Rhus succedanea, Schima superb* and *Sterculia lanceolata*. There are trees in this LR with heights mainly range from 6m to 10m.

*LR2.1 – Planting on modified slopes*

This LR is predominately located on slopes around Flamingo Pond and Bird Paradise. It is dominated by exotic tree plantation with *Acacia auriculiformis*, *Acacia confusa*, *Casuarina equisetifolia* and *Eucalyptus citriodora*. The weedy tree species *Leucaena leucocephala* is also very common in this LR. There are trees in this LR with heights mainly range from 10m to 16m. Although this LR is artificial, it is semi-mature with high vegetation coverage.

*LR2.2 – Roadside planting*

This LR includes young to semi-mature trees and amenity shrub planting along Shum Wan Road. Dominant tree species include *Archontophoenix alexandrae*, *Ficus microcarpa* and *Cinnamomum camphora* and dominant shrubs include *Ficus microcarpa* 'Golden Leaves'. There are trees with heights range from 9m to 12m in this LR. Although this LR is artificial, trees in this LR are semi-mature and properly maintained.

*LR2.3 – Amenity planting*

This LR includes the amenity tree and shrub planting inside Ocean Park. Dominant species include *Acacia confusa*, *Alternanthera philoxeroides*, *Cyperus involucratus*, *Hibiscus rosa-sinensis*, *Ixora chinensis*, *Livistona chinensis*, *Macaranga tanarius*, *Philodendron selloum*, *Phyllanthus myrtifolius* and *Wedelia trilobata*. There are trees in this LR with heights range from 5m to 18m.

*LR3.1 – Floral species of conservation interest*

There are a total of 17 floral species of conservation interest within the Landscape Impact Assessment Area, namely *Ania hongkongensis*, *Aristolochia thwaitesii*, *Artocarpus hypargyreus*, *Arundina graminifolia*, *Brainea insignis*, *Cymbidium ensifolium*, *Eulophia graminea*, *Geodorum densiflorum*, *Goodyera viridiflora*, *Habenaria dentate*, *Habenaria linguella*, *Ixonanthes reticulate*, *Lilium brownie*, *Peristylus calcaratus*, *Platycodon grandiflorus*, *Spathoglottis pubescens* and *Spiranthes hongkongensis*. These floral species are all found in natural habitats and the majority of them are locally uncommon or rare. Many of these floral species of conservation interest have visually attractive flowers. However, only one of them, *Platycodon grandiflorus*, was identified within the Project area.

*LR4.2 – Pond*

This LR includes two disused man-made ponds with well-defined artificial banks, which were previously used as "Flamingo Pond" and "Bird Paradise Pond", and a pond in the Japanese-style garden "Garden of Joy" within Ocean Park. Water is observed flowing from streams into the "Flamingo Pond" and "Bird Paradise". The water quality of these two ponds is moderate with water visibly turbid. Fish is observed in these two ponds.

*LR4.3 – Stream*

This LR includes two rocky streams within the Project area, one flowing from the east, another from the north on the hill slope of Brick Hill. The eastern one was observed to be of flowing water throughout the wet and dry seasons and is the main water source feeding the ponds inside the Ocean Park. The northern stream is seasonal. Both streams are partially modified as pipe culvert or box culvert with a length of

approximately 250m remaining natural. Water quality in these two streams is good and visibly clear. Small sections of modified streams are also found north of the Project area beside Shum Wan Road.

## 2.2 Status of Landscape Resources Prior to Construction

A site visit was conducted on 21 October 2014 for the landscape and visual baseline review, covering the LRs within and in close proximity to the Project Area. The extent of LRs has been verified on site and the locations of LRs as shown in **Figure 2.1** are considered accurate. Representative photographs of all LRs within the Project Area are shown in **Appendix B**. Existing status of LRs within and in close proximity of the Project Area are detailed as follows.

*LR1.1 – Tall shrubland*

With the Project Area, this LR is found at the north-facing hill slopes at the southern periphery. This LR is co-dominated by shrubs and trees. Dominant species observed include *Acronychia pedunculata*, *Aporusa dioica*, *Bridelia tomentosa*, *Celtis sinensis*, *Cratoxylum cochinchinense*, *Ilex asprella*, *Leucaena leucocephala*, *Litsea glutinosa*, *Litsea rotundifolia*, *Macaranga tanarius* var. *tomentosa*, *Mallotus paniculatus*, *Microcos nervosa*, *Pinus massoniana*, *Polyspora axillaris*, *Rhaphiolepis indica*, *Rhus hypoleuca*, *Rhus succedanea*, *Sageretia thea*, *Schefflera heptaphylla*, *Sterculia lanceolata*. Trees in this LR range mainly from 3m to 5m in height.

*LR1.2 – Shrubland*

Within the Project Area, this LR is located on the coastal hill slopes at the northwestern and southern periphery. This LR is dominated by shrubs and herbaceous plants, including *Aporusa dioica, Breynia fruticosa, Cratoxylum cochinchinense, Dalbergia hancei, Diospyros vaccinioides, Leucaena leucocephala*, *Litsea glutinosa*, *Melodinus suaveolens, Microcos nervosa*, *Polyspora axillaris, Rhaphiolepis indica, Rhus hypoleuca, Rhus succedanea, Sageretia thea* and *Wedelia trilobata*. Heights of vegetation predominantly range from 1m to 2m.

*LR1.4 – Woodland*

Within the Project Area, this LR is mainly located along the down slope of Nam Long Shan at the northern periphery. This LR is dominated by young trees. Dominant species include *Acronychia pedunculata, Aporusa dioica, Bridelia tomentosa, Celtis sinensis, Cratoxylum cochinchinense, Leucaena leucocephala*, *Macaranga tanarius* var. *tomentosa*, *Mallotus paniculatus, Microcos nervosa*, *Pinus massoniana, Polyspora axillaris, Psychotria asiatica, Rhus succedanea* and *Sterculia lanceolata*. Trees in this LR range mainly from 6m to 10m in height.

*LR2.1 – Planting on modified slopes*

Within the Project Area, this LR is predominately located on slopes around Flamingo Pond and Bird Paradise. It is dominated by exotic tree plantation with *Acacia confusa*, *Araucaria heterophylla*, *Caryota mitis*, *Dypsis lutescens*, *Ficus microcarpa* and *Livistona chinensis*. The weedy tree species *Leucaena leucocephala* is also very common in this LR. Trees in this LR range mainly from 10m to 16m in height. Although this LR is artificial, it is semi-mature with high vegetation coverage.

*LR2.2 – Roadside planting*

Within the Project Area, this LR includes young to semi-mature trees and amenity shrub planting at the Tai Shue Wan entrance of Ocean Park. Dominant tree species include *Archontophoenix alexandrae*, *Casuarina equisetifolia*, *Delonix regia*, *Ficus virens* and *Juniperus chinensis* and dominant shrubs include *Ficus microcarpa* 'Golden Leaves' and *Hibiscus rosa-sinensis*. Trees heights range mainly from 9m to 12m in this LR. Although this LR is artificial, trees in this LR are semi-mature and properly maintained.

*LR2.3 – Amenity planting*

Within the Project Area, this LR includes the amenity tree and shrub planting inside Ocean Park mainly on the eastern side of the Project Area. Dominant species include *Acacia confusa*, *Alternanthera philoxeroides*, *Araucaria heterophylla*, *Caryota mitis*, *Cyperus involucratus*, *Dypsis lutescens*, *Ficus microcarpa* 'Golden Leaves', *Hibiscus rosa-sinensis*, *Ixora chinensis*, *Livistona chinensis*, *Macaranga tanarius*, *Philodendron selloum*, *Rhapis excelsa*, *Sansevieria trifasciata*, *Spathodea campanulata* and *Wedelia trilobata*. Trees in this LR range mainly from 5m to 18m in height.

*LR3.1 – Floral species of conservation interest*

Within the Project Area, there is one floral species of conservation interest *Platycodon grandiflorus* located at the southern periphery within the shrubland. This floral species is found in a natural habitat and locally common but legally protected. It has visually attractive flowers, but it was not flowering during the landscape and visual baseline review. The few individuals observed were in poor condition with signs of dieback. Only a few leaves at the base of the plants remained green. One individual observed on the upper slope was health with fruit setting.

*LR4.2 – Pond*

Within the Project Area, this LR includes two disused man-made ponds with well-defined artificial banks, which were previously used as "Flamingo Pond" and "Bird Paradise Pond". Water is observed flowing from streams into the "Flamingo Pond" and "Bird Paradise". The water quality of these two ponds is moderate with water visibly turbid. Fish is observed in these two ponds.

*LR4.3 – Stream*

Within the Project Area, this LR includes two rocky streams, one flowing from the east, another from the north on the hill slope of Brick Hill. The eastern one was observed to be of flowing water throughout the wet and dry seasons and is the main water source feeding the ponds inside the Ocean Park. The northern stream is seasonal. Both streams are partially modified as pipe culvert or box culvert with a length of approximately 250m remaining natural. Water quality in these two streams is good and visibly clear.

## 2.3 Changes in Status of Landscape Resources

Changes in the status of each of the LRs within the Project Area since the EIA are described as follows.

*LR1.1 – Tall shrubland*

Within the Project Area, the status of this LR is very similar to its status at the EIA stage. The observed floral species are similar with similar size and coverage. No signs of recent disturbance were observed.

*LR1.2 – Shrubland*

Within the Project Area, the status of this LR is very similar to its status at the EIA stage. The observed floral species are similar with similar size and coverage. No signs of recent disturbance were observed.

*LR1.4 – Woodland*

Within the Project Area, the status of this LR is very similar to its status at the EIA stage. The observed floral species are similar with similar size and coverage. No signs of recent disturbance were observed.

*LR2.1 – Planting on modified slopes*

Within the Project Area, the status of this LR is very similar to its status at the EIA stage. The observed floral species are similar with similar size and coverage. No signs of recent disturbance were observed.

*LR2.2 – Roadside planting*

Within the Project Area, the status of this LR is very similar to its status at the EIA stage. The observed floral species are similar with similar size and coverage. No signs of recent disturbance were observed other than routine horticultural maintenance.

*LR2.3 – Amenity planting*

Within the Project Area, the status of this LR is very similar to its status at the EIA stage. The observed floral species are similar with similar size and coverage. No signs of recent disturbance were observed other than routine horticultural maintenance.

*LR3.1 – Floral species of conservation interest*

Within the Project Area, the status of this LR is different from its status at the EIA stage. The observed floral species of conservation interest was healthy at the EIA stage, but in poor condition as observed during the landscape and visual baseline review. Since the few individuals observed at a lower slope showed signs of dieback while the one observed on the upper slope were in good condition, and plants observed at the lower slope also showed signs of dieback (as seen in the photograph for this LR in **Appendix B**), it is believed that the health deterioration of this LR at the lower slope was caused by sea water splash during the typhoon signal No.8 on 16 September 2014.

*LR4.2 – Pond*

Within the Project Area, the status of this LR is very similar to its status at the EIA stage with similar water quality and with fish observed. No signs of recent disturbance were observed in the two ponds.

*LR4.3 – Stream*

Within the Project Area, the status of this LR is very similar to its status at the EIA stage. The water quality is similar with similar flow. No signs of recent disturbance were observed in the two ponds.

# 3. Recommendations

## 3.1 Landscape and Visual Mitigation Measures

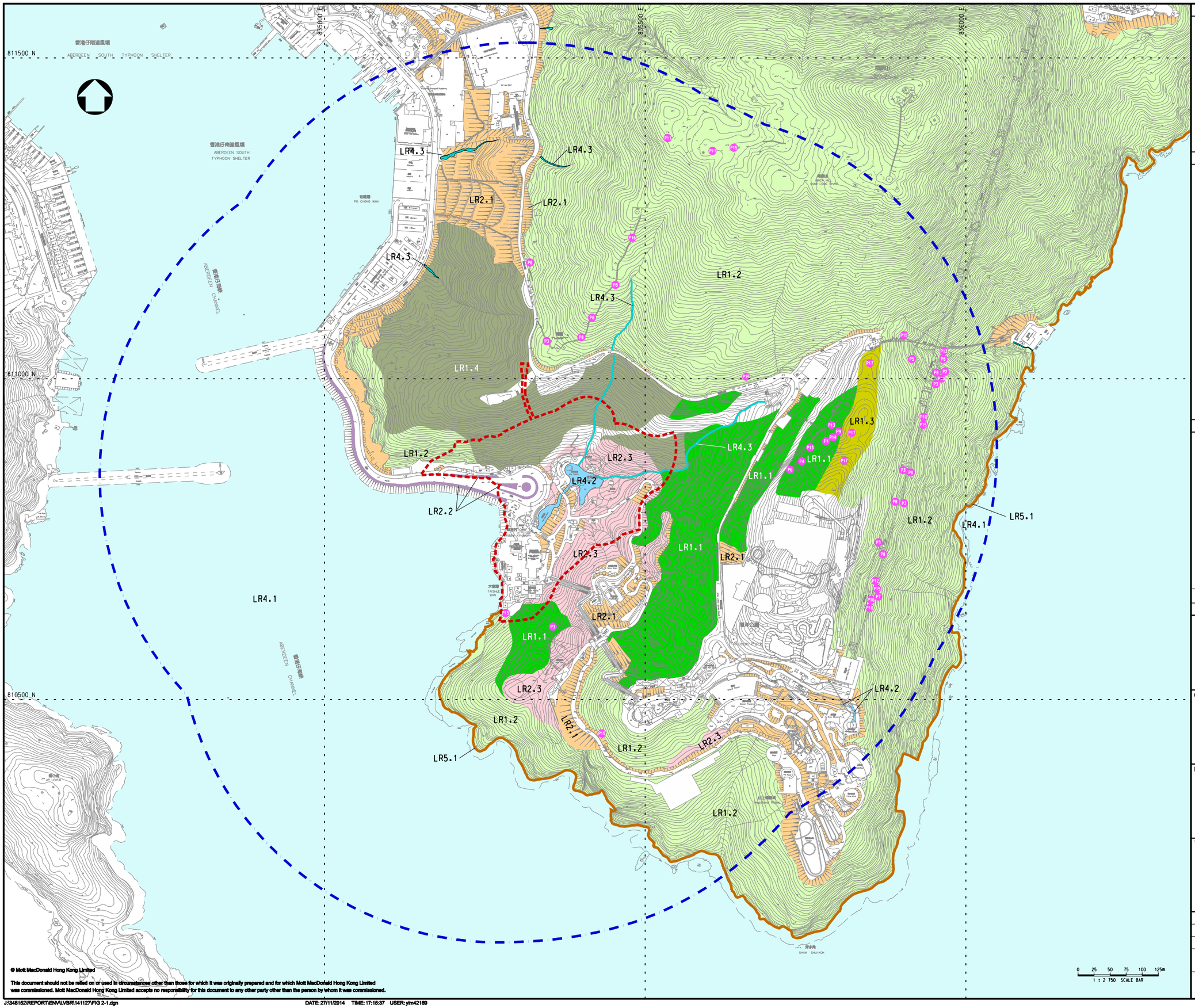
Among the 9 LRs within the Project Area, the status of 8 LRs remain largely the same as observed in the EIA stage. Amendments in the design of the landscape and visual mitigation measures are not required. The mitigation measures as recommended in the approved EIA report are considered appropriate.

For *LR3.1 – Floral species of conservation interest*, its status has changed since the EIA stage. The health condition of the observed *Platycodon grandiflorus* has deteriorated. However, amendments in the design of the landscape and visual mitigation measures are not necessary because its health deterioration is caused by a natural event. Also, protective measures and monitoring have been proposed for this LR as an ecological mitigation as specified in Section 10.7.1.4 of the approved EIA report (Register No. AEIAR-184/2014). Such protective measures are considered appropriate and sufficient to protect this LR.

# 4. Conclusion

## 4.1 Conclusion

A landscape and visual baseline review was undertaken on 21 October 2014. Status of the 9 LRs within and in close proximity of the Project Area has been verified. No noticeable change has occurred to the status of 8 of the LRs since the EIA. Amendments in the design of the landscape and visual mitigation measures are therefore not required for these 8 LRs. For *LR3.1 – Floral species of conservation interest*, the health condition of the observed *Platycodon grandiflorus* has deteriorated since the EIA. However, amendments in the design of the landscape and visual mitigation measures are not necessary because its health deterioration is caused by a natural event. Also, protective measures and monitoring proposed for this LR as an ecological mitigation in Section 10.7.1.4 of the approved EIA report are considered appropriate and sufficient to protect this LR.



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**Notes**

**Key to symbols**

- 500m LANDSCAPE IMPACT ASSESSMENT AREA
- PROJECT BOUNDARY

| | | | |
|---|---|---|---|
| LR1.1 | TALL SHRUBLAND | LR2.3 | AMENITY PLANTING |
| LR1.2 | SHRUBLAND | LR4.1 | COASTAL OPEN WATER |
| LR1.3 | HILLSIDE GRASSLAND | LR4.2 | POND |
| LR1.4 | WOODLAND | LR4.3 | STREAM |
| LR2.1 | PLANTING ON MODIFIED SLOPES | LR5.1 | NATURAL COASTLINE |
| LR2.2 | ROADSIDE PLANTING | | |

PX FLORAL SPECIES OF CONSERVATION INTEREST

**Reference drawings**

| Rev | Date | Drawn | Description | Ch'k'd | App'd |
|---|---|---|---|---|---|
| P1 | NOV 14 | MING | FIRST ISSUE | PK | AFK |

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Client: Ocean Park Hong Kong 香港海洋公園

Project

TAI SHUE WAN DEVELOPMENT AT OCEAN PARK

Title

LOCATIONS OF LANDSCAPE RESOURCES AS SHOWN IN THE APPROVED EIA REPORT

| | | | | | |
|---|---|---|---|---|---|
| Designed | PK | | Eng check | FW | |
| Drawn | MING | | Coordination | FW | |
| Dwg check | PK | | Approved | AFK | |
| Scale at A1 | 1:2750 | Status | PRE | Rev | P1 |

Drawing Number

FIGURE 2.1

# Appendix A

# Photographs of Landscape Resources as shown in the Approved EIA Report

*LR1.1 – Tall shrubland*

*LR1.2 – Shrubland*

*LR1.4 - Woodland*

*LR2.1 – Planting on modified slopes*


*LR2.2 – Roadside planting*


*LR2.3 – Amenity planting*


*LR3.1 – Floral species of conservation interest*

*LR4.2 - Pond*

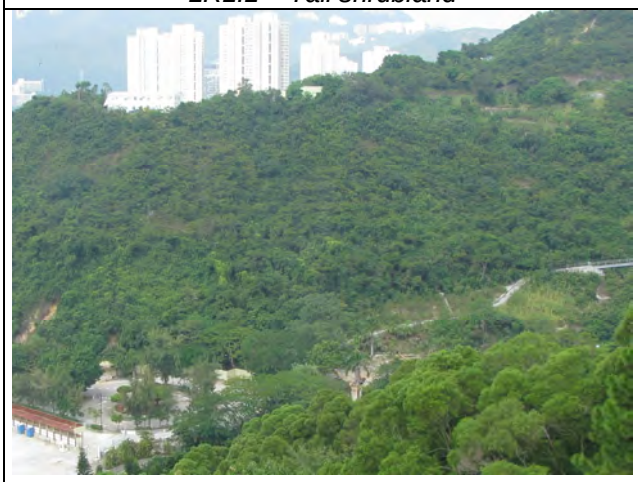

*LR4.3 - Stream*

# Appendix B

# Photographs of Landscape Resources during the Landscape and Visual Baseline Review

*LR1.1 – Tall shrubland*

*LR1.2 – Shrubland*



*LR1.4 - Woodland*

*LR2.1 – Planting on modified slopes*

*LR2.2 – Roadside planting*

*LR2.3 – Amenity planting*

*LR3.1 – Floral species of conservation interest*

*LR4.2 - Pond*

*LR4.3 - Stream*

# Appendix H. Vegetation Survey Report

# Tai Shue Wan Development at Ocean Park

Detailed Vegetation Survey Report
Document No. 328011/03/04/D

September 2014
Ocean Park Corporation

Mott MacDonald

# Tai Shue Wan Development at Ocean Park

Detailed Vegetation Survey Report
Document No. 328011/03/04/D

September 2014

Ocean Park Corporation

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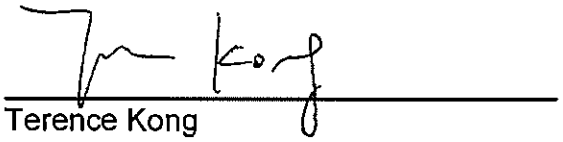
**Pursuant to Condition 2.6 of Environmental Permit No. EP-487/2014, this Detailed Vegetation Survey Report has been reviewed and certified by the Environmental Team Leader (ETL) and verified by the Independent Environmental Checker (IEC).**

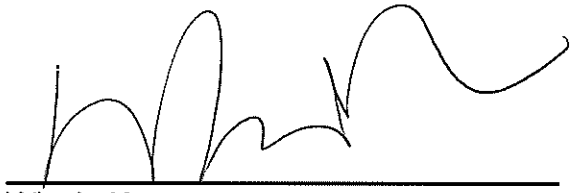
**Certified by:**



Terence Kong
Environmental Team Leader (ETL)
Mott MacDonald Hong Kong Limited

Date 17 September 2014

**Verified by:**



Winnie Ko
Independent Environmental Checker (IEC)
Environmental Resources Management

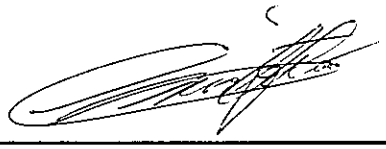
Date 17 Sept 2014

**Pursuant to Conditions 2.3 and 2.6 of Environmental Permit No. EP-487/2014,**

**this Detailed Vegetation Survey Report has been prepared by the**

**Qualified Ecologist.**

**Prepared by:**



Pak Kin CHAN
Qualified Ecologist
Mott MacDonald Hong Kong Limited

Date 17 September 2014

# Content

# 1. Introduction

## 1.1 Background

In August 2013, Ocean Park Corporation (OPC) commissioned Mott MacDonald Hong Kong Limited (MMHK) to carry out the EIA study for the proposed Tai Shue Wan Development at Ocean Park (hereafter referred as "the Project") for the construction and operation.

The Project Profile for the Project was submitted to EPD on 10 May 2013, and was exhibited for public consultation between 11 May 2013 and 24 May 2013. EPD issued an EIA Study Brief for the Project (ESB-261/2013) on 13 June 2013.

The EIA report was submitted to EPD on 31 March 2014. As mentioned in Section 10.6.2 of the EIA report, one flora species pf conservation interest ***Platycodon grandiflorus*** is found distributed within the Project area. The several individuals of ***Platycodon grandiflorus*** recorded are located at the southern end on the hillside of the Project area, which will not be affected by the construction activities. Nonetheless, some potential indirect disturbance might affect the plants, which include construction dust deposition on plants and storage / disposal of construction waste / materials in retained vegetated areas. Dust composition on plants could adversely interfere with the photosynthesis of plants while storage / disposal of construction waste / materials could cause physical or chemical damage to the plants. These construction disturbances are not uncommon in construction sites in Hong Kong, but could be effectively prevented through clear definition of site limit, good workmanship and regular site inspections. The significance of ecological impact on concerned plant species within the Project area is therefore considered as minor.

In Section 10.7.1.4 of the EIA report, mitigation measures are recommended for the potential impact on the ***Platycodon grandiflorus*** identified within the Project boundary and any other flora species of conservation interest likely to be affected. For precautionary purposes and to further ensure that no flora species of conservation interest to be affected, it is recommended to conduct a detailed vegetation survey as baseline monitoring to update the exact locations, number and condition of individuals of ***Platycodon grandiflorus*** prior to commencement of site clearance. A Detailed Vegetation Survey Report summarising the findings and recommendations of the detailed vegetation survey should be prepared and submitted to EPD for approval no later than one month prior to commencement of site clearance.

During construction phase, erection and maintenance of a temporary protective fence along the flora species of conservation concern identified under the detailed vegetation survey is recommended to avoid potential impact from construction activities such as materials storage. Monthly monitoring of individuals of ***Platycodon grandiflorus*** and any other flora species of conservation interest identified in the detailed vegetation survey should be conducted during the construction phase to make sure that the flora species of conservation interest are not affected by the construction works of the Project.

The EIA report was approved with condition on 27 August 2014 (Register No. AEIAR-184/2014). EPD issued an Environmental Permit (EP) for the Project (EP-487/2014) on 27 August 2014.

As stipulated in Condition 2.6 of the EP, the Project proponent is required to follow the recommendations of the EIA report and conduct a detailed vegetation survey and submit a Detailed Vegetation Survey Report to EPD for approval no later than one month before the commencement of site clearance works on relevant parts of the Project. This Detailed Vegetation Survey Report is prepared to meet this EP condition.

## 1.2 Objectives of Detailed Vegetation Survey

The objectives of the detailed vegetation survey are as follows:

- Checking and updating of the number, locations and condition of the ***Platycodon grandiflorus*** identified and any other flora species of conservation interest by actively searching within the site formation boundary;

- Preparation of an updated location plan showing the individuals of ***Platycodon grandiflorus*** and any other flora species of conservation interest identified within the site formation boundary during the detailed vegetation survey;

- Confirmation on whether any of the individuals of ***Platycodon grandiflorus*** and any other flora species of conservation interest identified within the site formation boundary during the detailed vegetation survey will likely be affected by the proposed works of the Project; and

- Recommendation on protective measures of identified individuals of ***Platycodon grandiflorus*** and any other flora species of conservation interest identified within the site formation boundary during the detailed vegetation survey should in situ preservation be considered feasible. Otherwise, remedial actions, such as transplantation, should be proposed.

# 2. EIA Baseline Information and EM&A Requirements

## 2.1 Findings of Habitat and Vegetation during EIA stage

### 2.1.1 Baseline information within the Project Boundary

There are nine habitats present within the Project boundary, as discussed in Section 10.4.3 of the EIA report. Distribution of each habitat type is shown in **Figure 2.1**.

A total of 227 flora species were recorded within the Project Area. The plant list is presented in **Appendix A** for information. One flora species of conservation interest ***Platycodon grandiflorus*** was recorded within the shrubland habitat. Location of ***Platycodon grandiflorus*** is illustrated in **Figure 2.1**.

***Platycodon grandiflorus*** is a native herb species with distribution restricted locally in Hong Kong. It is protected under the Forestry Regulations (Cap. 96 sub. leg.) and listed in ***Rare and Precious Plants of Hong Kong*** (AFCD, 2003), of Least Concern (LC) status in China. Six individuals were found in shrubland near the Middle Kingdom.

### 2.1.2 Baseline information with the EIA Study Area

There are 11 major habitats identified within the EIA Study Area (covering 500m from the Project boundary). Distribution of each habitat type is shown in **Figure 2.2**.

A total of 330 flora species were recorded within the EIA Study Area, of which 17 species were of conservation interest. Locations of flora species of conservation interest are illustrated in **Figure 2.2**.

Outside the Project boundary, ***Platycodon grandiflorus*** was also recorded within the EIA Study Area. Forty individuals were found within the 500m Buffer Zone; 14 individuals in shrubland near the cable car maintenance path; 5 individuals in shrubland near Ocean Theatre and 21 individuals in the shrubland on Nam Long Shan Road.

The other 16 flora species of conservation interest are:

- ***Ania hongkongensis*** (29 individuals recorded in the tall shrubland habitat near the Summit of Ocean Park);
- ***Aristolochia thwaitesii*** (3 individuals recorded in shrubland near the cable car maintenance path);
- ***Artocarpus hypargyreus*** (9 individuals in shrubland near the cable car maintenance path, 1 in shrubland on Nam Long Shan and 1 in tall shrubland near the Summit of Ocean Park);
- ***Arundina graminifolia*** (2 individuals recorded in tall shrubland near the Summit of Ocean Park);
- ***Spathoglottis pubescens*** (20 individuals recorded in shrubland near the cable car maintenance path, 2 individuals recorded in shrubland at Nam Long Shan);
- ***Brainea insignis*** (5 individuals recorded in shrubland near the cable car maintenance path);
- ***Cymbidium ensifolium*** (3 individuals recorded in the tall shrubland near the Summit of Ocean Park);
- ***Eulophia graminea*** (1 individual recorded in shrubland near the cable car maintenance path);
- ***Geodorum densiflorum*** (9 individuals recorded in shrubland near the cable car maintenance path, 6 individuals recorded in shrubland on Nam Long Shan, 3 individuals recorded in tall shrubland near the Summit);
- ***Habenaria linguella*** (5 individuals recorded in shrubland on Nam Long Shan);
- ***Goodyera viridiflora*** (28 individuals recorded in the tall shrubland near the Summit);

- ***Habenaria dentata*** (5 individuals recorded in the shrubland near the cable car maintenance path);
- ***Ixonanthes reticulata*** (1 individual recorded in the shrubland near the cable car maintenance path);
- ***Lilium brownii*** (1 individual recorded in shrubland near the cable car maintenance path and 11 individuals recorded in the tall shrubland near the Summit of Ocean Park);
- ***Peristylus calcaratus*** (22 individuals recorded in the tall shrubland near the Summit); and
- ***Spiranthes hongkongensis*** (27 individuals recorded in the hillside grassland on the Summit).

## 2.2 Impact Assessment for Flora Species of Conservation Interest in the EIA Report

As discussed in Section 10.6.2 of the EIA report, among the 17 flora species were of conservation interest recorded in the EIA study, only ***Platycodon grandiflorus*** is found distributed within the Project boundary. The six individuals of ***Platycodon grandiflorus*** is located at the southern end on the hillside of the Project area, which will not be affected by the construction activities. Nonetheless, some potential indirect disturbance might affect the plants, which include construction dust deposition on plants and storage / disposal of construction waste / materials in retained vegetated areas. Dust composition on plants could adversely interfere with the photosynthesis of plants while storage / disposal of construction waste / materials could cause physical or chemical damage to the plants. These construction disturbances are not uncommon in construction sites in Hong Kong, but could be effectively prevented through clear definition of site limit, good workmanship and regular site inspections. The significance of ecological impact on concerned plant species within the Project area is therefore considered as minor.

Nevertheless, in Section 10.7.1.4 of the EIA report, mitigation measures are recommended for potential impact on the ***Platycodon grandiflorus*** and any other flora species of conservation interest. Although direct removal of ***Platycodon grandiflorus*** is not expected as the hillside area where the individuals located will unlikely be used for the construction activities, in-situ preservation should be considered during construction phase. For precautionary purposes and to further ensure that no flora species of conservation interest to be affected, it is recommended to conduct a detailed vegetation survey as baseline monitoring to update the exact locations, number and condition of individuals of ***Platycodon grandiflorus*** prior to commencement of site clearance. A qualified botanist/ecologist with 5 years of experience in flora study or survey should be appointed to carry out the vegetation survey. The scope of the vegetation survey should include the following:

- Checking and updating of the number, locations and condition of the ***Platycodon grandiflorus*** identified and any other flora species of conservation interest by actively searching within the site formation boundary;

- Preparation of an updated location plan showing the individuals of ***Platycodon grandiflorus*** and any other flora species of conservation interest identified within the site formation boundary during the detailed vegetation survey;
- Confirmation on whether any of the individuals of ***Platycodon grandiflorus*** and any other flora species of conservation interest identified within the site formation boundary during the detailed vegetation survey will likely be affected by the proposed works of the Project; and

- Recommendation on protective measures of identified individuals of ***Platycodon grandiflorus*** and any other flora species of conservation interest identified within the site formation boundary during the detailed vegetation survey should ***in situ*** preservation be considered feasible. Otherwise, remedial actions, such as transplantation, should be proposed.

A Detailed Vegetation Survey Report summarising the findings and recommendations of the detailed vegetation survey should be prepared and submitted to EPD for approval no later than one month prior to commencement of site clearance.

During construction phase, erection and maintenance of a temporary protective fence along the flora species of conservation concern identified under the detailed vegetation survey is recommended to avoid potential impact from construction activities such as materials storage.

## 2.3 Environmental Monitoring and Audit Requirements

Monthly monitoring of individuals of ***Platycodon grandiflorus*** and any other flora species of conservation interest identified in the detailed vegetation survey should be conducted during the construction phase to make sure that the flora species of conservation interest are not affected by the construction works of the Project.

# 3. Detailed Vegetation Survey

## 3.1 Survey Period

A detailed vegetation survey was undertaken from 8 August 2014 to 5 September 2014 within the Project boundary.

## 3.2 Survey Methodology

A detailed vegetation survey was conducted by actively searching for individuals of ***Platycodon grandiflorus*** and any other flora species of conservation interest within the Project boundary. Since all flora species of conservation interest identified in the EIA report were found in either shrubland, tall shrubland or grassland within the Study Area, particular attention was paid to these habitat types (as shown in **Figure 2.2**) during the detailed vegetation survey to actively search for any flora species of conservation interest.

The vegetation survey was carried out by a qualified ecologist with more than 5 years of experience in flora study. Curriculum vitae of the qualified ecologist is attached in **Appendix B** for reference.

The number and condition of ***Platycodon grandiflorus*** identified were recorded. The locations of the identified individuals of ***Platycodon grandiflorus*** were recorded with a Global Positioning System (GPS) device. Should other flora species of conservation interest be encountered during the detailed vegetation survey, their number, locations and condition were also recorded.

## 3.3 Survey Findings

In the detailed vegetation survey, two groups of ***Platycodon grandiflorus*** were identified at the southern periphery of the Project area on the hillside, one of which was previously recorded in the EIA report. The locations of these two groups of ***Platycodon grandiflorus*** are shown in **Figure 3.1** and their photographs are shown in **Plates 1** to **3** in **Appendix C**.

Group 1

This group of ***Platycodon grandiflorus*** is within the Project boundary and was recorded in the EIA report. It contains 8 stems growing close together, and it is therefore difficult to differentiate if these stems are all from different individuals. Among the 8 stems, one of them has finished flowering but shows no sign of fruiting; two are in bloom; three bearing flower buds; and the remaining two stems show no sign of flowering. The condition of this group of ***Platycodon grandiflorus*** is generally fair, but all eight stems are elongated, probably due to competition for sunlight with neighbouring vegetation.

Group 2

This group of ***Platycodon grandiflorus*** was not previously recorded in the EIA report. It is very close to but outside the Project boundary. It contains one flowering individual with one stem located upslope to the south of the first group. The condition of this individual is similar to those in the first group with elongated stem, probably due to competition for sunlight with neighbouring vegetation.

During the detailed vegetation survey, no flora species of conservation interest other than ***Platycodon grandiflorus*** has been identified within the Project boundary.

# 4. Recommendations

## 4.1 Protection of *Platycodon grandiflorus*

The two groups of ***Platycodon grandiflorus***, which were identified at the southern periphery of the Project area on the hillside, are not anticipated to be directly affected by the Project as they are located on the hillside not directly affected by construction activities. One of them is within and the other one is adjacent to the Woodland Compensation Area as identified in the EIA report and shown in Figure 2 of the EP for the Project (EP-487/2014).

Preventive measures as recommended in **Section 10.7.1.4** of the EIA report is considered sufficient to ensure that the identified ***Platycodon grandiflorus*** will not be affected by the Project during construction phase. These preventive measures include the following:

- Erection and maintenance of a temporary protective fence surrounding the two groups of ***Platycodon grandiflorus*** identified during the detailed vegetation survey to avoid potential impact from construction activities such as materials storage;

- Monthly monitoring of the two groups of ***Platycodon grandiflorus*** identified during the detailed vegetation survey to make sure that they are not affected by the construction works of the Project.

The above preventive measures are recommended to be undertaken throughout the entire construction phase of the Project.

For the design of the temporary protective fence, chain-link fence is recommended for two major reasons:

(i) the two ***groups*** of ***Platycodon grandiflorus*** identified show signs of intensive competition for sunlight with neighbouring vegetation. An enclosed protective fence with non-transparent material may partially block the sunlight, particularly at dawn and dusk, which will create a stressful condition for the two groups of ***Platycodon garndiflorus*** and may thereby affect their health;

(ii) ***Platycodon grandiflorus*** is known to thrive in open areas in sunny condition with good air circulation. An enclosed protective fence will unavoidable affect air circulation near the protected ***Platycodon grandiflorus*** and may have adverse effect on their health. Therefore, chain-link fence is proposed to minimize blockage of available sunlight and maintain good air circulation.

To ensure that ***Platycodon grandiflorus*** are properly protected from construction activities, the size of the fenced-off area for each group of identified ***Platycodon grandiflorus*** is recommended to be at least 2m x 2m with the height of the fence no less than 1.5m. Signs alerting the construction workers that no construction activities are allowed within the fenced-off areas should be posted on the fences of all four sides of the 2m x 2m fenced-off zones. The indicative locations of the fenced-off zones are shown in Figure 4.1.

Since one of the two groups of ***Platycodon grandiflorus*** is within and the other one is adjacent to the Woodland Compensation Area as identified in the EIA report and shown in Figure 2 of the EP for the Project (EP-487/2014), it is recommended that the temporary protective chain-link fences should be maintained during the entire planting period of the woodland compensatory tree planting and no works, including planting works, should be carried out within the fenced-off zones to ensure that ***Platycodon grandiflorus*** will not be affected.

## 4.2 Protection of Other Flora Species of Conservation Interest

No flora species of conservation interest other than ***Platycodon grandiflorus*** was recorded within the Project area during the detailed vegetation survey. Therefore, no direct impact on any flora species of conservation of interest other than ***Platycodon grandiflorus*** is anticipated. No additional protective / preventive / mitigation measure for flora species of conservation concern is required.

## 4.3 Environmental Monitoring and Audit Requirements

Monthly monitoring of the two groups of ***Platycodon grandiflorus*** identified in this vegetation survey should be conducted during the construction phase to ascertain that the ***Platycodon grandiflorus*** individuals protected with proper protective measures and are not affected by the construction works of the Project.

# 5. Conclusion

## 5.1 Conclusion

In the detailed vegetation survey, two groups of ***Platycodon grandiflorus*** were identified within the Project area. Direct impact on these two groups of ***Platycodon grandiflorus*** due to the Project is not anticipated. As a preventive measure, it is recommended to erect and maintain a temporary protective fence surrounding these two groups of ***Platycodon grandiflorus*** to avoid potential impact from construction activities such as material storage. Also, monthly monitoring of the identified ***Platycodon grandiflorus*** throughout the construction phase is recommended to make sure that they are not affected by the construction works of the Project.

In the detailed vegetation survey, no flora species of conservation interest other than ***Platycodon grandiflorus*** was recorded within the Project area. No additional protective / preventive / mitigation measure for flora species of conservation interest is required.

# Appendix A

# List of flora species recorded within the Project Boundary

Flora species recorded within the project boundary

| Scientific Names | Native to HK | Habit | Tall Shrubland | Woodland | Plantation | Stream | Pond | Shrubland | Bare Ground (Plantation Reinstatement) | Protection & Conservation Status |
|---|---|---|---|---|---|---|---|---|---|---|
| *Acacia auriculiformis* | No | T | | | + | | | | | |
| *Acacia confusa* | No | T | | | +++ | | ++ | | | |
| *Acronychia pedunculata* | Yes | T | ++ | ++ | + | + | | | | |
| *Adenosma glutinosum* | Yes | H | + | + | | | | | | |
| *Adiantum flabellulatum* | Yes | H | | | + | | | | | |
| *Ageratum conyzoides* | No | H | | | + | ++ | + | | ++ | |
| *Aglaia odorata* | No | S | | | + | | | | | |
| *Alangium chinense* | Yes | T | ++ | +++ | + | | | | | |
| *Albizia corniculata* | Yes | C | + | + | | | | + | | |
| *Allamanda schottii* | No | S | | | + | | | | | |
| *Alocasia macrorrhizos* | Yes | H | | | + | | | | | |
| *Alpinia zerumbet* | No | H | | | + | | | | | |
| *Alternanthera philoxeroides* | No | H | | | | | +++ | | | |
| *Alyxia sinensis* | Yes | C | + | + | | | | + | | |
| *Ampelopsis cantoniensis* | Yes | C | + | + | | | | | | |
| *Antirhea chinensis* | Yes | S | ++ | + | + | | | | | |
| *Apluda mutica* | Yes | H | | | | + | | + | | |
| *Aporusa dioica* | Yes | T | +++ | +++ | +++ | | | | | |
| *Araucaria heterophylla* | No | T | | | | | + | | | |
| *Archidendron lucidum* | Yes | T | + | + | ++ | | | | | |
| *Archontophoenix alexandrae* | No | T | | | + | | | | | |
| *Ardisia crenata* | Yes | S | | | + | | | | | |
| *Aristida chinensis* | Yes | H | + | | | | | | | |
| *Artocarpus hypargyreus* | Yes | T | + | | | | | | | |
| *Asparagus cochinchinensis* | Yes | C | + | + | + | ++ | | ++ | | |
| *Asparagus densiflorus* | No | H | | | | | ++ | | | |
| *Aster baccharoides* | Yes | H | | | | | | + | | |
| *Atalantia buxifolia* | Yes | S | + | + | + | + | | ++ | | |
| *Bambusa ventricosa* | No | B | | | ++ | | | | | |
| *Bambusa vulgaris* | No | B | | | ++ | | | | | |
| *Bauhinia blakeana* | Yes | T | | | + | | | | + | |
| *Bauhinia championii* | Yes | C | + | + | | | | ++ | | |
| *Bauhinia purpurea* | No | T | | | + | | | | | |
| *Bauhinia variegata* | No | T | | | + | | | | | |
| *Berchemia floribunda* | Yes | C | ++ | ++ | ++ | | | | | |
| *Bidens alba* | No | H | ++ | ++ | ++ | + | + | | ++ | |
| *Bougainvillea spectabilis* | No | S | | | + | | | | | |
| *Breynia fruticosa* | Yes | S | ++ | ++ | ++ | + | | ++ | | |
| *Bridelia tomentosa* | Yes | T, S | ++ | ++ | ++ | ++ | | + | | |
| *Brucea javanica* | Yes | S | ++ | + | ++ | | | | | |
| *Caesalpinia crista* | Yes | C | | | + | | | | | |
| *Cansjera rheedii* | Yes | C | + | + | + | | | +++ | | |
| *Carallia brachiata* | Yes | T | + | + | | | | | | |
| *Caryota mitis* | No | S | + | + | + | | | | | |
| *Cassytha filiformis* | Yes | C | + | + | ++ | + | | ++ | | |
| *Casuarina equisetifolia* | No | T | | | ++ | | | | | |
| *Catharanthus roseus* | No | S | | | | | ++ | | | |
| *Celastrus hindsii* | Yes | C | ++ | + | + | | | + | | |
| *Celtis sinensis* | Yes | T | ++ | +++ | ++ | + | + | + | + | |
| *Celtis timorensis* | Yes | T | ++ | + | | | | | | |
| *Choerospondias axillaris* | Yes | T | | + | + | | | | | |
| *Cinnamomum burmannii* | Yes | T | | | + | | | | | |
| *Cinnamomum camphora* | Yes | T | | | + | | | | + | |
| *Cleistocalyx nervosum* | Yes | T | + | + | | | | | | |
| *Clerodendrum fortunatum* | Yes | S | | | | + | | + | | |
| *Cocculus orbiculatus* | Yes | C | ++ | ++ | ++ | + | | ++ | | |
| *Cordyline fruticosa* | No | S | | | + | | | | | |
| *Cratoxylum cochinchinense* | Yes | T | ++ | ++ | ++ | + | | ++ | | |
| *Cuphea hyssopifolia* | No | H | | | + | | | | | |
| *Cuscuta australis* | Yes | H | | | | | | + | | |
| *Cyclea hypoglauca* | Yes | C | | | + | | | | | |
| *Cyclobalanopsis myrsinifolia* | Yes | T | + | | | | | | | |
| *Cyclosorus interruptus* | Yes | H | | | | | + | | | |
| *Cynodon dactylon* | Yes | H | | | | | | | ++ | |
| *Cyperus involucratus* | No | H | | | | | ++ | | | |
| *Cyrtococcum patens* | Yes | H | + | + | | | | | | |
| *Dalbergia benthamii* | Yes | C | ++ | ++ | + | | | + | | |
| *Dalbergia hancei* | Yes | C | ++ | ++ | ++ | + | | +++ | | |
| *Delonix regia* | No | T | + | + | | | + | | | |
| *Dendrotrophe varians* | Yes | C | + | | | | | | | |
| *Desmos chinensis* | Yes | S | ++ | + | ++ | | | | | |
| *Dianella ensifolia* | Yes | H | ++ | + | ++ | | | | | |
| *Dicranopteris pedata* | Yes | H | + | | | | | | | |
| *Dimocarpus longan* | No | T | + | + | ++ | ++ | | | | |
| *Diospyros vaccinioides* | Yes | S | ++ | ++ | ++ | + | | | | |
| *Diploclisia glaucescens* | Yes | C | | | + | | | ++ | | |
| *Diplospora dubia* | Yes | S | + | | + | | | | | |
| *Dracaena marginata* | No | S | | | | | ++ | | | |
| *Dracaena reflexa* | No | S | | | ++ | | | | | |
| *Duhaldea cappa* | Yes | H | + | | | + | | | | |
| *Duranta erecta* | No | S | | | + | | | | | |
| *Dypsis lutescens* | No | S | | | + | | + | | | |
| *Elephantopus tomentosus* | Yes | H | | | + | ++ | | | | |
| *Embelia laeta* | Yes | S | + | | + | | | | | |
| *Embelia ribes* | Yes | C | + | | | | | | | |
| *Emilia sonchifolia* | Yes | H | + | + | + | | | + | | |
| *Epipremnum aureum* | No | C | | | | | + | | | |
| *Eremochloa ciliaris* | Yes | H | | | | | | + | | |
| *Erythrina variegata* | No | T | | | | | + | | | |
| *Eurya nitida* | Yes | S | ++ | | ++ | | | | | |

Flora species recorded within the project boundary

| Scientific Names | Native to HK | Habit | Tall Shrubland | Woodland | Plantation | Stream | Pond | Shrubland | Bare Ground (Plantation Reinstatement) | Protection & Conservation Status |
|---|---|---|---|---|---|---|---|---|---|---|
| *Ficus elastica* | No | T | | | + | | | | | |
| *Ficus hirta* | Yes | S | ++ | + | + | | | | | |
| *Ficus hispida* | Yes | T, S | + | + | + | | | + | | |
| *Ficus microcarpa* | Yes | T | | | + | | | | | |
| *Ficus subpisocarpa* | Yes | T | | | | | + | | | |
| *Ficus variegata* | Yes | T | + | + | | | | | | |
| *Ficus variolosa* | Yes | S | + | | ++ | | | | | |
| *Ficus virens* | Yes | T | | | + | | | | | |
| *Gahnia tristis* | Yes | H | + | + | + | | | | | |
| *Garcinia oblongifolia* | Yes | T | | | + | | | | | |
| *Garcinia subelliptica* | No | T | | | | | + | | | |
| *Gardenia jasminoides* | Yes | S | + | | | | | | | |
| *Glochidion eriocarpum* | Yes | S | + | + | ++ | | | | | |
| *Gnetum luofuense* | Yes | C | +++ | + | ++ | | | | | |
| *Gonocarpus chinensis* | Yes | H | + | | | | | | | |
| *Gymnema sylvestre* | Yes | C | + | | + | | | +++ | | |
| *Hedyotis acutangula* | Yes | H | + | + | + | | | | | |
| *Hedyotis auricularia* | Yes | H | | | + | | | + | | |
| *Hedyotis consanguinea* | Yes | H | + | + | | | | | | |
| *Hedyotis corymbosa* | Yes | H | | | + | | | | | |
| *Helicteres angustifolia* | Yes | S | + | | | | | + | | |
| *Heterosmilax japonica* | Yes | C | + | | + | + | | | | |
| *Hibiscus rosa-sinensis* | No | S | | | | | ++ | | | |
| *Hibiscus tiliaceus* | Yes | T, S | + | + | | | | | | |
| *Homalium cochinchinense* | Yes | T | + | + | + | + | | | | |
| *Hymenocallis littoralis* | No | H | | | + | | | | | |
| *Ilex asprella* | Yes | S | ++ | ++ | ++ | | | | | |
| *Ilex pubescens* | Yes | S | + | + | + | | | | | |
| *Ipomoea cairica* | No | C | + | + | + | | | | | |
| *Iris japonica* | No | H | | | + | | | | | |
| *Ischaemum barbatum* | Yes | H | | | | | | + | | |
| *Itea chinensis* | Yes | T | + | + | | | | | | |
| *Ixora chinensis* | Yes | S | | | | | ++ | | | |
| *Ixora stricta* | No | S | | | + | | | | | |
| *Koelreuteria bipinnata* | No | T | | | | | | | +++ | |
| *Kyllinga nemoralis* | Yes | H | | | | | ++ | | | |
| *Lagerstroemia speciosa* | No | T | | | + | | | | | |
| *Lantana camara* | No | S | | | + | | | | | |
| *Lasia spinosa* | No | H | | | | | + | | | |
| *Leucaena leucocephala* | No | T | ++ | ++ | ++ | ++ | | | +++ | |
| *Liriope spicata* | Yes | H | ++ | + | ++ | + | | ++ | | |
| *Lithocarpus hancei* | Yes | T | + | | | | | | | |
| *Litsea glutinosa* | Yes | T | ++ | ++ | + | + | | ++ | | |
| *Litsea rotundifolia* | Yes | S | ++ | + | ++ | ++ | | +++ | | |
| *Livistona chinensis* | No | T | | | + | | +++ | | | |
| *Lophatherum gracile* | Yes | H | + | + | | | | | | |
| *Lygodium japonicum* | Yes | C | ++ | + | + | | | | | |
| *Macaranga tanarius* | Yes | T | ++ | ++ | ++ | + | +++ | | | |
| *Mallotus paniculatus* | Yes | T, S | ++ | ++ | ++ | | | ++ | | |
| *Mallotus repandus* | Yes | S | + | + | + | | | | | |
| *Melastoma sanguineum* | Yes | S | + | | | | | | | |
| *Melia azedarach* | No | T | + | + | + | | | | | |
| *Melinis repens* | No | H | + | | + | | | | +++ | |
| *Melodinus suaveolens* | Yes | C | ++ | + | | | | | | |
| *Microcos nervosa* | Yes | S | ++ | + | ++ | ++ | | | | |
| *Mikania micrantha* | No | C | + | + | + | | | | | |
| *Millettia nitida* | Yes | C | + | + | + | | | | | |
| *Millettia reticulata* | Yes | C | + | | | | | + | | |
| *Mimosa pudica* | No | H | | | | | | | ++ | |
| *Miscanthus floridulus* | Yes | H | + | + | | + | | | | |
| *Miscanthus sinensis* | Yes | H | + | | + | | | | + | |
| *Monstera deliciosa* | No | S | | | | | + | | | |
| *Morinda parvifolia* | Yes | C | | | + | + | | + | | |
| *Murraya paniculata* | No | S | + | | + | | | + | | |
| *Mussaenda pubescens* | Yes | C | + | + | + | | | | | |
| *Neyraudia reynaudiana* | Yes | H | + | | | | | | | |
| *Paederia scandens* | Yes | C | ++ | + | ++ | | | + | | |
| *Pandanus austrosinensis* | Yes | H | | | + | | | | | |
| *Pandanus utilis* | No | T | | | | | + | | | |
| *Panicum maximum* | No | H | + | + | ++ | | | | +++ | |
| *Parthenocissus dalzielii* | No | C | | | + | | | | | |
| *Passiflora foetida* | No | C | + | | + | | | | + | |
| *Philodendron selloum* | No | H | | | | | ++ | | | |
| *Phoenix loureiroi* | Yes | S | + | | + | | | + | | |
| *Phyllanthus cochinchinensis* | Yes | S | +++ | ++ | ++ | | | | | |
| *Phyllanthus emblica* | Yes | T, S | | | | | | + | | |
| *Phyllanthus myrtifolius* | No | S | | | | | ++ | | | |
| *Phyllanthus reticulatus* | Yes | S | | | + | | | | | |
| *Pinus massoniana* | Yes | T | + | | + | | | | | |
| *Pittosporum glabratum* | Yes | S | + | | + | | | | | |
| *Platycodon grandiflorus* | Yes | H | | | | | | + | | C96, RP |
| *Podocarpus macrophyllus* | Yes | T | | | | | | | + | |
| *Polyscias balfouriana* | No | S | | | + | | | | | |
| *Polyspora axillaris* | Yes | T, S | ++ | ++ | ++ | + | | + | | |
| *Psychotria asiatica* | Yes | S | +++ | ++ | ++ | ++ | | | | |
| *Psychotria serpens* | Yes | C | + | + | + | + | | | | |
| *Pteris biaurita* | Yes | H | + | | | | | | | |
| *Pteris semipinnata* | Yes | H | + | + | ++ | | | | | |
| *Pteris vittata* | Yes | H | + | | + | | | | | |
| *Pyrostegia venusta* | No | C | | | + | | ++ | | | |

Flora species recorded within the project boundary

| Scientific Names | Native to HK | Habit | Tall Shrubland | Woodland | Plantation | Stream | Pond | Shrubland | Bare Ground (Plantation Reinstatement) | Protection & Conservation Status |
|---|---|---|---|---|---|---|---|---|---|---|
| *Reevesia thyrsoidea* | Yes | T | + | + | | | | | | |
| *Rhaphiolepis indica* | Yes | S | ++ | + | + | + | | ++ | | |
| *Rhapis excelsa* | No | S | | | + | | | | | |
| *Rhodomyrtus tomentosa* | Yes | S | + | + | | | | | | |
| *Rhus hypoleuca* | Yes | T, S | + | + | + | + | | | | |
| *Rhus succedanea* | Yes | T, S | + | + | ++ | + | | | | |
| *Ricinus communis* | No | S | + | | | | | | ++ | |
| *Sageretia thea* | Yes | S | +++ | ++ | ++ | ++ | + | +++ | | |
| *Sansevieria trifasciata* | No | H | | | + | | ++ | | | |
| *Sapium discolor* | Yes | T | ++ | ++ | ++ | | | + | | |
| *Schefflera arboricola* | No | S | | | + | | + | | | |
| *Schefflera heptaphylla* | Yes | T | ++ | +++ | ++ | ++ | | + | | |
| *Schima superba* | Yes | T | + | + | ++ | | | | | |
| *Scleria ciliaris* | Yes | H | + | | + | | | + | | |
| *Sinosideroxylon wightianum* | Yes | T | + | + | | | | | | |
| *Solanum americanum* | No | H | | | | | + | | | |
| *Solanum torvum* | No | S | | | + | | + | | | |
| *Spathodea campanulata* | No | T | | | + | | | | | |
| *Spermacoce stricta* | Yes | H | + | | + | | | | | |
| *Stachytarpheta jamaicensis* | No | S | + | | + | | + | | | |
| *Stephania longa* | Yes | C | | | + | | | | | |
| *Sterculia lanceolata* | Yes | T | +++ | +++ | +++ | +++ | | ++ | | |
| *Strophanthus divaricatus* | Yes | C | + | + | ++ | | | ++ | | |
| *Strychnos angustiflora* | Yes | C | + | + | ++ | + | | ++ | | |
| *Syzygium jambos* | No | T | + | + | + | | | | +++ | |
| *Syzygium levinei* | Yes | T | | | | | | | + | |
| *Tadehagi triquetrum* | Yes | S | + | + | | | | | | |
| *Tetracera asiatica* | Yes | C | ++ | + | | | | | | |
| *Tetradium glabrifolium* | Yes | T | | + | | | | | | |
| *Teucrium quadrifarium* | Yes | S | + | | | | | + | | |
| *Thunbergia erecta* | No | S | | | + | | | | | |
| *Thysanolaena latifolia* | Yes | H | + | | | | | | | |
| *Toxocarpus wightianus* | Yes | C | | | | | | + | | |
| *Tradescantia zebrina* | No | H | | | | | ++ | | | |
| *Trema tomentosa* | Yes | S | + | + | ++ | | | | | |
| *Tylophora ovata* | Yes | C | + | + | + | + | | | | |
| *Urena lobata* | Yes | H | + | + | | | | | | |
| *Uvaria macrophylla* | Yes | C | | | + | + | | | | |
| *Veratrum schindleri* | Yes | H | | | + | | | | | |
| *Vernicia montana* | No | T | | | + | | | | | |
| *Vernonia cinerea* | Yes | H | + | + | | | | | | |
| *Vitex negundo* | Yes | S | + | + | | | | | | |
| *Wedelia trilobata* | No | H | + | + | + | + | +++ | + | ++ | |
| *Wikstroemia indica* | Yes | S | | | + | ++ | | + | | |
| *Youngia japonica* | Yes | H | | | + | | + | | | |
| *Zanthoxylum avicennae* | Yes | T | ++ | ++ | ++ | + | | ++ | | |
| *Zanthoxylum nitidum* | Yes | C | | | + | | | | | |
| **Total No. of Plant Species** | | | 131 | 99 | 148 | 43 | 37 | 52 | 18 | |

Notes:

Relative Abundance:

+++ = High Abundance, plants common in the habitat; ++ = Medium Abundance, plants occasionally occur in the habitat; + = Low Abundance, plants uncommon in the habitat

Native to Hong Kong: Yes = Native species; No = Exotic species

Habit: T = Tree; S = Shrub / Sub-shrub; C = Climber; H = Herb; B = Bamboo

Protection & Conservation Status:

C96 = Listed under Cap. 96

C586 = Scheduled under Cap. 586

RP = Listed in ***Rare and Precious Plants of Hong Kong*** (AFCD, 2003)

RA = species ranked as **Rare** in "***Hong Kong Vascular Plants: Distribution and Status***" (Corlett et al, 2000)

LC = status of **Least Concern** in "***The Wild Orchids of Hong Kong***" (Baretto et al, 2011)

NT = status of **Near Threatened** in "***The Wild Orchids of Hong Kong***" (Baretto et al, 2011)

VU = status of **Vulnerable** in "***The Wild Orchids of Hong Kong***" (Baretto et al, 2011)

EN = status of **Endangered** in "***The Wild Orchids of Hong Kong***" (Baretto et al, 2011)

# Appendix B

# Curriculum Vitae of the Qualified Ecologist (Removed)

# Appendix C

# Photographic Record of Detailed Vegetation Survey


**Plate 1**: ***Platycodon grandiflorus*** in Group 1

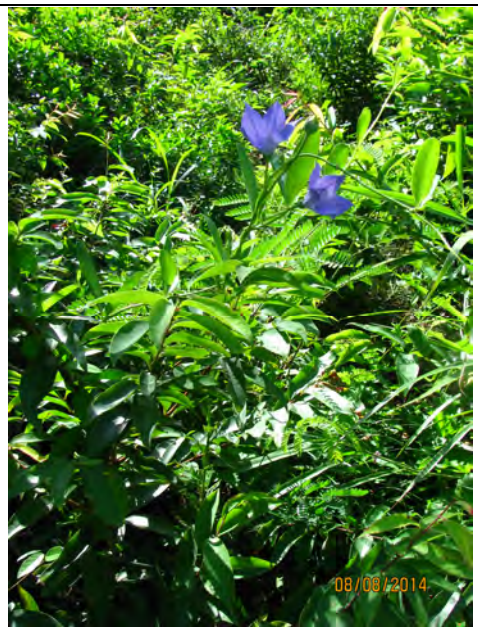



**Plate 2**: ***Platycodon grandiflorus*** in Group 1

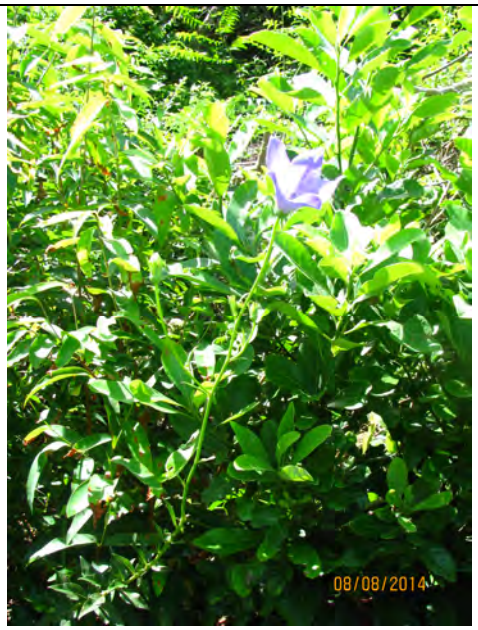
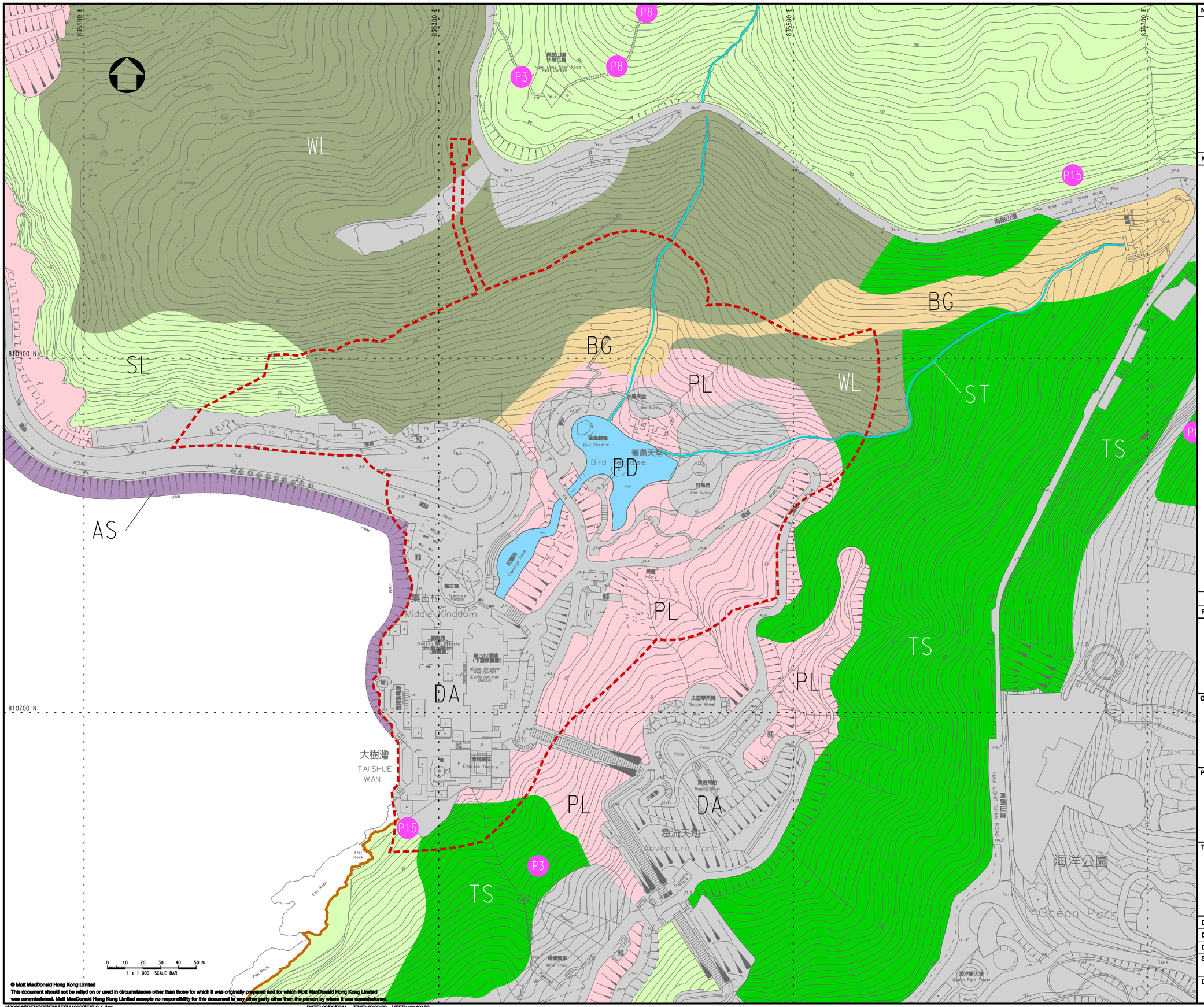



**Plate 3**: ***Platycodon grandiflorus*** in Group 2


**Plate 4**: Shrubland habitat of ***Platycodon grandiflorus*** within Project boundary


**Plate 5**: General view of the location where ***Platycodon grandiflorus*** is identified within Project boundary




**Notes**

| CODE | SCIENTIFIC NAME | CODE | SCIENTIFIC NAME |
|---|---|---|---|
| P1 | *Ania hongkongensis* | P10 | *Habenaria dentata* |
| P2 | *Aristolochia thwaitesii* | P11 | *Habenaria linguella* |
| P3 | *Artocarpus hypargyreus* | P12 | *Ixonanthes reticulate* |
| P4 | *Arundina graminifolia* | P13 | *Lilium brownii* |
| P5 | *Brainea insignis* | P14 | *Peristylus calcaratus* |
| P6 | *Cymbidium ensifolium* | P15 | *Platycodon grandiflorus* |
| P7 | *Eulophia graminea* | P16 | *Spathoglottis pubescens* |
| P8 | *Geodorum densiflorum* | P17 | *Spiranthes hongkongensis* |
| P9 | *Goodyera viridiflora* | | |

**Key to symbols**

- PROJECT BOUNDARY
- (Px) LOCATION OF PLANT SPECIES OF CONSERVATION INTEREST
- WL WOODLAND
- TS TALL SHRUBLAND
- SL SHRUBLAND
- PL PLANTATION
- ST STREAM
- PD POND
- BG BARE GROUND
- GL HILLSIDE GRASSLAND
- DA DEVELOPED AREA
- AS ARTIFICIAL SHORE
- RS ROCKY SHORE

| Rev | Date | Drawn | Description | Ch'k'd | App'd |
|---|---|---|---|---|---|
| P1 | SEP 14 | MING | FIRST ISSUE | HY | AFK |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Client: Ocean Park Hong Kong

Project: TAI SHUE WAN DEVELOPMENT AT OCEAN PARK

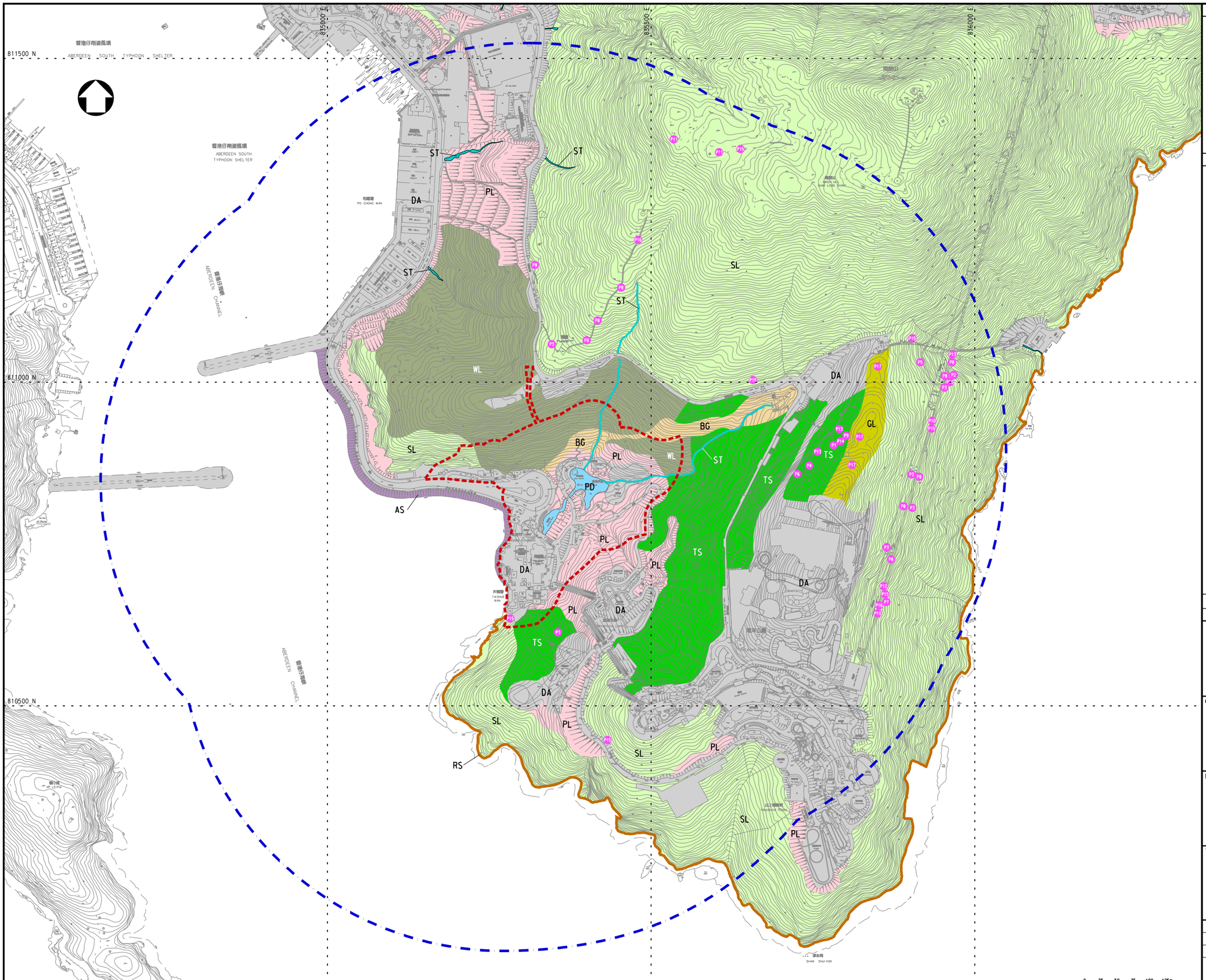
Title: HABITAT MAP AND LOCATION OF SPECIES OF CONSERVATION INTEREST WITHIN THE PROJECT BOUNDARY

| | | | | | |
|---|---|---|---|---|---|
| Designed | HY | | Eng check | FW | |
| Drawn | MING | | Coordination | FW | |
| Dwg check | HY | | Approved | AFK | |
| Scale at A1 | 1:1000 | Status | PRE | Rev | P1 |

Drawing Number: FIGURE 2.1




J:\328011\REPORT\ENV\EP\140902\FIG 2-1.dgn DATE: 02/09/2014 TIME: 12:00:39 USER: yim42169




**Notes**

| CODE | SCIENTIFIC NAME | CODE | SCIENTIFIC NAME |
|---|---|---|---|
| P1 | *Ania hongkongensis* | P10 | *Habenaria dentata* |
| P2 | *Aristolochia thwaitesii* | P11 | *Habenaria linguella* |
| P3 | *Artocarpus hypargyreus* | P12 | *Ixonanthes reticulate* |
| P4 | *Arundina graminifolia* | P13 | *Lilium brownii* |
| P5 | *Brainea insignis* | P14 | *Peristylus calcaratus* |
| P6 | *Cymbidium ensifolium* | P15 | *Platycodon grandiflorus* |
| P7 | *Eulophia graminea* | P16 | *Spathoglottis pubescens* |
| P8 | *Geodorum densiflorum* | P17 | *Spiranthes hongkongensis* |
| P9 | *Goodyera viridiflora* | | |

**Key to symbols**

- 500m ASSESSMENT AREA
- PROJECT BOUNDARY
- PX — LOCATION OF PLANT SPECIES OF CONSERVATION INTEREST
- WL — WOODLAND
- TS — TALL SHRUBLAND
- SL — SHRUBLAND
- PL — PLANTATION
- ST — STREAM
- PD — POND
- BG — BARE GROUND
- GL — HILLSIDE GRASSLAND
- DA — DEVELOPED AREA
- AS — ARTIFICIAL SHORE
- RS — ROCKY SHORE

| Rev | Date | Drawn | Description | Ch'k'd | App'd |
|---|---|---|---|---|---|
| P1 | SEP 14 | MING | FIRST ISSUE | HY | AFK |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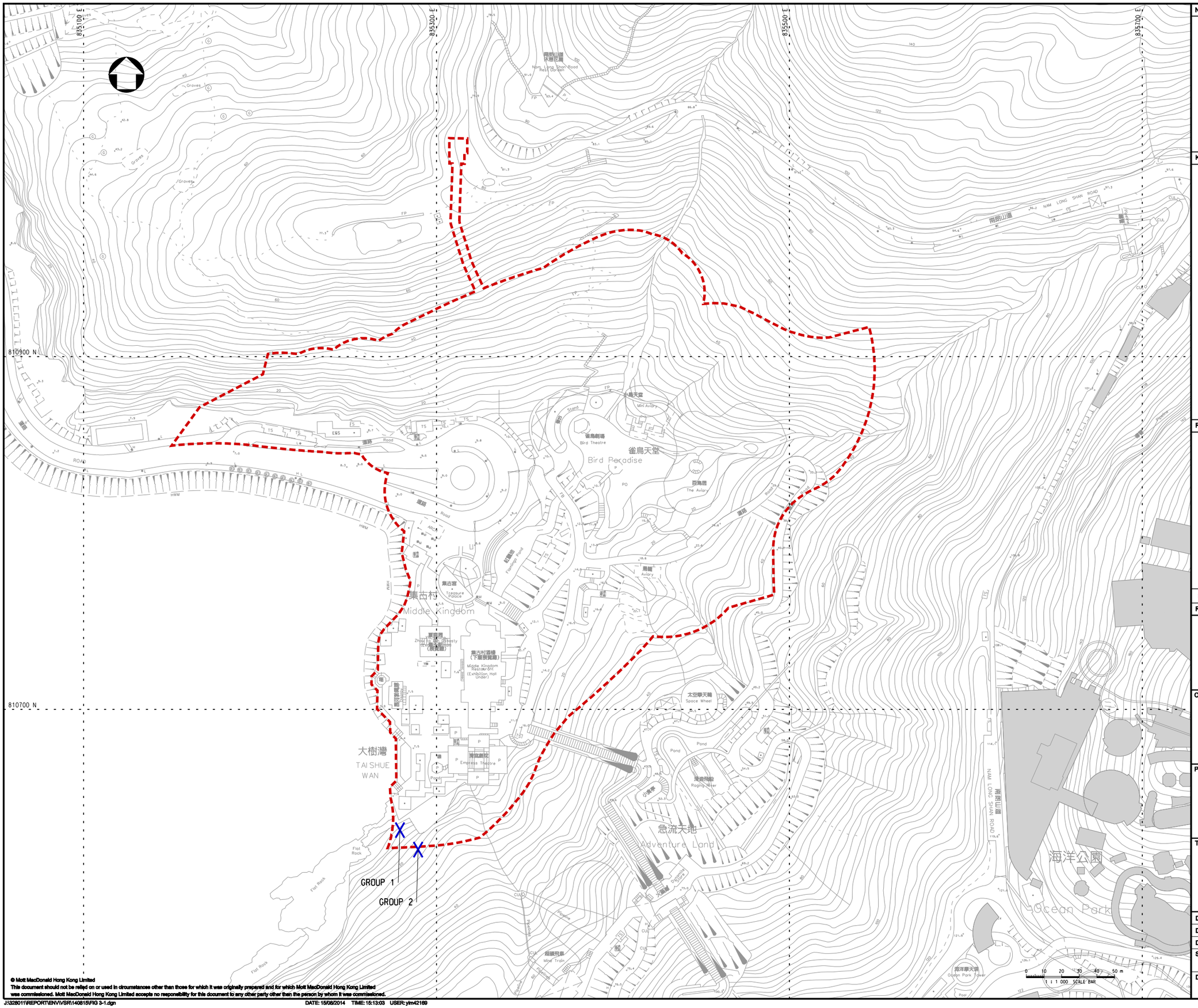
Client: Ocean Park Hong Kong 香港海洋公園

Project: TAI SHUE WAN DEVELOPMENT AT OCEAN PARK

Title: HABITAT MAP AND LOCATION OF SPECIES OF CONSERVATION INTEREST WITHIN THE EIA STUDY AREA

| | | | | | |
|---|---|---|---|---|---|
| Designed | HY | | Eng check | FW | |
| Drawn | MING | | Coordination | FW | |
| Dwg check | HY | | Approved | AFK | |
| Scale at A1 | 1:2750 | Status | PRE | Rev | P1 |

Drawing Number: FIGURE 2.2




**Notes**

**Key to symbols**

PROJECT BOUNDARY

X PLATYCODON GRANDIFLORUS

**Reference drawings**

| Rev | Date | Drawn | Description | Ch'k'd | App'd |
|---|---|---|---|---|---|
| P1 | AUG 14 | MING | FIRST ISSUE | PK | AFK |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Ocean Park Hong Kong 香港海洋公園

**Project**

TAI SHUE WAN DEVELOPMENT AT OCEAN PARK

**Title**

LOCATIONS OF PLATYCODON GRANDIFLORUS WITHIN THE PROJECT BOUNDARY

| | | | | | |
|---|---|---|---|---|---|
| Designed | PK | | Eng check | FW | |
| Drawn | MING | | Coordination | FW | |
| Dwg check | PK | | Approved | AFK | |
| Scale at A1 | 1:1000 | Status | PRE | Rev | P1 |

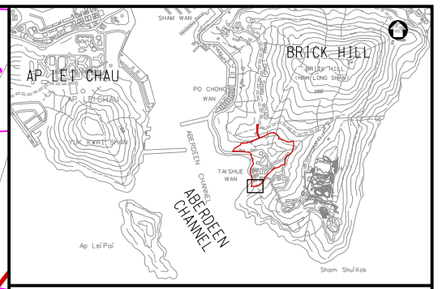
Drawing Number

FIGURE 3.1




J:\328011\REPORT\EN\VSR\140815\FIG 3-1.dgn DATE: 15/08/2014 TIME: 15:13:03 USER: ylm42169

835260 E
835280 E
835300 E
835320 E
835340 E
810660 N
810640 N
810620 N
810600 N
Pond
P
GROUP 1
GROUP 2
Flat Rock
20
40




KEY PLAN
(1:20000)

- PROJECT BOUNDARY
- X PLATYCODON GRANDIFLORUS
- TEMPORARY PROTECTIVE FENCE
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE FELLED

Reference drawings

| Rev | Date | Drawn | Description | Ch'k'd | App'd |
|---|---|---|---|---|---|
| P2 | SEP 14 | MING | GENERAL REVISION | PK | AFK |
| P1 | SEP 14 | MING | FIRST ISSUE | PK | AFK |

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Client
Ocean Park Hong Kong

Project
TAI SHUE WAN DEVELOPMENT AT OCEAN PARK

Title
LOCATIONS OF FENCED-OFF ZONES FOR PLATYCODON GRANDIFLORUS WITHIN THE PROJECT BOUNDARY

| | | | | | |
|---|---|---|---|---|---|
| Designed | PK | | Eng check | FW | |
| Drawn | MING | | Coordination | FW | |
| Dwg check | PK | | Approved | AFK | |

| Scale at A1 | Status | Rev |
|---|---|---|
| 1:150 | PRE | P2 |

Drawing Number
FIGURE 4.1

0 1 2 3 4 5 m
1 : 150 SCALE BAR



J:\328011\REPORT\ENV\VSR\140915\FIG 4-1.dgn DATE: 17/09/2014 TIME: 11:27:52 USER: yim42169

# Appendix I. Ardeid Inspection Report

# Tai Shue Wan Development at Ocean Park

Ardeid Inspection Report
Document No. 328011/03/06/C

September 2014
Ocean Park Corporation

Mott MacDonald

# Tai Shue Wan Development at Ocean Park

Ardeid Inspection Report
Document No. 328011/03/06/C

September 2014

Ocean Park Corporation



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**Pursuant to Condition 2.9(b) of Environmental Permit No. EP-487/2014,**

**this Ardeid Inspection Report has been reviewed and certified by the Environmental Team Leader (ETL) and verified by the Independent Environmental Checker (IEC).**

**Certified by:**

Terence Kong
Environmental Team Leader (ETL)
Mott MacDonald Hong Kong Limited

Date 17 September 2014

**Verified by:**

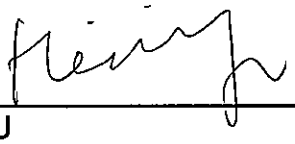
Winnie Ko
Independent Environmental Checker (IEC)
Environmental Resources Management

Date 17 Sept 2014

**Pursuant to Conditions 2.3 and 2.9(b) of Environmental Permit No. EP-487/2014,**

**this Ardeid Inspection Report has been prepared by the Qualified Ecologist.**

**Prepared by:**



Heidi YU
Qualified Ecologist
Mott MacDonald Hong Kong Limited

Date 17 September 2014

# Content



## Figures



## Appendix

# 1. Introduction

## 1.1 Background

In August 2013, Ocean Park Corporation (OPC) commissioned Mott MacDonald Hong Kong Limited (MMHK) to carry out the EIA study for the proposed Tai Shue Wan Development at Ocean Park (hereafter referred as “the Project”) for the construction and operation. The EIA report was submitted to EPD on 31 March 2014.

As mentioned in the EIA Report, an egretry was discovered at Tai Shue Wan (TSW) in 2011. It has been used by ardeids for breeding in 2012, but then abandoned without any breeding activities since the breeding season of 2013. Ecological impact on the breeding colony is considered negligible in the absence of an actual egretry and lack of breeding individuals. Nevertheless, for the approach of impact avoidance, the EIA Report has suggested inspection of the planting area previously used by ardeids for breeding prior to site clearance works to confirm no active ardeid nest is present.

The EIA report was approved with condition on 27 August 2014 (Register No. AEIAR-184/2014). EPD issued an Environmental Permit (EP) for the Project (Permit No. EP-487/2014) on 27 August 2014.

As stipulated in Condition 2.9 (b) of the EP, the Permit Holder is required to appoint a Qualified Ecologist to carry out monitoring of ardeid breeding activities and submit an Ardeid Inspection Report to EPD no later than one month before the commencement of site clearance works at the existing roosting location (refer to **Figure 1**). This Ardeid Inspection Report is prepared to meet this EP condition.

## 1.2 Objectives of Ardeid Inspection

The objectives of this Ardeid Inspection Report are as follows:

- To report the findings of monitoring of any ardeid breeding activities and inspection of the existing roosting location to confirm no active ardeid nest is present;
- To propose mitigation measures as specified in the approved EIA Report if any active ardeid nest is observed.

# 2. EIA Baseline Information and EM&A Requirements

## 2.1 Findings of TSW Egretry during EIA stage

As detailed in Table 10.1 and Section 10.3.3.2 of the approved EIA Report, in view of the previous egretry record, the location previously recorded with breeding activities, i.e. Bird Paradise and Flamingo Pond, was surveyed approximately twice a month during the survey period (February to July 2013) to investigate any breeding activity of the ardeids. As detailed in Table 10.6 of the EIA report, pairing activity for Little Egret was noted at the early breeding season but no breeding activities and no active nests were observed, although there was no change in site conditions. The pairing activities was noted in March 2013 for two pairs of Little Egret but no further breeding activities was subsequently observed. Although the TSW egretry has been used by ardeids for breeding in 2012, no ardeid nests were found during the surveys conducted at the breeding season of 2013. The TSW egretry/breeding site has been abandoned.

## 2.2 Impact Assessment for Potential Impact on the Abandoned Breeding Site in the EIA Report

The ardeid community in Aberdeen Channel and adjacent areas was first documented in 2008 under the HKBWS Egretry counts, in which both Heung Yip Road at Aberdeen and Ocean Park were surveyed for the presence of an egretry. In 2011, a small population started breeding in Ocean Park Tai Shue Wan after temporary closure of the area which restricted visitor's access and therefore attracted ardeids. However, after two years of temporary use, the site was abandoned in the breeding season of 2013. In the egretry counts for summer 2012 conducted by the HKBWS, a maximum of 14 ardeid nests comprising 7 Little Egrets and 7 Black-crowned Night Herons nests were recorded at the Ocean Park Egretry. In the breeding season of 2013, this egretry and the proposed site area was also surveyed by HKBWS but no ardeid nests were found.

There is currently no active egretry in TSW. The previous egretry in TSW was abandoned; the last breeding record is from 2012. The small and temporary TSW egretry in an artificial habitat is not considered to be of high ecological significance. Site clearance would remove the vegetation used by ardeids, but the ecological impact on the breeding colony is negligible in the absence of an actual egretry and lack of breeding individuals.

The potential of re-establishment of egretry in TSW is considered low, as the egretry is located within the park area open to visitors. Even without the proposed project, the re-opening of TSW gate or even daily operation of the park would limit the chance of egretry establishment. Therefore, the impact to the loss of potential breeding habitat for ardeid is minor.

Nevertheless, the EIA Report suggested that prior to site clearance works at the planting area previously used by ardeids for breeding should be inspected to confirm no active ardeid nest is present. If any active ardeid nest is observed, suitably sized buffer area should be established to avoid human or machinery disturbance until the nest is abandoned.

## 2.3 Environmental Monitoring and Audit Requirements

Prior to site clearance works at the planting area abandoned for ardeid breeding, the area around the indicative boundary of the ardeids roosting site (as shown in **Figure 1**) shall be inspected to confirm no active ardeid nest is present. If any active ardeid nest is observed, suitably sized buffer area shall be

established to avoid human or machinery disturbance until the nest is abandoned. A qualified ecologist with at least 5 years of experience in ardeids monitoring or survey shall be appointed to carry out the inspection. This Ardeid Inspection Report is thus prepared to meet this EM&A requirement.

# 3. Ardeid Inspection

## 3.1 Inspection Period

Ardeid inspections were undertaken on 8 August 2014 and 5 September 2014 at daytime.

## 3.2 Methodology

Ardeid inspection was conducted by actively searching for any presence of active ardeid nest within the indicative boundary of roosting site of ardeids as presented in **Figure 1**. Inspection was conducted with the aid of 8x42 binoculars.

The ardeid inspection was carried out by a qualified ecologist with more than 5 years of experience in ardeid monitoring. Curriculum vitae of the qualified ecologist is attached in **Appendix A** for reference.

Condition of the roosting site of ardeids was recorded with photographs taken.

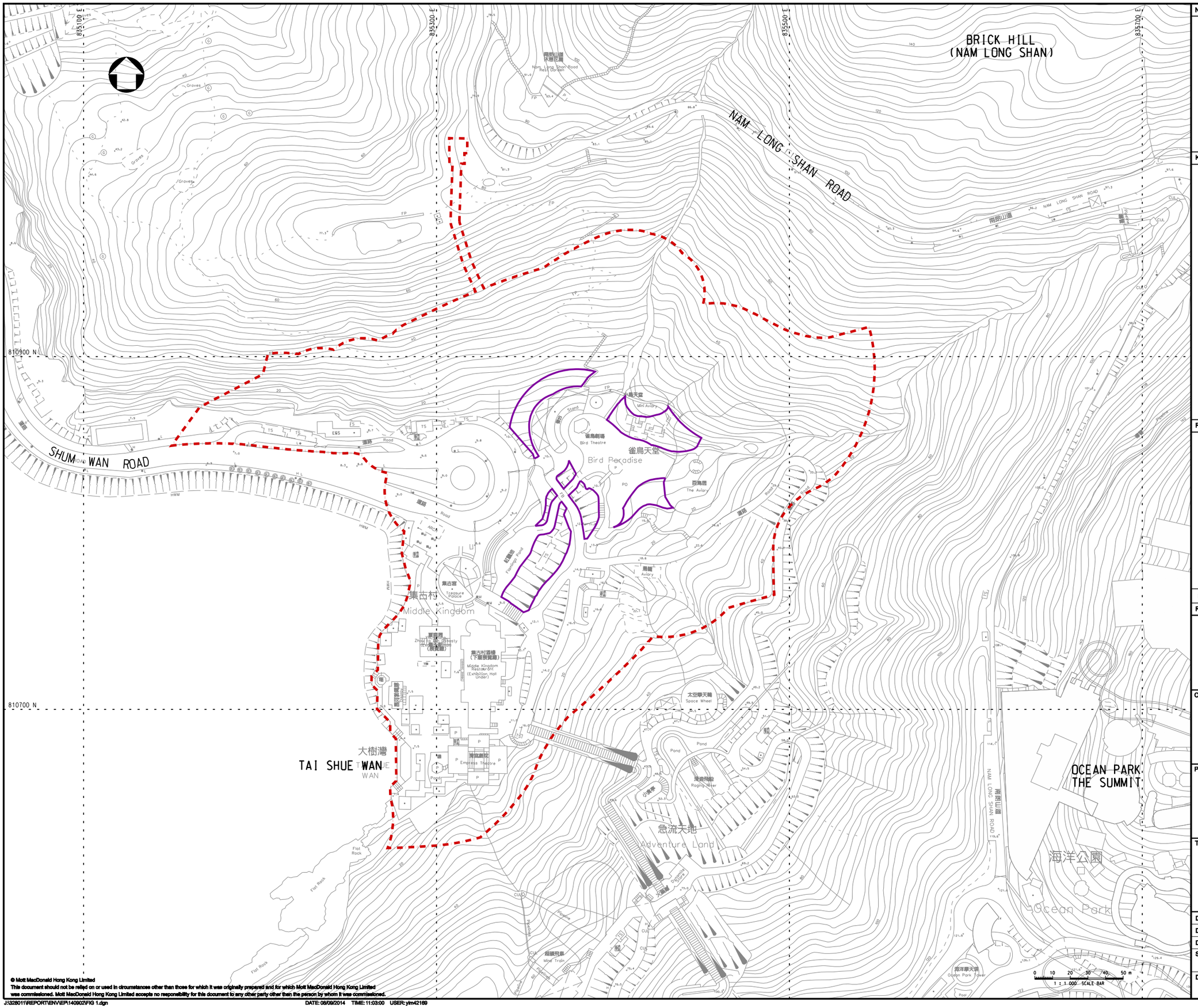
## 3.3 Inspection Result

No active ardeid nest was observed on trees within the indicative boundary of roosting site of ardeids. Photographs of the roosting site of ardeids are shown in **Plates 1 to 2** in **Appendix B**.

Neither ardeid breeding activities nor presence of egret were observed at or in the vicinity of the roosting location.

# 4. Conclusion

The Ardeid Inspection Report is prepared in accordance with Condition 2.9 (b) of the Environmental Permit for the Project. Site inspection of ardeid nest was undertaken on 8 August 2014 and 5 September 2014, before commencement of site clearance works at the existing roosting location. The ardeid inspection confirmed that no active ardeid nest was present at the area around the indicative boundary of the ardeids roosting site.




**Notes**

**Key to symbols**

PROJECT BOUNDARY

INDICATIVE BOUNDARY OF ROOSTING SITES OF ARDEIDS

**Reference drawings**

| Rev | Date | Drawn | Description | Ch'k'd | App'd |
|---|---|---|---|---|---|
| P1 | SEP 14 | MING | FIRST ISSUE | HY | AFK |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**Client**

Ocean Park Hong Kong

**Project**

TAI SHUE WAN DEVELOPMENT AT OCEAN PARK

**Title**

LOCATION OF ROOSTING SITE OF ARDEIDS BEFORE COMMENCEMENT OF SITE CLEARANCE OF THE PROJECT

| | | | | | |
|---|---|---|---|---|---|
| Designed | HY | | Eng check | FW | |
| Drawn | MING | | Coordination | FW | |
| Dwg check | HY | | Approved | AFK | |
| Scale at A1 | 1:1000 | Status | PRE | Rev | P1 |

Drawing Number

FIGURE 1



J:\328011\REPORT\ENV\EP140902\FIG 1.dgn DATE: 08/09/2014 TIME: 11:03:00 USER: yim42169

# Appendix A

## Curriculum Vitae of the Qualified Ecologist (Removed)

# Appendix B

# Photographic Record of Ardeid Inspection

## Appendix B Photographic Record of Ardeid Inspection

**Plate 1**: View of the previous ardeids roosting site near Flamingo Pond (taken on 8 August 2014)


**Plate 2**: View of the previous ardeids roosting site near Bird Paradise (taken on 8 August 2014)

# Appendix J. Proposal for Alternative Monitoring Station for Noise

本署檔號
OUR REF: ( 18 ) in EP 2/H16/O/06 Pt.4
來函檔號
YOUR REF:
電 話
TEL. NO.: 2835 1837
圖文傳真
FAX NO: 2591 0558
電子郵件
E-MAIL: 網 址
HOMEPAGE: http://www.epd.gov.hk

Environmental Protection Department
Branch Office
28th Floor, Southorn Centre,
130 Hennessy Road,
Wan Chai, Hong Kong.

環境保護署分處
香港灣仔
軒尼詩道
一百三十號
修頓中心廿八樓

RECEIVED
11 DEC 2014
PROJECT DEVELOPMENT
-Document Control Centre

10 December 2014
**By Post & Fax: 2814 0179**

Ocean Park Corporation
180 Wong Chuk Hang Road,
Aberdeen, Hong Kong
(Attn: Mr. Arthur WONG)

Dear Mr. Wong,

**Environmental Impact Assessment (EIA) Ordinance (Cap.499)**
**Project Title: Tai Shue Wan Development at Ocean Park**
**(Environmental Permit No. EP-487/2014)**

**Proposal for Alternative Monitoring Station for Noise**

We refer to the letter of 3.12.2014 from your consultants, Mott MacDonald Hong Kong Ltd., enclosing the subject Proposal, duly certified by the ET Leader and verified by the IEC and submitted under EP Condition 3.1. The concerned EP Condition 3.1 is reproduced below for your reference.

> *3.1 The EM&A programme of the Project, including the monitoring for noise, ecological, landscape and visual impacts during the construction stage and the monitoring of ecological, landscape and visual impacts after completion of construction activities, shall be implemented in accordance with the procedures and requirements as set out in the EM&A Manual (Register No. AEIAR – 184/2014) of the Project. The Permit Holder shall review the EM&A requirements or programme based on the submitted construction programme required under Condition 2.5. Any changes to the EM&A requirements or programme and termination of the EM&A programme shall be supported with justifications by the ET Leader and verified by the IEC to their conformance with the requirements as set out in the EM&A Manual (Register No. AEIAR – 184/2014) of the Project. Prior approval from the Director shall be obtained before their implementation.*

We hereby approve the proposal for alternative noise monitoring station i.e. NM1A and the proposed baseline noise monitoring periods for the NM1A.

The submission is approved by the Director for fulfilling the corresponding permit condition from the environmental perspective as examined under the EIA Ordinance (Cap.499) and does not absolve the project proponent and/or its work agent(s) from any requirements or obligations under other laws in force in Hong Kong, nor their liability due to any conflicts, nuisance or damages that proposed works may cause to third parties.

Yours sincerely,

(Steve T.S. LI)
Senior Environmental Protection Officer
for Director of Environmental Protection

c.c.
Mott MacDonald HK Ltd. (Attn. Mr. Terence KONG/ET Leader) Fax: 2827 1823
ERM-HK Ltd. (Attn. Ms. Winnie KO/IEC) Fax: 2723 5660

Internal (w/encl.)
S(RS)3

Mott MacDonald

Our ref AFK/TK/ro/T328011/06/L-0036
T 2828 5919
E Terence.Kong@mottmac.com.hk
Your ref

**Environmental Protection Department**
**27/F, Southorn Centre**
**130 Hennessy Road**
**Wan Chai**
**Hong Kong**

**Attn: Mr. Steve Li**

3 December 2014
**By Hand**

Dear Sir

**Tai Shue Wan Development at Ocean Park**
**(Environmental Permit No. EP-487/2014)**
**Submission of revised Proposal for Alternative Monitoring Station for Noise**

On behalf of the Project Proponent, Ocean Park Corporation, and pursuant to Section 3.2.3 of the EM&A Manual for "Tai Shue Wan Development at Ocean Park", we are pleased to submit herewith 1 hardcopy of the Proposal for Alternative Monitoring Station for Noise and our response to comment which has been reviewed and certified by the Environmental Team Leader (ETL) and verified by Independent Environmental Checker (IEC) for your approval.

Should you have any queries, please contact the undersigned at 2828 5919.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Terence Kong
Environmental Team Leader

Encl.

c.c.

| | | |
|---|---|---|
| Ocean Park Corporation | Mr. Arthur Wong | By Post (1 hard copy) |
| ERM-Hong Kong, Ltd | Ms. Winnie Ko | By Post (1 hard copy) |

**Tai Shue Wan Development at Ocean Park**
**Proposed Alternative Monitoring Station for Noise**

**Comments & Responses**

| Comments | Responses |
|---|---|
| **Environmental Protection Department (Ms. Mable Chan, Environmental Protection Officer)**<br>**Fax**<br>**Date : 24 November 2014**<br>We refer to the letter of 18.9.2014 from your consultants, Mott MacDonald Hong Kong Ltd., enclosing the subject Proposal, duly certified by the ET Leader and verified by the IEC and submitted under EP Condition 3.1. The concerned EP Condition 3.1 is reproduced below for your reference:<br><br>*3.1 The EM&A programme of the Project, including the monitoring for noise, ecological, landscape and visual impacts during the construction stage and the monitoring of ecological, landscape and visual impacts after completion of construction activities, shall be implemented in accordance with the procedures and requirements as set out in the EM&A Manual (Register No. AEIAR – 221/2014) of the Project. The Permit Holder shall review the EM&A requirements or programme based on the submitted construction programme required under Condition 2.5. Any changes to the EM&A requirements or programme and termination of the EM&A programme shall be supported with justifications by the ET Leader and verified by the IEC to their conformance with the requirements as set out in the EM&A Manual (Register No. AEIAR – 221/2014) of the Project. Prior approval from the Director shall be obtained before their implementation.* | Noted with thanks. |
| Having reviewed your Proposal, we consider that you are required to ***(i)*** lengthen the continuous baseline monitoring periods at least covering the daytime from 7am to 7pm for 14 consecutive days so as to better represent the noise background at the proposed alternative monitoring station NM1A or ***(ii)*** further examine any other possible places within the original NM1 premises which allows continuous baseline monitoring for 14 consecutive days. Please resubmit the revised Proposal for our further review. | Continuous baseline monitoring will be conducted at NM1A to cover the daytime from 7am to 7pm for 14 consecutive days to fulfill requirements of option (i). The Proposal is revised accordingly. |

**Pursuant to Section 3.2.3 of the EM&A Manual for "Tai Shue Wan Development at Ocean Park", this Proposal for Alternative Monitoring Station for Noise has been reviewed and certified by the Environmental Team Leader (ETL) and verified by the Independent Environmental Checker (IEC).**

**Certified by:**

Terence Kong
Environmental Team Leader (ETL)
Mott MacDonald Hong Kong Limited

Date 27 November 2014

**Verified by:**

Winnie Ko
Independent Environmental Checker (IEC)
ERM-Hong Kong, Ltd

Date 2 December 2014

**Tai Shue Wan Development at Ocean Park**

**Proposed Alternative Monitoring Station for Noise**

1. In accordance with Clause 3.1 of Environmental Permit No. EP-487/2014 (EP), an Environmental Monitoring and Audit (EM&A) programme shall be implemented as set out in the EM&A Manual of the Environmental Impact Assessment Report for the "Tai Shue Wan Development at Ocean Park" (EIA Report, Register No.: AEIAR-184/2014) which was approved by the Director of Environmental Protection (DEP) on 27 August 2014.

2. Section 3 of the EM&A Manual requires that 2 noise monitoring stations should be set up under the EM&A programme for the "Tai Shue Wan Development at Ocean Park".

3. The following summary of noise monitoring stations is proposed for baseline monitoring and future impact monitoring, for the agreement of Environmental Protection Department (EPD):

| Parameter | Station Code | Name for the Station | Location in EM&A Manual | Proposed Alternative Location | Monitoring to be conducted |
|---|---|---|---|---|---|
| Noise (airborne) | NM1 | Victoria Shanghai Academy | Victoria Shanghai Academy | Slope near the Victoria Shanghai Academy (NM1A) | Baseline and Impact |
| | NM2 | Hong Kong Juvenile Care Centre | Hong Kong Juvenile Care Centre | Not applicable | Baseline and impact |

4. Hong Kong Juvenile Care Centre (HKJCC) has already accepted our proposal of setting up environmental monitoring equipment on its premises at noise monitoring station NM2 on 15 September 2014. Please refer to the attached approval e-mail. It is proposed that baseline monitoring be conducted at this location continuously (24-hour) for 14 consecutive days.

5. Victoria Shanghai Academy (VSA) formally rejected our proposal of setting up environmental monitoring equipment on its premises on 9 October 2014. It explained that the proposed noise monitoring could potentially interrupt ongoing school activities. Please refer to the attached rejection e-mail. A subsequent search was unable to find any other noise sensitive receivers (NSRs) on Shum Wan Road similarly close to major site activities for noise monitoring.

6. An alternative location (NM1A) for setting up noise monitoring station was identified in the slope near VSA. 24-hour continuous baseline monitoring was not considered possible at this alternative location. Therefore, continuous noise monitoring at NM1A between 0700 and 1900 hours for 14 consecutive days is proposed prior to commencement of construction works. Noise monitoring during the following periods is also proposed for reference:

   - 1 set per weekday of 15-min measurement between 1900 and 2300 hours for one week; and
   - 1 set per day of 15-min measurement between 2300 and 0700 hours for one week.

7. The above measurements will be conducted in 5-min intervals. The results obtained (after any necessary correction; see paragraph 13 below) will be presented in the Baseline Noise Monitoring Report.

8. Impact monitoring at NM1A and NM2 will be conducted in accordance with the EM&A Manual.

9. The locations of these monitoring stations are presented in **Figure 1** as attached.

10. The rationale of selecting an alternative monitoring station for NM1 is based on Section 3.2.3 of EM&A Manual; however, no other noise sensitive receivers (NSRs) on Shum Wan Road similarly close to major site activities for noise monitoring could be found. The proposed NM1A is:

    - close (less than 100m) to the original NM1 in EM&A Manual to be representative of it;
    - at close proximity to major site activities likely to have noise impacts; and
    - facing the Project site area.

11. As NM1A is less than 100m away from the original sensitive receiver, VSA, the meteorological conditions are not expected to change between the sensitive receiver and alternative monitoring location. Meteorological conditions, such as wind speed by hand-held meter, will be recorded on site and compared with the data of the Hong Kong Observatory's Wong Chuk Hang Weather Station.

12. The proposed NM1A is at a publicly-accessible pathway but only infrequently patronized by nearby residents and therefore any disturbance to such persons is likely to be minimal.

13. The measurements conducted at NM1A should be deemed as "free field" and a correction of +3 dB(A) should be made to such measurements. Measurements at NM2 should be deemed as "facade" since they are obtained from the exterior of HKJCC building facade.

14. Thus, the above selected monitoring locations are considered to be the most representative for the EM&A programme under the EP (EP-487/2014).

15. All the monitoring parameters, equipments and monitoring procedures in accordance with Section 3.2 and other relevant sections of the EM&A Manual shall be followed during the baseline and impact monitoring.

## Wong, Brandon

**From:** HKJCC <hkjcc@hkjcc.org.hk>
**Sent:** 15 September 2014 16:30
**To:** Wong, Brandon
**Subject:** RE: Tai Shue Wan Development at Ocean Park - Environmental Team Services

Dear Mr. Wong,

The location is okay. When will the test start?

Regards,

Eric Tam

---

**寄件者:** Wong, Brandon [Brandon.Wong@mottmac.com.hk]
**已傳送:** Monday, 15 September, 2014 12:40
**收件者:** HKJCC
**副本:** Kwong, Florence; Kong, Terence; Ching, Eric
**主旨:** Tai Shue Wan Development at Ocean Park - Environmental Team Services

Dear Mr. Tam,

Thank you very much for allowing us to visit your school on 12 September 2014 regarding the captioned project. As discussed with you, we wish to propose the rooftop level of the boarding school as the noise monitoring location as indicated in the attached photo, which is additional information to our letter to your principal Mr. Lee Kam Ming dated 11 September 2014. We wish to clarify that the proposed baseline monitoring would be conducted continuously for 14 consecutive days.

We hereby seek your school's permission to conduct the noise monitoring as described above.

Should you have any problems or queries, please do not hesitate to contact our Environmental Team Leader, Mr. Terence Kong, on 2828 5919.

Thank you very much for your attention and we look forward to your favourable reply.

Regards,

**Brandon Wong**
Environmental Consultant

Mott MacDonald

**Mott MacDonald Hong Kong Limited**

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W www.mottmac.com/hong-kong

## Wong, Brandon

**From:** Chow, Gary
**Sent:** 09 October 2014 12:37
**To:** Kong, Terence; Wong, Brandon
**Cc:** Or, River
**Subject:** FW: Noise Monitoring Station

**From:** Mabel Leung [mailto:wfleung@vsa.edu.hk]
**Sent:** 09 October 2014 12:21
**To:** Chow, Gary
**Subject:** Noise Monitoring Station

Dear Mr. Chow,

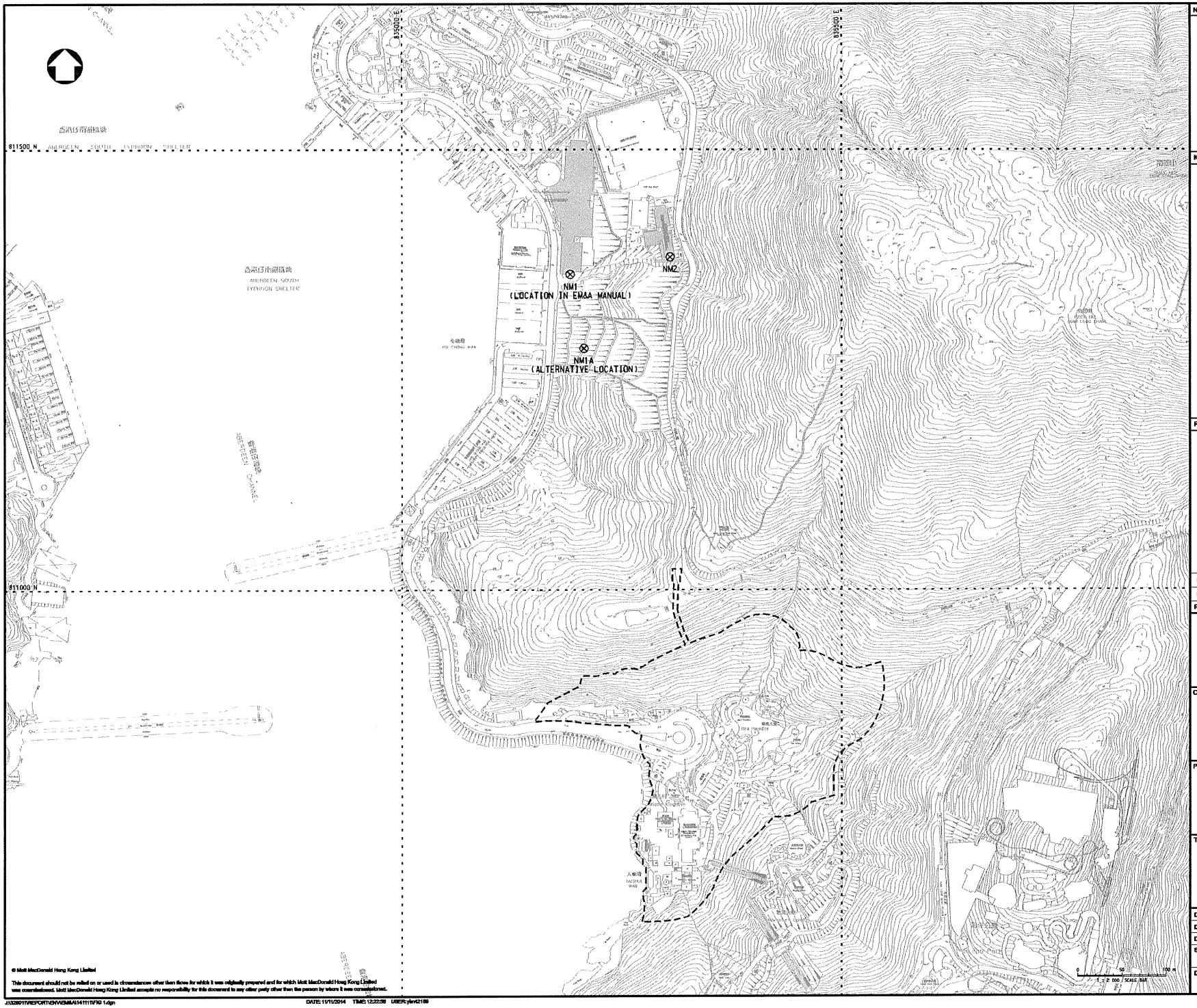
We have received a letter from Mott MacDonald dated 11 September 2014 to request to set up a noise monitoring station in our school.

Further to my telephone conversation with your good-self, may I explain that it is not suitable to set up such equipment on the roof of our campus.

We are using the roof as our playground for both Primary and Secondary students. Some sports lessons and different ball games will also take place at the site. Therefore, it is not safe for the students as well as for the noise monitoring station.

We are sorry that we cannot help you at this moment. Hope you would understand our concern.
Thank you very much.

*Mabel Leung*
*Head of Administration*
**Victoria Shanghai Academy**
**19 Shum Wan Road, Aberdeen, HK**
**Tel (852) 3402 1008**
**www.vsa.edu.hk**




**Notes**

**Key to symbols**

PROJECT BOUNDARY

CONSTRUCTION NOISE MONITORING STATION

**Reference drawings**

| Rev | Date | Drawn | Description | Ch'k'd | App'd |
|---|---|---|---|---|---|
| P2 | NOV 14 | MING | GENERAL REVISION | BW | AFK |
| P1 | OCT 14 | MING | FIRST ISSUE | BW | AFK |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**Client**

Ocean Park Hong Kong

**Project**

TAI SHUE WAN DEVELOPMENT AT OCEAN PARK

**Title**

PROPOSED LOCATIONS OF CONSTRUCTION NOISE MONITORING STATIONS

| | | | | | |
|---|---|---|---|---|---|
| Designed | BW | | Eng check | FW | |
| Drawn | MING | | Coordination | FW | |
| Dwg check | BW | | Approved | AFK | |
| Scale at A1 | 1:2000 | Status | PRE | Rev | P2 |

Drawing Number

FIGURE 1