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**Demolition of Buildings and Structures in the  
Proposed Kennedy Town Comprehensive  
Development Area Site**

**Environmental Permit No.**

**EP-136/2002/C**

**Monthly EM&A Report for June 2009**

**(Phase 1 Part 1) Rev A**

**Report No.: 203204/EM&A/21/A**

**July 2009**

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**Pursuant to Condition 1.10, 2.3 and 3.5 of the Environmental Permit**

**EP-136/2002/C**

**This Monthly EM&A Report (June 2009) for Phase 1 Part 1**

**has been reviewed, certified and verified by**

**the following EM&A members**

**Certified by:**

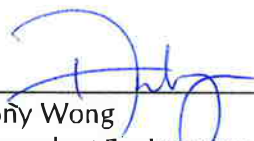


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**Date**

14 July 2009

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14 July 2009

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## EXECUTIVE SUMMARY

The EM&A programme for this Project commenced on 28 September 2007. This report presents a summary of the environmental monitoring and audit results, list of activities, and mitigation measures implemented during the reporting month of June 2009.

This is the 21<sup>th</sup> Monthly EM&A Report for works carried out during the reporting month of June 2009.

The following construction activities have taken place during the reporting month: -

- Disposal of inert C&D materials to recycling plant;
- Dismantling of Engineer's principal office; and
- Final site clearance.

Removal works for asbestos containing materials ("ACM") within the KTA and KTIP were completed on 31 July 2008, whereas removal works for dioxin/furan contaminated materials ("DCM") were completed on 29 September 2008.

Throughout the reporting month, removal of inert C&D material and final site clearance took place, and air quality and noise monitoring continued. No airborne asbestos fibre monitoring was undertaken during this reporting month as no asbestos abatement works were carried out. Furthermore, no dioxin impact monitoring was undertaken in the reporting month as no dioxin abatement works were carried out.

No environmental complaints, notifications of summons and prosecution were received or made against the Project in the reporting month.

Site inspection was carried out on a weekly basis to monitor proper implementation of environmental pollution control and mitigation measures for the Project. In this reporting month, site inspections were carried out on 3, 10, 16 and 25 June 2009.

No non-compliance with regard to environmental legislation was recorded in this reporting month.

Repairing of the documented cracked/damaged existing concrete ground slab was conducted and completed in January 2008 following the site inspection by EPD on 17 December 2007. A set of photo records of the completed repair works has been presented in Appendix G of EM&A report for February 2008.

Future key activities envisaged in the coming month include: -

- Disposal of C&D materials;
- Dismantling of remaining site offices;
- Final site clearance; and
- Handover of the site to the occupant of Phase 1 Part 2 of the Project.

A tentative program for works activities is given in Appendix J.

## **1. INTRODUCTION**

### **1.1 Background to the Project**

- 1.1.1 This Project – “Demolition of Buildings and Structures in the Proposed Kennedy Town Comprehensive Development Area Site” is a Designated Project defined under the EIA Ordinance. An Environmental Permit (“EP”) was issued on 22 May 2002 [Permit No. EP-136/2002] and was subsequently varied. The latest EP [Permit No. EP-136/2002/C] in force was granted on 29 June 2009.
- 1.1.2 This Contract [No.: CV/2007/05] for Phase 1 Part 1 of the Project was awarded to the Contractor - Hang Kee Construction & Engineering Co. Ltd. and contractually commenced on 28 September 2007. The main Contract was originally scheduled for a duration of 18 months. It was subsequently granted an extension of time until mid-April 2009, and the Works under this Contract were certified to be substantially completed on 23 April 2009. Within the context of the Environmental Permit, the Director of Environmental Protection (“DEP”) was notified that the commencement date of Phase 1 Part 1 of the Project was 12 October 2007, in accordance with Condition 1.12 of the Environmental Permit No. EP-136/2002/B (which was the valid EP in force at the time).
- 1.1.3 The scope of Phase 1 Part 1 of the Project includes demolition and clearance of all existing chimneys, buildings and ancillary structures above the existing concrete ground slab where the former Kennedy Town Incinerator Plant (“KTIP”) and the Kennedy Town Abattoir (“KTA”) are located, and the demolition and clearance of existing piers at the waterfront adjacent to the KTIP and KTA. It also includes the removal of asbestos containing materials (“ACM”) and dioxin/ furan contaminated materials (“DCM”) prior to demolition of structures and final capping of the underground facilities with clean soil and concrete cover of not less than 130mm thick as required in EP Condition 2.5(e).
- 1.1.4 A layout plan of the Project site and locations for nearby sensitive receivers is given in Figure 1.1.
- 1.1.5 Mott MacDonald Hong Kong Limited (“MMHK”; formerly Mott Connell Limited) has been commissioned by the Project Proponent – Civil Engineering and Development Department (“CEDD”) as the Environmental Team (“ET”) to undertake the Environmental Monitoring and Audit (EM&A) programme described in the approved EM&A Manual and the subsequent Updated EM&A Manual for Phase 1 Part 1 of the Project.

### **1.2 Coverage of this EM&A Report**

- 1.2.1 The EM&A programme for this Project commenced on 28 September 2007. This report presents a summary of the environmental monitoring and audit results, list of activities, and mitigation measures implemented during the reporting month of June 2009.
- 1.2.2 This is the 21<sup>th</sup> Monthly EM&A Report for works carried out on-site during the reporting month.

### **1.3 Project Management Organisation**

1.3.1 The project organisation chart is presented in Figure 1.2.

### **1.4 Project Program**

1.4.1 This Contract for Phase 1 Part 1 of the Project contractually commenced on 28 September 2007. The main Contract was originally scheduled for a duration of 18 months. It was subsequently granted an extension of time until mid-April 2009, and the Works under this Contract were certified to be substantially completed on 23 April 2009.

### **1.5 Works Undertaken during the Reporting Month**

1.5.1 The following construction activities have taken place during the reporting month: -

- Disposal of inert C&D materials to recycling plant;
- Dismantling of Engineer's principal office; and
- Final site clearance.

1.5.2 During the reporting month, no removal works for asbestos containing materials ("ACM") or dioxin/ furan contaminated materials ("DCM") were conducted. Removal works for ACM and DCM within the KTA and KTIP were completed on 31 July 2008 and 29 September 2008 respectively.



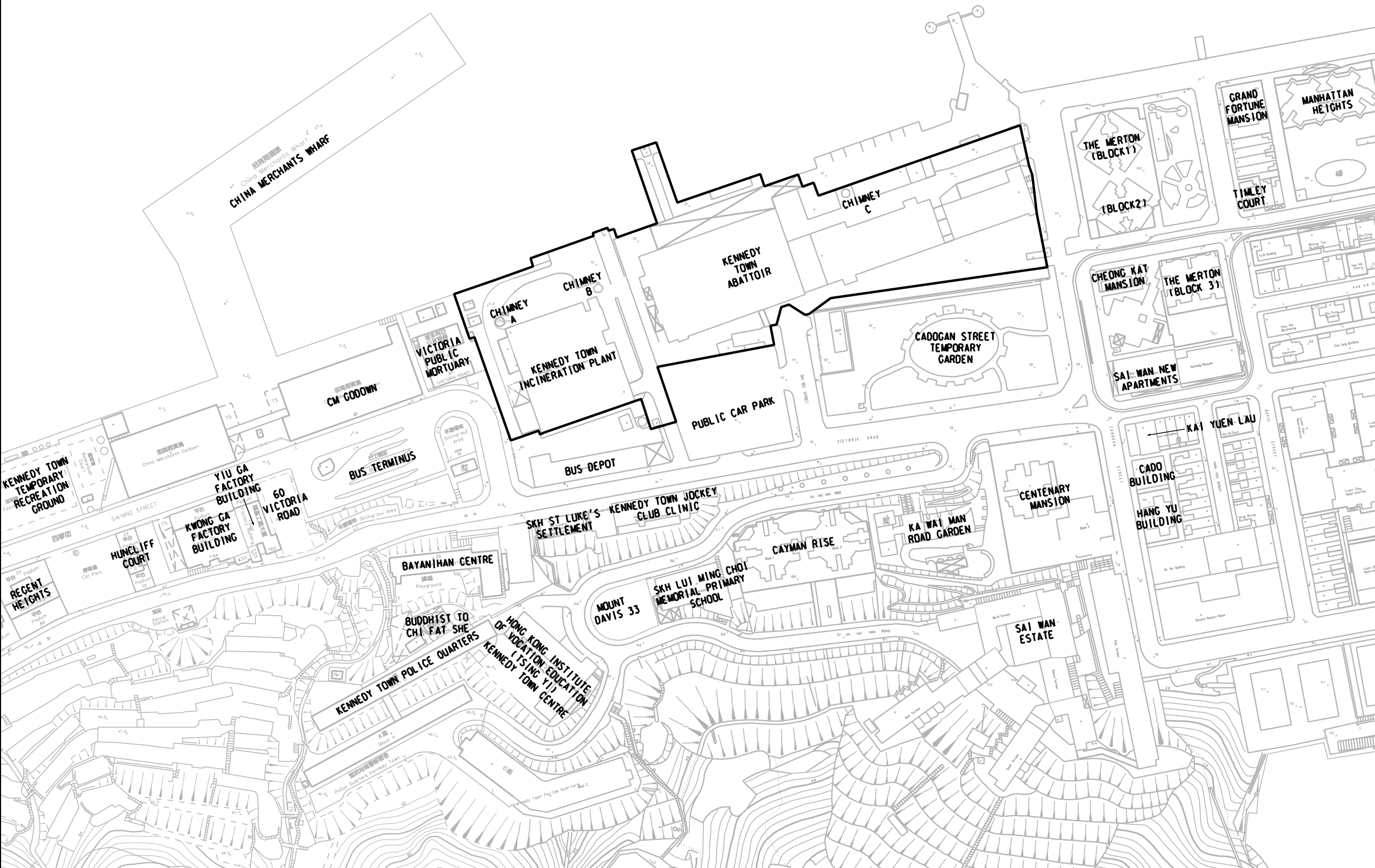


Notes:

Key to symbols



PHASE 1 PART 1 SITE BOUNDARY



Rev	Date	Drawn	Description	Ch'kd	App'd

Client



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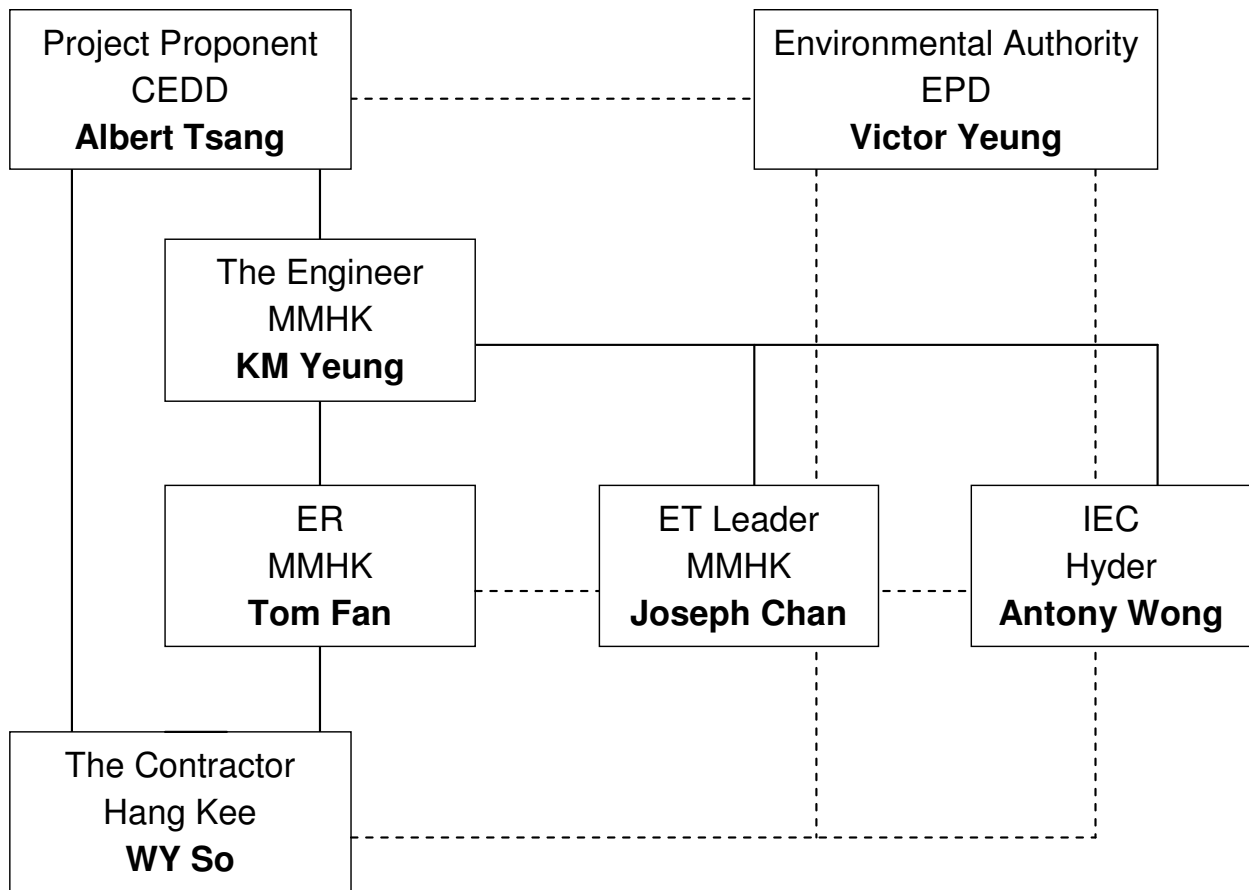
Project  
Demolition of Buildings and Structures in the Proposed Kennedy Town Comprehensive Development Area Site

Environmental Permit No. EP-136/2002/C

Title

LAYOUT PLAN OF WORK SITE AND NEIGHBOURING SENSITIVE RECEIVERS

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— Line of Reporting  
 - - - - Line of Communication

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The Contractor / Project Manager	Hang Kee Construction & Engineering Co., Ltd. (Hang Kee)	Mr. WY So	6086 0188



Civil Engineering and Development Department



Demolition of Buildings and Structures in the Proposed Kennedy Town Comprehensive Development Area Site  
 Environmental Permit No. EP-136/2002/C

Title:  
 Project Organisation Chart

Figure 1.2

## 2. EM&A REQUIREMENTS

### 2.1 Summary of EM&A Requirements

2.1.1 The EM&A programme requires environmental monitoring for air quality, noise, water quality and waste management as specified in the Updated EM&A Manual dated December 2007.

2.1.2 1-hour TSP and 24-hour TSP levels at 2 dust monitoring stations and airborne asbestos fibre at 3 fibre monitoring stations are to be monitored during the course of dusty and asbestos abatement work in every reporting month. These air quality monitoring stations for 24-hour TSP and 1-hour TSP measurements and airborne fibre are shown in Figure 2.1 and Figure 2.2.

2.1.3 Noise levels at 3 monitoring stations are to be monitored during the course of noisy work in every reporting month. These noise monitoring stations are shown in Figure 2.3. A summary of impact EM&A requirements is presented in Table 2-1 below.

**Table 2-1 Summary of Impact EM&A Requirements**

Parameters	Descriptions	Locations	Frequencies	Duration
Air Quality	24-Hour TSP	2 Locations – A1 & A2a	Once every 6 days	During dust generating construction works
	1-Hour TSP	2 Locations – A1 & A2a	3 times every 6 days	During dust generating construction works
	Airborne Fibre	3 Locations – AF1, AF2 and AF3	Daily	During asbestos abatement works
Noise	Leq (30 min), L10, L90	3 Locations – N1, N2 & N3	Once per week	During Construction
Waste	On-Site Waste Audit	Active work site locations	Weekly	During Construction
Wastewater	On-Site audit of surface runoff and trade effluent disposal	Active work site locations and final discharge point	Weekly	During Construction
General Site Conditions	Environmental Site Inspection	Works areas and areas affected by works	Weekly	During Construction

### 2.2 Environmental Quality Performance Limits

2.2.1 Environmental Quality Performance Limits for air quality (dust and airborne fibre) and noise are shown in Appendix A.

### 2.3 Event Action Plan

2.3.1 The Event/ Action Plans for air quality and noise are shown in Appendix B.

## **2.4 Implementation of Environmental Mitigation Measures**

- 2.4.1 The Contractor is required to implement mitigation measures listed in the latest EP, EIA Report and Updated EM&A Manual. During routine site inspections, the Contractor's implementation of mitigation measures is to be inspected and reviewed. A schedule of the implementation of mitigation measures identified at the EIA stage is given in Appendix C.



Notes:

Key to symbols

- CONSTRUCTION SITE BOUNDARY
- DUST MONITORING STATIONS

Rev	Date	Drawn	Description	Ch'k'd	App'd

Client

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**Project**  
Demolition of Buildings and Structures  
in the Proposed Kennedy Town  
Comprehensive Development Area Site

**Environmental Permit No. EP-136/2002/C**

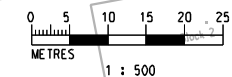
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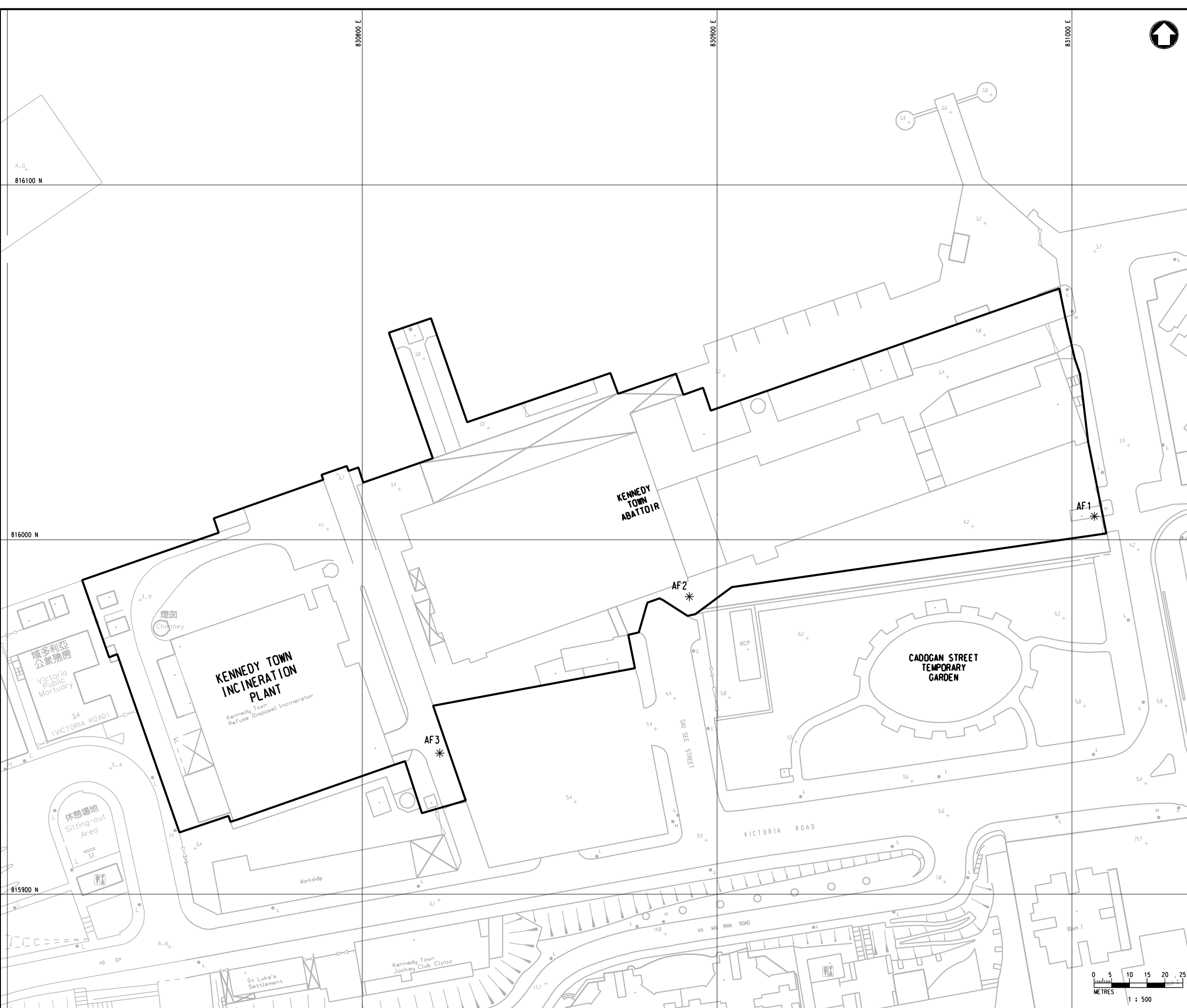
**LOCATION OF DUST MONITORING STATIONS**

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Drawn	LYK/KY	Approved	SHC
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CONSTRUCTION SITE BOUNDARY



AIRBORNE FIBRE MONITORING STATIONS

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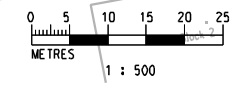
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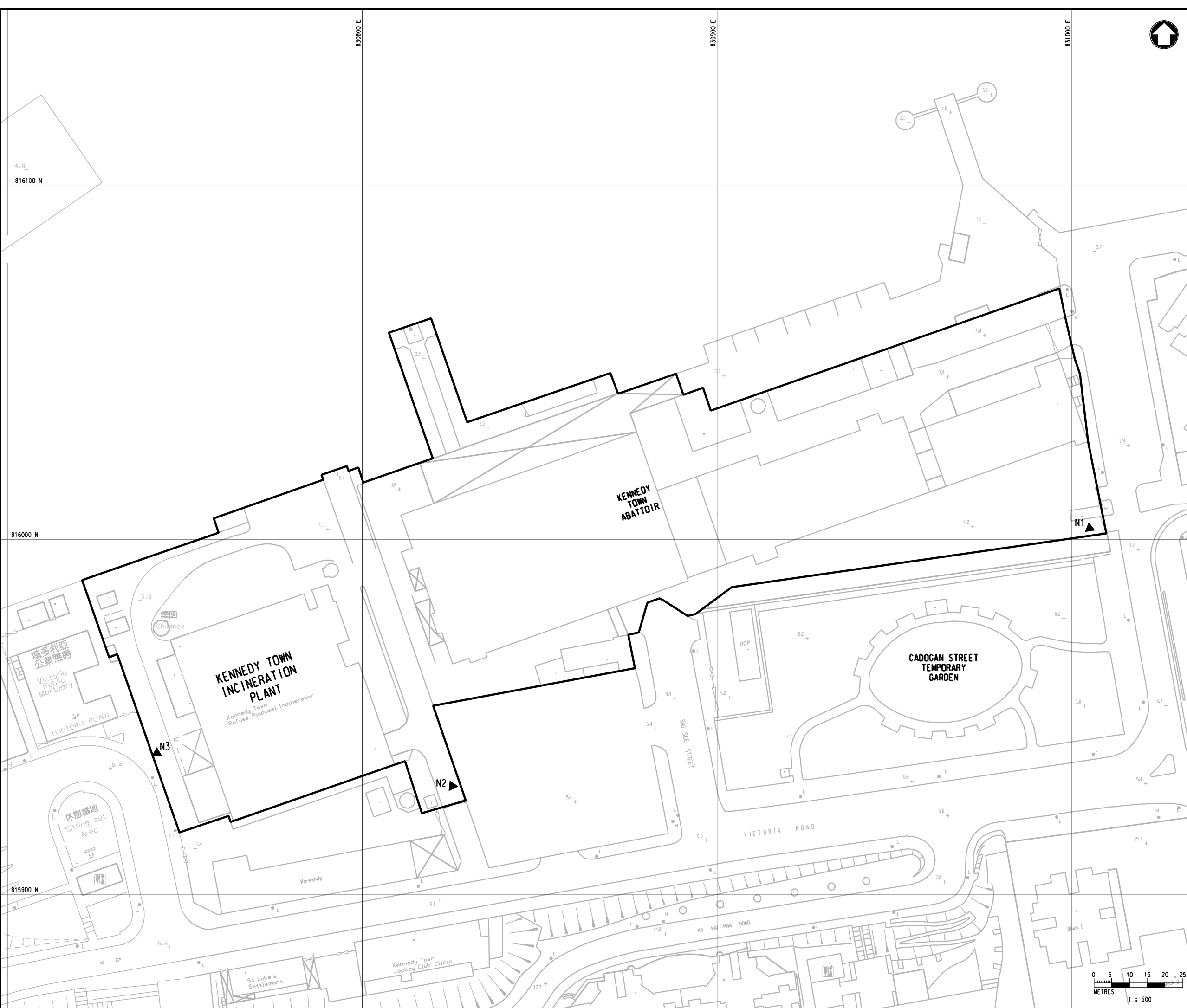
LOCATION OF AIRBORNE ASBESTOS FIBRE MONITORING STATIONS

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Notes:

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CONSTRUCTION SITE BOUNDARY



NOISE MONITORING STATIONS

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Demolition of Buildings and Structures  
in the Proposed Kennedy Town  
Comprehensive Development Area Site

Environmental Permit No. EP-136/2002/C

Title

LOCATION OF NOISE MONITORING STATIONS

Designed	HNP/W	Eng.Chk.	JOC
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### **3. MONITORING RESULTS**

#### **3.1 Impact Monitoring Schedule**

3.1.1 Regular site inspections were carried out on 3, 10, 16 and 25 June 2009 in this reporting month to assess the compliance with environmental requirements. The EM&A schedule is given in Appendix D.

3.1.2 During this reporting month, removal of inert C&D material and final site clearance took place, and air quality and noise monitoring continued. In addition, no dioxin impact monitoring was undertaken in the reporting month as no dioxin abatement works were carried out.

#### **3.2 Monitoring Methodology**

##### 24-hour TSP Monitoring

###### *Installation*

3.2.1 The HVS has been installed close to representative air sensitive receivers. The following criteria have been considered in the installation of the HVS.

- A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
- The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
- A minimum of 2m separation from walls, parapets and penthouse was required for rooftop sampler.
- No furnace or incinerator flues were nearby.
- Airflow around the sampler was unrestricted.
- Permission was obtained to set up the samplers and to obtain access to the monitoring stations.
- A secured supply of electricity is needed to operate the samplers.

###### *Preparation of Filter Papers*

- Glass fibre filters, G810 are to be labelled with sufficient filters that are clean and without pinholes.
- All filters are to be equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature is to be around 25 °C and not variable by more than  $\pm 3^{\circ}\text{C}$ , the relative humidity (RH) is to be  $< 50\%$  and not variable by more than  $\pm 5\%$ . A convenient working RH is 40%.

###### *Field Monitoring*

- The power supply is to be secured to ensure the HVS works properly.
- The filter holder and the area surrounding the filter are to be cleaned.



- The filter holder is to be removed by loosening the 4 bolts and a new filter, with stamped number upward, on a supporting screen to be aligned carefully.
- The filter is to be properly aligned on the screen so that the gasket forms an airtight seal on the outer edges of the filter.
- The swing bolts are to be fastened to hold the filter holder down to the frame. The pressure applied is to sufficient to avoid air leakage at the edges.
- The shelter lid is then closed and is secured with the aluminium strip.
- The HVS shall be warmed-up for about 5 minutes to establish run-temperature conditions.
- A new flow rate record sheet is to be set into the flow recorder.
- The flow rate of the HVS is to be checked and adjusted at around 1.1 m<sup>3</sup>/min. The range specified in the updated EM&A Manual is between 0.6-1.7 m<sup>3</sup>/min.
- The programmable timer is set for a sampling period of 24 hrs + 1 hr, and the starting time, weather condition and the filter number are to be recorded.
- The initial elapsed time is to be recorded.
- At the end of sampling, the sampled filter is to be removed carefully and folded in half length so that only surfaces with collected particulate matter are in contact.
- It was then placed in a clean plastic envelope and sealed.
- All monitoring information is to be recorded on a standard data sheet.
- Filters are to be sent to a HOKLAS accredited laboratory for analysis.

#### *Maintenance and Calibration*

- The HVS and its accessories are to be maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- HVSs are to be calibrated at a bi-monthly intervals using GMW-25 Calibration Kit throughout all stages of the air quality monitoring.

#### 1-hour TSP Monitoring

##### *Field Monitoring*

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

- Set POWER to "ON", push BATTERY button, make sure that the meter's indicator is in the range with a red line and allow the instrument to stand for about 3 minutes (Then, the air sampling inlet has been capped).
- Push the knob at MEASURE position.
- Push "O-ADJ" button. (Then meter's indication is 0).
- Push the knob at SENSI ADJ position and set the meter's indication to S value described on the Test Report using the trimmer for SENSI ADJ.

- Pull out the knob and return it to MEASURE position.
- Push “START” button.

#### *Maintenance and Calibration*

- The 1-hour TSP meter would be checked at 3-month intervals and calibrated at 1-year intervals throughout all stages of the air quality baseline monitoring.

#### Airborne Fibre Monitoring

3.2.3 All airborne sampling procedures and specification shall comply with EH10 guidance note and MDHS 39/3 (HSE UK). All air test results and log sheets prepared by the Contractor shall be submitted to ET Leader for reporting purpose.

3.2.4 Air measurement of a minimum of 480 L shall be taken after commencement of abatement work. Results must be below 0.01 fibre/ ml.

#### *Field Monitoring*

- The sampler was calibrated by way of a filter holder completed with 0.8 micron pore size membrane filter in series with a calibrated rotameter.
- The sampler was switched on with the screw adjusted until it reached a flow rate of 4 litre/min as shown on the calibrated rotameter within  $\pm 5\%$ .
- The starting flow rate was recorded on worksheet.
- The height of the filter holder must be within 1-2 m above ground.
- The following steps were performed at the beginning of next hour’s sampling:
  - Calibrate the sampler again after an hour to check if the flow rate is within  $\pm 10\%$  of 4 litres/min. (Note: No adjustment should be made to the pump flow rate.)
  - Discard the sample if the flow rate is outside  $\pm 10\%$ .
- Sampling volume must be at least 480 litres.
- The sampler was calibrated on completion of the sampling period with the finish flow rate recorded on worksheet.
- The sample should be discarded if the flow rate is outside  $\pm 10\%$ .
- Use test ware or clean plastic cover to cover the cowl entrance.
- Use egg-crate box to carry the filter holder back to the laboratory, the filter head should face upward.

#### *Analysis*

- Membrane filter samples were analysed using method based on MDHS 39/3, “Asbestos fibres in air”.

#### *Maintenance and Calibration*

- Float and float tube cleaned in ultrasonic bath with DI water for 10 minutes.

## Noise Monitoring

### *Field Monitoring*

- The Sound Level Meter is to be set on a tripod at a height of 1.2 m above the ground.
- Facade measurements are to be made at all 3 monitoring locations.
- The battery condition is to be checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time are to be set as follows:
  - Frequency weighting: A
  - Time weighting: Fast
  - Time measurement:
    - 1 no. of Leq (30 min) noise measurements between 07:00 & 19:00 hours on normal weekdays at each monitoring station on a per week basis;
    - 3 nos. of consecutive Leq (5 min) noise measurements between 07:00 & 19:00 hours on general holidays or Sundays at each monitoring station on a per week basis (if work is undertaken on these days).
- Prior to and after each noise measurement, the meter is to be calibrated using a Calibrator for 94 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- During the monitoring period, the Leq, L10 and L90 would be recorded. In addition, site conditions and noise sources are to be recorded on a standard record sheet.
- Noise measurement should be paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations should be recorded when intrusive noise is unavoidable.
- Noise monitoring is to be cancelled in the presence of fog, rain, wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

### *Maintenance and Calibration*

- The microphone head of the sound level meter and calibrator is to be 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.

## **3.3 Monitoring Equipment**

### Air Quality (Dust)

3.3.1 The equipment used for air quality (dust) monitoring is listed in Table 3-1.

**Table 3-1 TSP Monitoring Equipment**

Equipment	Model
HVS Sampler	GMWS 2310 Accu-vol system
Calibrator	GMW 25
1-hour TSP Dust Meter	8520 Dust Track Aerosol Monitor

Air Quality (Airborne Fibre)

3.3.2 The equipment used for airborne fibre impact monitoring is listed in Table 3-2.

**Table 3-2 Airborne Fibre Monitoring Equipment**

Equipment	Model
Sampler Pump	Casella AFC 123, SKC 224-43XR & 224-44XR, and Casella vortex
Rotameter (Portable Flowmeter)	KDG Type 1100
Calibrator	SKC Electronic Calibrator Model 712

Noise

3.3.3 The equipment used for noise monitoring is listed in Table 3-3.

**Table 3-3 Noise Monitoring Equipment**

Equipment	Model
Integrating Sound Level Meter	Rion NL-31
Calibrator	Rion NC-73

**3.4 Equipment Calibration**

3.4.1 The calibration frequencies of the monitoring equipment are provided in Table 3-4.

**Table 3-4 Equipment Calibration Frequencies**

Equipment	Calibration Frequency	Last Calibration Date(s)
High Volume Sampler GMWS 2310 Accu-vol system	Every two months	21 Apr 2009 21 Jun 2009
1-hour TSP Dust Meter 8520 Dust Track Aerosol Monitor	Every year	25 Jul 2008 12 Mar 2009
Integrated SLM Rion NL-31	Every year	25 Jun 2008 (serial no. 00320533) * 8 May 2009 (serial no. 00410224) *
Sound level calibrator Rion NC-73	Every year	25 Jun 2008 (serial no. 10997142) * 11 Jul 2008 (serial no. 10786708) *

\* Note: Integrated SLM with serial no. 00320533 and sound level calibrator (both calibrated on 25 Jun 2008) were used to conduct noise monitoring from 1 Jun to 23 Jun 2009. A second integrated SLM with serial no. 00410224 (calibrated on 8 May 2009) and a second sound level calibrator with serial no. 10786708 (calibrated on 11 Jul 2008) were used for the same purpose from 24 Jun to 30 Jun 2009.

3.4.2 The calibration certificates are included in Appendix I.

### 3.5 Results of Impact Monitoring

#### Air Quality (1-hr TSP)

3.5.1 Results of 1-hour TSP level are summarised in Table 3-5. Detailed results, including general weather conditions, and graphical presentations of the reporting period and the preceding 3 months are included in Appendix E. In addition, wind data obtained from the nearest Hong Kong Observatory monitoring station, at Green Island, during the reporting month is included in Appendix K.

**Table 3-5 Results of 1-Hour TSP Impact Monitoring**

Monitoring Station	1-hour TSP Range ( $\mu\text{g}/\text{m}^3$ )	Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
A1	66 – 128	369	500
A2a	68 – 97	357	500

Note: All figures are rounded off to the nearest whole number.

3.5.2 No exceedance of Action / Limit Levels for 1-hr TSP was recorded in the reporting month.

#### Air Quality (24-hr TSP)

3.5.3 Results of 24-hour TSP level are summarised in Table 3-6. Detailed results, including general weather conditions, and graphical presentations of the reporting period and the preceding 3 months are included in Appendix E. In addition, wind data obtained from the nearest Hong Kong Observatory monitoring station, at Green Island, during the reporting month is included in Appendix K.

**Table 3-6 Results of 24-Hour TSP Impact Monitoring**

Monitoring Station	24-hour TSP Range ( $\mu\text{g}/\text{m}^3$ )	Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
A1	68 – 73	180	260
A2a	66 – 78	178	260

Note: All figures are rounded off to the nearest whole number.

3.5.4 No exceedance of Action / Limit Levels for 24-hr TSP was recorded in the reporting month.

#### Airborne Fibre

3.5.5 No airborne asbestos fibre monitoring was undertaken during this reporting month as asbestos abatement works were completed by 31 July 2008.

#### Noise

3.5.6 Results of measured noise level, in terms of  $\text{Leq}$  (30min), during construction are summarised in Table 3-7. Detailed results, including general weather conditions, and graphical presentations of the reporting period and the preceding 3 months are presented in Appendix

G. In addition, wind data obtained from the nearest Hong Kong Observatory monitoring station, at Green Island, during the reporting month is included in Appendix K.

**Table 3-7 Results of Noise Monitoring**

<b>Monitoring Station</b>	<b>Measured Leq (30 min) Range, dB(A)</b>	<b>Limit Level for Leq (30min), dB(A) (0700 – 1900 hours on normal weekdays)</b>
N1	64 – 68	75
N2	62 – 64	75
N3	70 – 75	75

Note: All figures are rounded off to the nearest whole number.

3.5.7 No exceedance of Action / Limit Levels for construction noise was recorded.

Waste Management

**Table 3-8 Monthly Summary Waste Flow Table for 2009**

Month	Actual Quantities of Inert C&D Materials Generated Monthly										Actual Quantities of C&D Wastes Generated Monthly									
	Total Quantity Generated		Broken Concrete		Reused in the Contract		Reused in other Projects		Disposed of at Public Fill		Metals		Paper/ Cardboard		Plastics		Chemical waste		Others (e.g. refuse)	
	(in '000 tons)		(in '000 tons)		(in '000 tons)		(in '000 tons)		(in '000 tons)		(in '000 kg)		(in '000 kg)		(in '000 kg)		(in '000 kg)		(in tons)	
	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.
Jan	5	5.98	0	0	0	0	0	5.98	5	0	90	130	0	0	0	0	0	70 * ^	0.25	0
Feb	5	2.68	0	0	0	0	0	2.68	5	0	0	36	0	0	0	0	0	87.5 * ^	0.25	0
Mar	0	5.58	0	0	0	0	0	5.58	0	0	0	100	0	0	0	0	0	161.5 * ^	0	0
Apr	0	6.00	0	0	0	0	0	6.00	0	0	0	80	0	0	0	0	0	0 * ^	0	0
May	0	1.22	0	0	0	0	0	1.22	0	0	0	15	0	0	0	0	0	0 * ^	0	0
June	0	0.27	0	0	0	0	0	0.27	0	0	0	0	0	0	0	0	0	0 * ^	0	0
Sub-total	10	21.73	0	0	0	0	0	21.73	10	0	90	361	0	0	0	0	0	319.0 * ^	0.5	0
Jul																				
Aug																				
Sep																				
Oct																				
Nov																				
Dec																				
<b>Total</b>	<b>10</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>10</b>		<b>90</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0.5</b>	

\* Up to 30 June 2009: Total ACM generated as chemical waste = 191.68 m<sup>3</sup>. Total ACM disposed (to SENT landfill) = 191.68 m<sup>3</sup>. All ACM generated was stored on-site prior to disposal.

^ Up to 30 June 2009: Total DCM generated as chemical waste: 397.00 m<sup>3</sup>. Total DCM disposed = 397.00 m<sup>3</sup>. All DCM generated was stored on-site prior to disposal.

## 4. PROJECT ENVIRONMENTAL STATUS

### 4.1 Environmental Meetings

4.1.1 There was no environmental meeting as the Works under this Contract were certified to be substantially completed on 23 April 2009.

### 4.2 Status of Environmental Submissions, Permits and Licenses

4.2.1 A summary of status of all environmental submissions, permits, licenses, and/or notifications to EPD for this Project during the reporting period is presented in Table 4-1 below.

**Table 4-1 Status of Environmental Submissions, Permits and Licenses**

Item	Description	Date of Application/ Submission	Status
1.	Environmental Permit (EP No. EP-136/2002/C)	4 Jun 2009 Issued by EPD on 29 Jun 2009	Valid
2.	Billing Account under Waste Disposal (charges for Disposal of Construction Waste) Regulation (a/c no.: 7006217)	Approved on 31 Oct 2007	Valid
3.	Waste Management Plan	v 1.1 on 9 Nov 2007 v 2.0 on 4 Dec 2007 v 3.0 on 17 Jan 2008 v 3.1 on 5 Feb 2008 v 3.2 on 28 Feb 2008 v 4.0 on 8 May 2008 v 4.1 on 12 Jun 2008 (including addendum & amendment pages submitted on 26 Jun 2008)	WMP v 4.1 (incorporating addendum & amendment pages) approved by EPD on 10 July 2008 (includes ACM removal involving Chimney A & B)
4.	Registration as a Chemical Waste Producer under Waste Disposal (Chemical Waste) (General) Regulation (ref. no.: WPN5213-111-H2999-02)	23 Oct 2007 Approved on 6 Nov 2007	Valid
5.	Effluent Discharge Licence under Water Pollution Control Ordinance (licence no.: EP880/W10/XX0297)	27 Oct 2007 Approved by EPD on 2 June 2008	Valid until 31 May 2010
6.	Supplementary Asbestos Investigation Report (AIR) and Asbestos Abatement Plan (AAP) for KTA	30 Jan 2008 Approved by EPD on 26 Feb 2008	Valid
7.	Supplementary AIR and AAP for KTIP	14 Mar 2008 Approved by EPD on 19 May 2008	Valid
8.	Report on Toxicity Characteristic Leachate Procedure (TCLP) Test Results for Pilot Cement Mixing of DCM	v 1.3 on 21 Aug 2008 (including amendment pages on 11 Sep 2008) Approved by EPD on 23 Sep 2008	Valid



<b>New submissions</b>			
9.	Formal notification to EPD of Completion of Phase 1 Part 1 and Commencement of Phase 1 Part 2 of the Project	10 Jun 2009	-
10.	Formal notification to EPD of Termination of EM&A Programme for Phase 1 Part 1	15 Jun 2009	-

### **4.3 Waste Management Status**

- 4.3.1 Inert C&D materials and non-inert C&D wastes were generated by the Project in the reporting month are as shown in Table 3-8 above. A trip ticket system has been implemented for all off-site waste disposals.
- 4.3.2 All asbestos removal works were completed on 31 July 2008 and all ACM generated has been disposed of. During the reporting month, no further ACM generation or disposal took place.
- 4.3.3 In addition, dioxin abatement works were completed on 29 September 2008 and all DCM generated has been disposed of. During the reporting month, no further DCM generation or disposal took place.
- 4.3.4 All ACM and DCM generated were stored on-site prior to disposal.

### **4.4 Review of Environmental Monitoring Procedures**

- 4.4.1 The monitoring works conducted by the Environmental Team have been reviewed. No changes in the environmental monitoring procedures are considered necessary at this stage.

### **4.5 Implementation Status of Environmental Mitigation Measures**

- 4.5.1 An Implementation Schedule of Mitigation Measures from the EIA/ Updated EM&A Manual has been given in Appendix C.

## 5. AUDIT FINDINGS

### 5.1 Site Environmental Audit

5.1.1 Site inspection is to be carried out on a weekly basis to monitor proper implementation of environmental pollution control and mitigation measures for the Project. In this reporting month, one monthly site inspection was carried out jointly by the Contractor, ET and IEC on 16 June 2009 and weekly site inspections were carried out by the Contractor and ET on 6, 13 and 27 June 2009.

5.1.2 Major findings provided by ET and those jointly provided by the ET and IEC on 16 June 2009 from the site inspections are summarised in Table 5-1 below.

**Table 5-1 Summary of Environmental Site Inspections**

Date of Inspection	Major Observations	Action(s)
5 Sep 2008 (original observation)	Outlet compartment in sedimentation tank was empty. As a result, there is a risk that water discharge samples cannot be obtained to fulfil licence conditions.	Outlet compartment in the sedimentation tank remained empty. (3, 10, 16 & 25 Jun 2009)
29 Apr 2009 (original observation)	Discharging tanks of the sedimentation tank system were missing and required prompt rectification by the Contractor.	The Contractor was again reminded to provide a sedimentation tank near SOP 18 as soon as possible in order to rectify the sedimentation system. (3 Jun 2009)
		A sedimentation tank was provided near SOP 18. However, reconnection is still required. (10 Jun 2009)
		Reconnection of the sedimentation tank system was completed. (16 Jun 2009)
18 May 2009 (original observation)	Reconnection of the sedimentation tank near SOP 15 is required.	Reconnection of the sedimentation tank near SOP 15 remains outstanding. (3 & 10 Jun 2009)
		Reconnection of the sedimentation tank system was completed. (16 Jun 2009)
	The Contractor was asked to provide a sedimentation tank near SOP 18 as soon as possible, in order to complete follow-up observation no. 1 of 29 Apr 2009. (see above)	The Contractor was again reminded to provide a sedimentation tank near SOP 18 as soon as possible in order to rectify the sedimentation system. (3 Jun 2009)
		A sedimentation tank was provided near SOP 18. However, reconnection is still required. (10 Jun 2009)
27 May 2009 (original observation)	The Contractor was reminded to promptly clear stagnant water ponds after heavy rain, including the wheel wash pit.	The Contractor was again reminded to promptly clear stagnant water ponds after heavy rain, including the wheel wash pit and site boundary. (3 Jun 2009)
		Stagnant water removal was in progress. No stagnant water was observed in the wheel wash pit and at the site boundary during this site walk. (10 Jun 2009)
		Removal of stagnant water ponds was outstanding. (16 Jun 2009)

		Some stagnant water ponds were still observed. The Contractor is reminded to remove these as soon as possible. (25 Jun 2009)
3 Jun 2009	Stagnant water was observed in the last manhole prior to connection to the sedimentation system near SOP 18. The Contractor was further reminded of the need to rectify other observations still outstanding in this area.	Stagnant water removal has been performed by Contractor. The Contractor is reminded to implement suitable mitigation measures against mosquito breeding where required. (10 Jun 2009)
		Mosquito oil was being provided by Contractor at potential mosquito breeding areas. (16 Jun 2009)
10 Jun 2009	No new observations.	-
16 Jun 2009	No new observations. (Remark: The Contractor was reminded to compile a photo database of all recorded surface cracks and general site condition for record purposes.)	-
25 Jun 2009	No new observations.	-

5.1.3 There were no non-compliances regarding site environmental audits in this reporting month.

## 5.2 Condition of Identified Surface Cracks

5.2.1 In accordance with EP Conditions 2.5 (e), inspection findings and repair works carried out should be reported in the monthly EM&A Report.

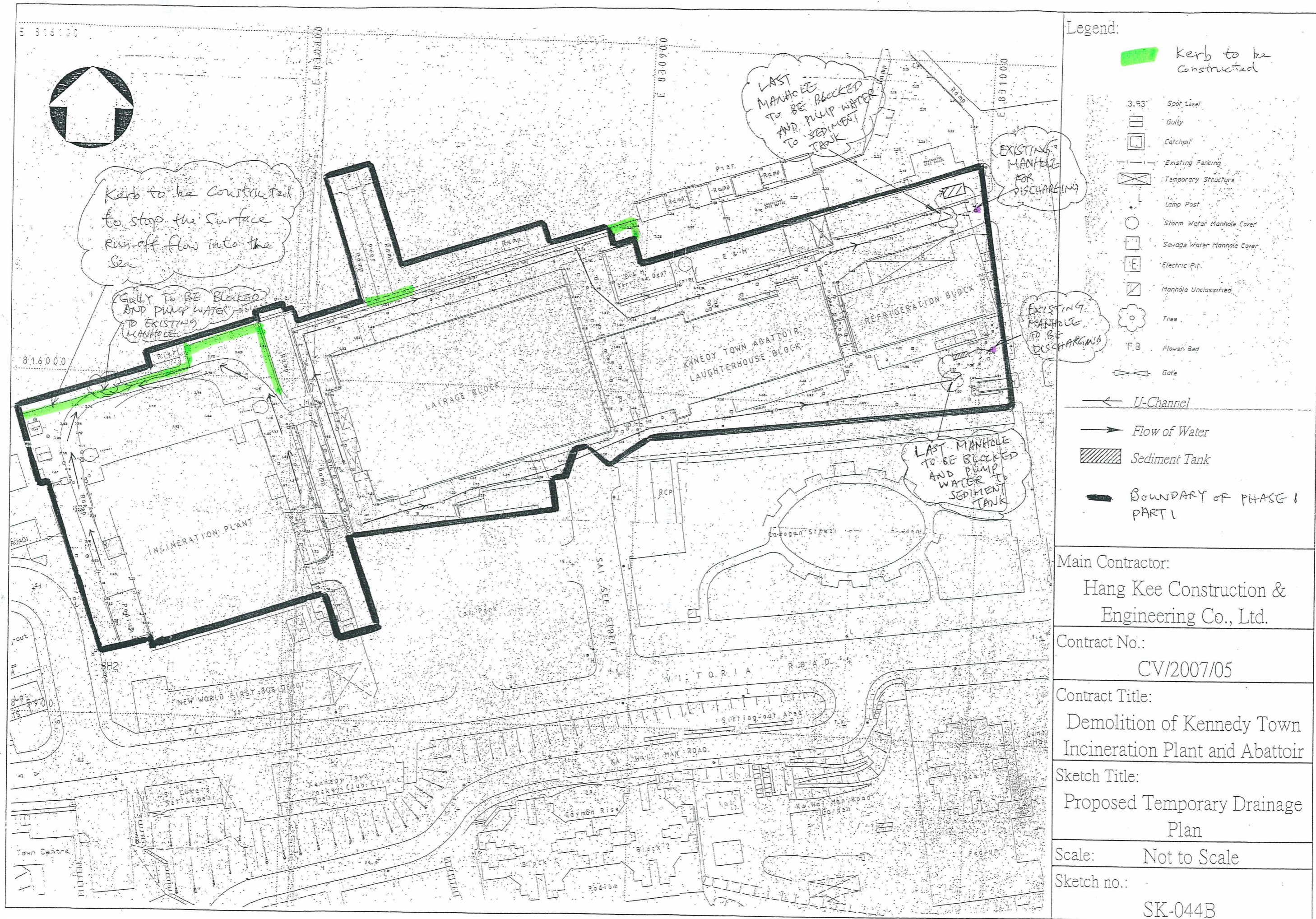
5.2.2 Repair works for the identified surface cracks were completed in January 2008, and the Contractor's photo records of the repaired cracks for documentation are presented in Appendix G of the EM&A report for February 2008. This documentation shall become the baseline condition to be compared against in each subsequent site inspection for any deterioration, which is to be reported in every coming monthly EM&A Report.

5.2.3 During weekly site inspections in the reporting month, no deterioration in the condition of the repaired surface cracks was observed.

## 5.3 Site Effluent Discharge/WPCO Effluent Discharge

5.3.1 An application was made to EPD on 27 October 2007 regarding WPCO discharge licence and was approved by EPD on 2 June 2008. The drainage plan which was included in the application is shown in Figure 5.1.

5.3.2 No sampling was made in this reporting month. Effluent sampling status will be updated in the following EM&A reports.



Legend:

	Kerb to be constructed
3.93	Spot Level
	Gully
	Catchpit
	Existing Fencing
	Temporary Structure
	Lamp Post
	Storm Water Manhole Cover
	Sewage Water Manhole Cover
	Electric Pit
	Manhole Unclassified
	Tree
	Flower Bed
	Gate
	U-Channel
	Flow of Water
	Sediment Tank
	BOUNDARY OF PHASE 1 PART 1

Main Contractor:  
Hang Kee Construction & Engineering Co., Ltd.

Contract No.:  
CV/2007/05

Contract Title:  
Demolition of Kennedy Town Incineration Plant and Abattoir

Sketch Title:  
Proposed Temporary Drainage Plan

Scale: Not to Scale

Sketch no.:  
SK-044B

Figure 5.1 Drainage Plan

## 6. ENVIRONMENTAL COMPLAINTS AND NON-COMPLIANCE

### 6.1 Summary of Environmental Complaints, Notifications of Summons and Successful Prosecutions

6.1.1 No environmental complaint, notification of summons or prosecution has been received or made against the Project in this reporting month. Table 6-1 below presents a statistic of complaints, notification of summons and successful prosecution since the commencement of the Project.

**Table 6-1 Summary of Environmental Complaints and Prosecutions**

Complaints Logged		Summons Served		Successful Prosecutions	
Jun 2009	Cumulative	Jun 2009	Cumulative	Jun 2009	Cumulative
0	0	0	1	0	1

6.1.2 Appendix B presents the environmental complaint event contingency plan of the Project.

### 6.2 Environmental Enquires

6.2.1 No environmental enquiries were received during the reporting month.

### 6.3 Environmental Events

6.3.1 No unusual events were recorded during the reporting month.

### 6.4 Environmental Exceedance/ Non-compliance

6.4.1 The Event and Action Plans for air quality and noise are presented in Appendix B.

#### Air Quality - Dust

6.4.2 No exceedance of the Action and Limit Levels for 1-hour and 24-hour TSP was recorded.

#### Air Quality – Airborne Fibre

6.4.3 No airborne fibre monitoring was carried out as ACM abatement works have been completed.

#### Noise Impact

6.4.4 No exceedance of the Action and Limit Levels for construction noise was recorded.

#### Wastewater

6.4.5 No discharge of trade effluent was observed during site inspections. Contractor provided modifications to the existing draining system to control surface runoff during demolition and abatement works to satisfy the requirements of WPCO. This is shown in Figure 5.1 and included in the Contractor's application for an Effluent Discharge Licence under WPCO which was approved by EPD on 2 June 2008 and received by ER on 3 July 2008.

6.4.6 No sampling was made in this reporting month. Effluent sampling status will be updated in

the following EM&A reports.

Waste Management

6.4.7 Not applicable.

Summary of Exceedances

6.4.8 Table 6-2 summarises the total number of exceedances for air quality, airborne fibre and noise monitoring recorded during the reporting period.

**Table 6-2 Summary of Exceedances**

<b>Parameters</b>	<b>Total no. of Measurements</b>	<b>Action Level Exceedance</b>	<b>% of Action Level Exceedance</b>	<b>Limit Level Exceedance</b>	<b>% of Limit Level Exceedance</b>
Air Quality	48	0	0%	0	0%
Airborne Fibre	0	0	0%	0	0%
Noise	15	N/A	N/A	0	0%

Note: 1. 'N/A' – Not applicable.

2. Action Level for noise relates to the number of documented complaints received.

6.4.9 No exceedance was recorded in the reporting period.

## **7. FUTURE KEY ISSUES**

### **7.1 Key Issues and Recommendations for Coming Month**

7.1.1 Key activities to be considered in the coming month include: -

- Disposal of C&D materials;
- Dismantling of remaining site offices;
- Final site clearance; and
- Handover of the site to the occupant of Phase 1 Part 2 of the Project.

7.1.2 Based on the above key issues, the recommended mitigation measures to be implemented include the following: -

#### Air

- Watering of site; and
- Prompt removal of C&D materials.

#### Noise

- All plant shall be maintained to prevent any undue noise nuisance.

#### Water

- All wheel wash water shall be diverted to a sediment pit;
- All clean surface water shall be diverted around the site;
- All fuel cans, generators shall be placed within a bunded area; and any fuel spills shall be mopped up or excavated and disposed of as necessary; and
- Debris and rubbish on site should be collected, handled and disposed of properly to prevent such material from entering the water column and causing water quality impacts.

#### Waste

- Different types of waste should be segregated, stored, transported and disposed of in accordance with the relevant legislative requirements and guidelines; and
- Records of quantities of wastes generated, recycled and disposal (with locations) shall be kept.

## **8. CONCLUSION AND RECOMMENDATION**

### **8.1 Conclusions**

- 8.1.1 EM&A was performed in June 2009. All monitoring and audit results in the reporting month were checked and reviewed.
- 8.1.2 Dust and noise monitoring were conducted during the reporting month due to removal of inert C&D material and final site clearance. No exceedances of the Action and Limit Levels for dust and construction noise were recorded.
- 8.1.3 Also, during the reporting month no airborne asbestos fibre monitoring was undertaken since no asbestos abatement activities were conducted.
- 8.1.4 Furthermore, dioxin abatement works were completed on 29 September 2008. No dioxin impact monitoring was conducted during the reporting month.
- 8.1.5 During the reporting month, no deterioration was observed in the repaired cracks on the existing concrete ground slab, and therefore no further repair works were required.
- 8.1.6 No environmental complaints, notification of summons or successful prosecutions have been received or made against this Project in this reporting month.

### **8.2 Recommendations**

- 8.2.1 No further recommendations made at this stage pending more site progress achieved.



# **Appendix A**

## **Environmental Quality Performance Limits**

### Action and Limit Levels for 24-hour TSP

Monitoring Station	Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
A1	180	260
A2a	178	260

Note: All figures are rounded off to the nearest whole number.

### Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
A1	369	500
A2a	357	500

Note: All figures are rounded off to the nearest whole number.

### Action and Limit Levels for Airborne Fibre

Monitoring Station	Action Level (fibre/ml)	Limit Level (fibre/ml)
AF1	0.006	0.01
AF2		
AF3		

### Action and Limit Levels ( $L_{eq}$ ) for Construction Noise

Time Period	Action Level	Limit Level (dB(A)), $L_{eq}$ (30min)		
		N1	N2	N3
0700 – 1900 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75	75	75
0700 – 2300 hours on public holidays including Sundays and 1900 – 2300 hours on all days		Subject to requirements stipulated in future Construction Noise Permits		
2300 – 0700 on all days				

## **Appendix B Event and Action Plans**

**Table B-1 Event/Action Plan for Air Quality**

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

**Table B-2 Event/Action Plan for Noise Impact**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level is reached	<ol style="list-style-type: none"> <li>1. Inform IEC and ER</li> <li>2. Carry out investigation</li> <li>3. Report the results of the investigation to the IEC and Contractor</li> <li>4. Discuss with the Contractor and formulate remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET and Contractor on the potential remedial actions</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly</li> <li>3. Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing</li> <li>2. Notify Contractor</li> <li>3. Require Contractor to propose remedial measures for the analyzed noise problem</li> <li>4. Ensure remedial measures are properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposal to IEC</li> <li>2. Implement noise mitigation proposals</li> </ol>
Limit Level is reached	<ol style="list-style-type: none"> <li>1. Inform IEC, ER, EPD and Contractor</li> <li>2. Identify source</li> <li>3. Repeat measurement to confirm findings</li> <li>4. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented</li> <li>5. Inform IEC, ER and EPD the causes &amp; actions taken for the exceedances</li> <li>6. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results</li> <li>7. If exceedance stops cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET and Contractor on the potential remedial actions</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly</li> <li>3. Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing</li> <li>2. Notify Contractor</li> <li>3. Require Contractor to propose remedial measures for the analyzed noise problem</li> <li>4. Ensure remedial measures are properly implemented</li> <li>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion or work until the exceedance is abated</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification</li> <li>3. Implement the agreed proposals</li> <li>4. Resubmit proposals if problem still not under control</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol>

## **Appendix C**

### **Schedule of Mitigation Measures from the EIA/ EM&A Manual**

**Table C-3 Implementation Schedule of Recommended Mitigation Measures**

No.	Activity	Mitigation/ EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage	Relevant Guidelines Legislation	Implementation Status ^
<b>1 Ash Disposal</b>							
I	Treatment	The ash deposits are mainly contaminated by dioxins and furans and mixed with asbestos containing materials. Handling, transportation and disposal of the ash waste in line with relevant regulations. Collection, immobilisation and testing of waste for disposal to landfill shall be carried out according to the relevant regulations and recommendations of the EIA including immobilisation by collection and mixing the ash material with cement. Pilot mixing and TCLP tests should establish the ratio of cement to ash to the satisfaction of EPD. Ash waste to be treated and placed into steel drums lined with plastic sheeting. The drums should be adequately sealed and in new or good condition. Prior agreement of the disposal criteria from EPD and agreement to disposal from the landfill operator must be obtained.  As an additional measure, release of contaminants from disturbed ash should be minimised prior to gathering up the ash materials and amended water containing a wetting agent should be sprayed on the ash. The wetting agent will assist in water penetration to thoroughly soak the ash and ensure dust levels are reduced without using excessive water. The use of amended water for dust suppression will minimise the use of excessive water that would result in surface runoff in the removal process. Dust suppression can be carried out in a controlled manner and no insurmountable environmental problem would result.	CEDD's Contractor	KTCD A work areas. Duration of the ash removal	A@	1, 10, EIA	✓
II	Disposal	To monitor the disposal of waste at landfills, a "trip-ticket" system (WBTC No. 5/99) for all solid waste transfer/disposal operations should be implemented. The system should be included as a contractual requirement, and monitored by the Environmental Team and audited by the Independent Checker (Environment).	CEDD's Contractor	As above	A	1, 5, 9	✓
III	Asbestos Removal	An asbestos abatement programme should be submitted to EPD for approval prior to the commencement of the asbestos abatement work.	CEDD and Contractor	As above	A	4	✓
<b>2 Demolition</b>							
A	Non-blasting Methodology	Waste Management Plan to be submitted to EPD. Demolition by Non-Blasting Methodology Only. All structures and buildings should be demolished and removed prior to demolition of chimneys	CEDD	KTCD A work areas. Duration of the demolition	C#	8	✓

No.	Activity	Mitigation/ EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage	Relevant Guidelines Legislation	Implementation Status ^
B	Material Storage	Covers for dusty stockpiles and control of dust emissions from construction (demolition) works requires appropriate dust control measures to be implemented in accordance with the requirements in the Air Pollution Control (Construction Dust) Regulation.	CEDD's Contractor	As above	C	4	✓
C	Vehicle movement	Haul road watering, vehicle wheel wash prior to exit. Where practical, access roads should be protected with crushed gravel.	CEDD's Contractor	As above	C	4	✓
D	Plant maintenance	All plant shall be maintained to prevent any undue air emissions.	CEDD's Contractor	As above	Prior to start of works	4	✓
E	Improved Site Hoarding	Boundary hoarding to be modified in form of noise barrier to provide effective noise screening and made of panels with a superficial surface density of at least 10 kg/m <sup>3</sup>	CEDD's Contractor	As above	C	Env. Permit	✓
F	Demolition Sequence	Include careful consideration and positioning of portable noise barriers to allow noise attenuation.	CEDD's Contractor	As above	C	8	N/A
G	Portable Noise Barriers	Moveable noise barriers shall be provided close to PME in cases where, in the opinion of the Engineer, such PME has the potential to cause noise nuisance to sensitive receivers and where a benefit will result. Such barriers shall be made of panels with superficial surface density not less than 10 kg/m <sup>3</sup> .	CEDD's Contractor	As above	C	Env. Permit	N/A
H	Plant Operation	Modify continuous operational periods for noisy plant to comply with noise criteria.	CEDD's Contractor	As above	C	Env Permit	✓
I	Demolition Techniques	Selection of non-blasting demolition techniques to minimise noise and vibration.	CEDD's Contractor	As above	C	8	✓
J	Plant maintenance	All plant shall be maintained to prevent any undue noise nuisance.	CEDD's Contractor	As above	C	2, 3	✓
K	Wheel wash	All wheel wash water shall be diverted to a sediment pit.	CEDD's Contractor	As above	C	5	✓
L	Sediment control	Sediment removal facilities shall provided and be maintained and excavated as necessary to prevent sedimentation of channels. Perimeter channels should be provided. Works should be programmed for the dry season where feasible. Environmental guidelines for the handling and disposal of discharges from construction sites, as stipulated in the Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94) to be followed.	CEDD's Contractor	As above	C	5, 12	⊙
M	Surface water diversion	All clean surface water shall be diverted around the site.	CEDD's Contractor	As above	C	5, 12	⊙



No.	Activity	Mitigation/ EIA Recommendations	Responsibility for Implementation	Location Duration completion of measures	Implementation Stage	Relevant Guidelines Legislation	Implementation Status ^
N	Fuel can storage	All fuel cans shall be placed within a bunded area. Any fuel spills shall be mopped up as necessary.	CEDD's Contractor	As above	C	5,6	✓
O	Material, plant movement & fuel can filling.	Any fuel or oil spills shall be excavated and disposed of.	CEDD's Contractor	As above	C	6,7	✓
P	Generators	All generators shall be placed within a bunded area. Any fuel spills shall be mopped up as necessary.	CEDD's Contractor	As above	C	5,6,7	✓
Q	Material containers	All empty bags and containers shall be collected for disposal.	CEDD's Contractor	As above	C	6,7	✓
R	Worker generated litter and Waste	Litter receptacles shall be placed around the site. Litter shall be taken regularly to the refuse collection points. Chemical toilets (or suitable equivalent) should be provided for workers. Any canteens should have grease traps.	CEDD's Contractor	As above	C	6	✓
S	Neighbourhood nuisance	All complaints regarding construction works shall be relayed to the environmental team.	CEDD's Contractor	As above	C	1, 6	✓
T	Legal requirements	Different types of waste should be segregated, stored, transported and disposed of in accordance with the relevant legislative requirements and guidelines	CEDD's Contractor	As above	C	1, 6	✓
U	On-site separation	On-site separation of municipal solid waste and construction/demolition wastes shall be conducted in order to minimise the amount of solid waste to be disposed to landfill.	CEDD's Contractor	As above	C	1, 11	✓
V	Temporary storage area	Separated wastes should be stored in different containers, skips, or stockpiles to enhance reuse or recycling of materials and encourage their proper disposal.	CEDD's Contractor	As above	C	1, 11	✓
W	Record of wastes	Records of quantities of wastes generated, recycled and disposed (with locations) shall be kept.	CEDD's Contractor	As above	C	1, 9	✓
X	Trip-ticket system	To monitor the disposal of waste at landfills and control fly-tipping, a "trip-ticket" system under WBTC N0.5/99 for all solid waste transfer/disposal operations should be implemented. The system should be included as a contractual requirement, and monitored by the Environmental Team and audited by the Independent Checker (Environment).	CEDD's Contractor	As above	C	1, 9	✓
<b>4</b>	<b>Monitoring and Audit</b>	To be carried out in accordance with the Implementation Schedule in Table AC-2.	CEDD*/ Contractor/ RSS	KTCDAs works areas During demolition	C	1	✓

\* Normally undertaken by a specialist monitoring team employed directly by the proponent and audited by the IEC

@ A = during ash removal (before demolition)

# C = during construction (i.e. demolition phase).

^ Implementation Status:  
 ✓ implemented  
 × not implemented  
 P partially implemented  
 ⊙ rectified by Contractor

Relevant Guidelines Legislation references:

1. Environmental Impact Assessment Ordinance Technical Memorandum (EIAO)
2. Noise Control Ordinance
3. The ProPECC Note PN2/93 (Construction Noise daytime limits)
4. Air Pollution Control Ordinance (APCO)
5. Water Pollution Control Ordinance (WPCO)(Cap. 358)
6. Waste Disposal Ordinance (Cap 354)
7. Waste Disposal (Chemical Waste)(General) Regulation (Cap 354)
8. Draft Code of Practice on Demolition of Buildings (BD, 1998)
9. Works Bureau Technical Circular No. 5/99, Trip-ticket System for Disposal of Construction and Demolition Material
10. Guidance Notes for Investigation and Remediation of Contaminated Sites
11. Works Bureau Technical Circular No. 5/98, On Site Sorting of Construction Waste on Demolition Sites
12. ProPECC Note PN 1/94Construction Site Drainage

**Table C-4 Implementation Schedule of Recommended Mitigation Measures**

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
<b>Air Quality</b>									
6.3.2		Adoption of good site practices and avoid practices likely to raise dust level	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
6.3.2		Frequent cleaning and damping down of stockpiles and dusty areas of the Site.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓
6.3.2		Reducing drop height during material handling or wall felling.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
6.3.2		Imposing a vehicle speed restriction of 15 km/hr within the Site and confine haulage and waste collection vehicles to designated roadways inside the site.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓
6.3.2		Provision of wheel washes facilities for Site vehicles leaving the Site.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓
6.3.2		Regular plant maintenance to minimise exhaust emission.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓
6.3.2		Sweep up dust and debris at the end of each shift.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓
	2.9.1	Stockpiles of dusty waste materials greater than 20m <sup>3</sup> shall be enclosed on three sides, with walls extending above the pile and 2 metres beyond the front of the pile.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓
	2.9.1	Any vehicle with an open load carrying area used for moving potentially dusty material shall have properly fitting side and tail-boards. Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards and shall be covered by a clean tarpaulin in good condition. The tarpaulin shall be properly secured and shall extend at least 300m over the edges of the side and tail-boards.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓
	2.9.1	Effective water sprays shall be used during the collection and loading of dusty wastes and other similar materials, when dust is likely to be created and to dampen all stored materials during dry and windy weather.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓
	2.9.1	Areas within the KTCDA site where there is a regular movement of vehicles, shall have an approved hard surface and be kept clean of loose surface material.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
	2.9.1	Conveyor belts shall be fitted with wind-boards, and conveyor transfer points and hopper discharge areas shall be enclosed to minimize dust emission. All conveyors carrying materials which have the potential to create dust shall be totally enclosed and fitted with belt cleaners.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	N/A
	2.9.1	Adequate dust suppression plant including water bowsers with spray bars shall be provided.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIAO-TM	✓
<b>Noise</b>									
5.8.1 & 5.8.2		Movable barriers as noise shields shall be considered for deployment close to noisy equipment. Where required, these should be made of panels with a superficial surface density of at least 7 kg/m <sup>2</sup> .	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		NCO (Cap. 400); EIAO-TM; PN 2/93	N/A
5.8.2	3.8.3	Silenced and super silenced type equipment.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		NCO (Cap. 400); EIAO-TM; PN 2/93	✓
5.8.2		Reduction in number of plant operating simultaneously.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		NCO (Cap. 400); EIAO-TM; PN 2/93	✓
5.8.2		Use of modified site hoarding to a perimeter noise barrier as a noise shield.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		NCO (Cap. 400); EIAO-TM; PN 2/93	✓
5.8.2		Re-scheduling and restricting hours of operation of noisy tasks.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		NCO (Cap. 400); EIAO-TM; PN 2/93	✓
<b>Water Quality</b>									
	4.3.2	Use of sediment traps, where appropriate.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		PN 1/94, WPCO (Cap. 358)	✓
	4.3.2	Adequate maintenance of drainage systems to prevent flooding and overflow.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		PN 1/94, WPCO (Cap. 358)	⊙
	4.3.3	Provision of temporary channels to facilitate run-off discharge into the appropriate watercourses, via a silt retention pond, and permanent drainage channels to incorporate sediment basins or traps and baffles to enhance deposition rates.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		PN 1/94, WPCO (Cap. 358)	P
	4.3.4	Provision of temporary and permanent drainage pipes and culverts to facilitate run-off discharge and shall be adequately designed for the controlled release of storm	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		PN 1/94, WPCO (Cap. 358)	⊙

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
		flows.							
	4.3.4	Regular cleaning and maintenance of all sediment traps.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		PN 1/94, WPCO (Cap. 358)	⊙
	4.3.4	When construction works has finished or the temporary diversion is no longer required, temporarily diverted drainage shall be reinstated to its original condition.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		PN 1/94, WPCO (Cap. 358)	N/A
	4.3.5	Installation of wheel washing facilities to ensure no earth, mud and debris is deposited on roads. Sand and silt in the wash water from such facilities shall be settled out and removed prior to discharge of the used water into storm drains. A section of the road between the wheel washing bay and the public road shall be paved with backfill to prevent wash water or other site run-off from entering the public road drains.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		PN 1/94, WPCO (Cap. 358)	⊙
	4.3.6	Provision of oil interception facilities in appropriate areas in the drainage system, where oil spills may occur, and regularly emptied to prevent the release of oil and grease into the storm water drainage system after accidental spillage.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		PN 1/94, WPCO (Cap. 358)	✓
	4.3.9	Debris and rubbish on site should be collected, handled and disposed of properly to prevent such material from entering the water column and causing water quality impacts.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		PN 1/94, WPCO (Cap. 358)	✓
	4.3.10	Fuel storage areas should be provided with locks and be sited on sealed areas if required, within bunds of a capacity equal to 110% of the storage capacity of the largest container (to provide a safety margin) and control spilt fuel oils.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
<b>Waste Management – General</b>									
7.11.2	5.2.33	The Waste Management Plan shall be prepared in accordance with WBTC No. 29/2000 (superseded by ETWB TC(W) No. 15/2003) and shall provide details of the measures and procedures considered necessary to control and manage the storage, transportation and disposal of all wastes generated during the demolition.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor	✓	✓		ETWB TC(W) No. 15/2003	✓
7.10.30	5.2.37	Wastes should be handled and stored in a manner which ensures that they are held securely without loss or	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
		leakage thereby minimising the potential for pollution.							
7.10.30	5.2.37	Only reputable waste collectors authorised to collect the specific category of waste concerned should be employed.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.30	5.2.37	Appropriate measures should be employed to minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.30	5.2.37	The necessary waste disposal permits should be obtained from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and Government Land Ordinance (Cap 28).	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354), Government Land Ordinance (Cap 28).	✓
7.10.30	5.2.37	Collection of general refuse should be carried out frequently, preferably daily.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.30	5.2.37	Waste should only be disposed of at licensed sites and site staff and the civil engineering Contractor should develop procedures to ensure that illegal disposal of wastes does not occur.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.30	5.2.37	Waste storage areas should be well maintained and cleaned regularly.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.30	5.2.37	Records should be maintained of the quantities of wastes generated, recycled and disposed, determined by weighing each load.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
<b>Waste Management - General Refuse</b>									
7.10.20	5.2.27	Office wastes can be reduced through the policies for re-use of paper in printers and copiers for draft documents.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		The policies of recycling e.g. paper and toners or cartridges if volumes are large enough to warrant collection, should be encouraged with participation in a local collection scheme if one is available.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		In order to reduce waste, the number of photocopies shall be reduced to a minimum while internal documents and external documents shall be copied on both sides of	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
		paper where appropriate. Recycling bins for paper and toners will be provided in site office to facilitate the recycling of paper.							
7.10.19	5.2.26	General refuse is generated largely by food service activities on site, so reusable rather than disposable dishware should be used if feasible. Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		Putrescible wastes, such as lunch box, and domestic wastes generated on-site shall be stored in enclosed bins or compaction units separate from C&D and chemical wastes. Waste paper will be stored in containers clearly marked as recyclable or waste.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		Public Health and Municipal Services Ordinance (Cap. 132)	✓
7.10.18	5.2.25	A reputable waste collector should be employed by the Contractor to remove general refuse, separately from C&D material and chemical wastes, preferably daily to minimise odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		Public Health and Municipal Services Ordinance (Cap. 132), Air Pollution Control (Open Burning) Regulation	✓
		Waste disposal records shall be obtained from the appropriate authorities and collection of general refuse and general site housekeeping should be carried out.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		Waste Disposal Ordinance (Cap. 354); Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354); Government Land (Miscellaneous Provisions) Ordinance (Cap. 28).	✓
<b>Waste Management - C&amp;D Materials</b>									
7.10.7	5.2.7	The Contractor should recycle C&D material on-site as far as possible. Planning, careful design and good site management of the demolition process can minimise over ordering and avoidable waste. Areas within the Site areas can be segregated for the separation and storage. Proper segregation of wastes on Site will increase the feasibility of utilising recycling contractors to recycle certain components of the waste stream.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor	✓	✓		ETWB TC(PS) No. 25/99, 12/2000; ETWB TC(W) No. 15/2003	✓

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
		Concrete and masonry can be crushed and used as fill to level the Site after demolition. However there will be little or no excavation of any underground structures therefore the majority of inert waste will need to be delivered to public filling areas. Steel reinforcing bars can be re-used by scrap steel mills.							
		“Selective Demolition” involves demolition and removal of wastes of the same category one at a time. In general, domestic wastes such as furniture, household appliances; metal components such as window frames, pipes; timber components such as doors, wooden floors; and other wastes such as tiles, asphalt materials, ceramic products should be removed first. The building demolition shall begin after all the above non-structural materials have been stripped and removed. To avoid mixing the non-recyclable bricks with the broken concrete, the demolition sequence should be planned in such a way that brick walls are demolished first and stockpiled separately before the demolition of structural members.	KTCD A Site - Phase 1 Part 1	CEDD’s Contractor		✓			✓
		All C&D materials arising from the demolition work shall be sorted on-site and separated into different groups for off-site disposal at landfills, public filling areas, in filling areas provided by the Contractor, or recycling at the C&D waste recycling facilities as appropriate. All fill to be disposed of at public filling areas have to be sorted and broken down to meet the requirements of the Dumping Licence conditions.	KTCD A Site - Phase 1 Part 1	CEDD’s Contractor		✓		ETWB TC(PS) No. 12/2000	✓
		Designated areas for segregation and temporary storage of reusable and recyclable materials should be identified in the Waste Management Plan to be prepared by the Contractor. The Contractor should recycle as much of the C&D material as possible on site. Different areas of the work site should be designated for such segregation and storage wherever site conditions permit.	KTCD A Site - Phase 1 Part 1	CEDD’s Contractor		✓			✓
		C&D material should be removed from site as soon as practicable to avoid adverse environmental impacts due to on-site storage of the material. It should be sorted/separated at the construction site as far as	KTCD A Site - Phase 1 Part 1	CEDD’s Contractor		✓			✓



EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
		practicable into two main types: inert (including soil, rock, concrete, brick, aggregates and asphalt) and non-inert (wood, paper, general garbage and other inorganic). Recyclable C&D materials such as broken concrete and rock should be further sorted out from the inert portion and be delivered to recycling facilities as designated by the Engineer's Representative for processing into recycled aggregates for use in construction. The non-recyclable inert portion can be used as public fill for dumping in public filling areas whilst the non-inert portion is classified as C&D waste which will require to be disposed of at the WENT Landfill Site or other areas as designated by EPD.							
		The Environment, Transport and Works Bureau Technical Circular (Works) No. 31/2004 – Trip Ticket System for Disposal of Construction & Demolition Materials promulgates the amended trip ticket system (TTS) for public works contracts including capital works contracts, where C&D materials including waste generated on site require disposal.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		ETWB TC(W) No. 31/2004	✓
<b>Waste Management - Chemical Waste</b>									
7.10.10	5.2.10	For those processes that generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.11	5.2.11	Chemical waste that is produced, as defined under Section 3 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		Waste Disposal (Chemical Waste) (General) Regulation	✓
7.10.12	5.2.12	Containers used for the storage of chemical wastes should: a) Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; b) Have a capacity of less than 450 l unless the specifications have been approved by the EPD; and; c) Display a label in English and Chinese in accordance	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
		with instructions prescribed in Schedule 2 of the Regulations.							
7.10.13	5.2.13	The storage area for chemical wastes should: a) Be clearly labelled and used solely for the storage of chemical waste; b) Be enclosed on at least 3 sides; c) Have an impermeable floor and bunding, of capacity to accommodate 100% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; d) Have adequate ventilation; e) Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and f) Be arranged so that incompatible materials are adequately separated.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.14	5.2.14	Disposal of chemical waste should: a) Be via a licensed waste collector; and b) Be to a facility licensed to receive chemical waste, such as CWTC, which also offers a chemical waste collection service and can supply the necessary storage containers; or c) Be to a recycling or reprocessing facility licensed by EPD.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.16	5.2.15	Asbestos waste that is produced should be handled in accordance with the Code of Practice on the Handling, Transportation and Disposal of Asbestos Wastes. Detailed requirements have been presented in the Asbestos Study Report.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		Type 1 asbestos wastes (bonded asbestos wastes (other than blue or brown asbestos) in good condition) shall be packed with 2 individual layers of strong transparent plastic sheets of not less than 0.15 mm thickness and completely sealed with adhesive tapes. Type 1 waste shall be packed in suitable sizes for easy handling. The height of each package shall not exceed 750 mm.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
		Type 2 asbestos wastes (any waste containing loose asbestos fibres (other than blue or brown asbestos)) must be contained, as soon as it is produced, in strong bags made from plastic or other containers approved by EPD. The bags should be goose-neck sealed by means of adhesive tapes. A bag filled with asbestos waste should be placed inside another plastic bag to provide additional protection. The colour of the inner bag should be white while the outer bag should be transparent to facilitate visual inspection.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		The handling of Type 3 asbestos wastes (all blue asbestos (crocidolite) and brown asbestos (amosite), whether in good condition or not, or any articles contaminated by blue or brown asbestos) should be similar to that of Type 2 except that the colour of the inner bags should be orange.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		All storage of asbestos waste should be carried out properly in a secure place isolated from other substances so as to prevent any possible release of asbestos fibres into the atmosphere and contamination of other substances. Type 1 asbestos waste should not be stored together with Types 2 and 3 asbestos wastes so as to avoid damage to the plastic bags of Type 2 or 3 asbestos waste, unless the bags are packed in boxes or drums for additional protection. Bagged asbestos waste should not be stacked more than 3 bags high in order to avoid damage to the bottom bag. The storage area should be isolated from other working areas and bear warning panels to alert people of the presence of asbestos waste.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		Disposal of asbestos wastes shall not commence before a designated notification has been given to EPD and confirmed. Before being transported for disposal, all the asbestos waste produced should be stored in a temporary storage area.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓		Section 7 of the Code of Practice on the Handling, Transportation and Disposal of Asbestos Waste.	✓
		All asbestos wastes for disposal should be transported by an asbestos waste collector licensed by EPD and in a designated vehicle equipped as stated in the Code of Practice.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
		The ash/rubble in between the Chimneys A and B on-site shall be treated by solidification / stabilisation with cement, and the treated ash shall be sealed into steel drums lined with plastic sheeting prior to disposal at designated areas in the landfill.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		The proposed disposal method for ash waste is to be collected up and stabilised to meet landfill disposal criteria of EPD. In such case, it is envisaged that the process would involve collection and mixing the ash material with cement. Pilot mixing and TCLP tests would establish the ratio of cement to ash to the satisfaction of EPD. The materials for disposal would then be treated and the extracted material placed into polythene lined steel drums. Transparent plastic sheeting of 0.15mm thickness low-density polythene or PVC should be employed. The drums should be 16 gauge steel or thicker and fitted with double bung fixed ends adequately sealed and well labelled in new or good condition. Prior agreement of the disposal criteria from EPD and agreement to disposal from the landfill operator must be obtained.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		The release of contaminants from disturbed ash should be minimised prior to gathering up the ash materials and amended water containing a wetting agent should be sprayed on the ash. The wetting agent will assist in water penetration to thoroughly soak the ash and ensure dust levels are reduced without using excessive water. (Spray shall comprise 50% polyoxyethylene ester and 50% polyoxyethylene ether, or equivalent, diluted to specific concentration in accordance with the manufacturer's instructions). The use of amended water for dust suppression will minimise the use of excessive water that would result in surface runoff in the removal process. Dust suppression can be carried out in a controlled manner and no insurmountable environmental problem would result.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		Where the level of dioxin contaminants exceeded the USEPA criterion of 1ppb (parts per billion) by weight, the remediation strategies for contaminated material are	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
		recommended as follows: a) Ash/rubble waste shall be collected up and stabilised / solidified to meet landfill disposal criteria of EPD, 1 part per billion (1ppb TEQ) TCLP; b) It is envisaged that the process would involve collection and mixing the ash/rubble material with cement followed by sealing in polythene lined steel drums; c) Pilot mixing of the ash with progressively greater proportions of cement would precede the treatment; and d) The stabilised / solidified DCM that is contained in polythene lined steel drums shall be transported for landfill disposal.							
		The chimney interior shall be brushed clean. The brushed out materials including ash and dust shall be sealed in steel drums before disposal at the CWTC. Subsequently the internal brick lining shall be scabbled and HEPA vacuumed to thoroughly remove the ash attached. The clean bricks shall then be dismantled from top to bottom and placed inside steel drums before disposal at the landfill.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		Proper decontamination facilities similar to that employed in asbestos removal works (i.e. 3-chamber decontamination units) shall be adopted. Workers shall be protected with disposable coveralls and appropriate respirators suitable for protection against asbestos fibre and dioxin, as well as to fulfil confined space requirements.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		The flue sections shall either be thoroughly cleaned with high efficiency vacuum and wet cloth to remove all dioxin-contaminated ash, or the dismantled sections, considered as chemical wastes, wrapped with impermeable polythene sheets for proper disposal to landfill following the requirements of the Waste Disposal (Chemical Waste) (General) Regulation.	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓		Waste Disposal (Chemical Waste) (General) Regulation.	✓
		The required decontamination shall be conducted under negative pressure with all openings and uncontaminated areas sealed with impermeable plastics. This	KTCD A Site - Phase 1 Part 1	CEDD's Contractor		✓			✓

EIA Ref.	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage			Relevant Legislation and Guidelines	Implementation Status ^
					D	C	O		
		requirement is analogous to the 'full containment' requirements for asbestos removal works. The chimney flues should be taken down in manageable sections within the containment, and any ash deposits scrapped off and sealed in drums for disposal to landfill site.							
		The flue sections shall either be cleaned with high efficiency vacuum and wet cloth, or wrapped with impermeable plastics for disposal to landfill site. The flues will be removed from top down and hence the ACM will be removed when the removal of chimney flue sections has proceeded down to the levels where the ACM is located.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
		Given the nature of the work and the contaminants involved consideration should be given to the use of decontamination facilities (showers) that should be provided for the workforce to remove contamination after work.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.21	5.2.28	Different types of waste should be segregated and stored in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.22	5.2.39	An on-site temporary storage area should also be provided.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓			✓
7.10.25	5.2.32	A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed.	KTCDA Site - Phase 1 Part 1	CEDD's Contractor		✓		ETWB TC(W) No. 15/2003	✓

^

Implementation Status:

- ✓ implemented
- ✗ not implemented
- P partially implemented
- ⊙ rectified by Contractor

**Table C-5 Event Contingency Plan for Environmental Complaints**

STEP	DAY	ACTION	CONTRACTOR	ER	ET	IEC
1	1	Party receiving complaint shall create a new complaint record. If the Contractor receives a complaint, he shall pass the information to the ER.	◆	◆	◆	
2	1	ER to ensure details of complaint provided to Contractor (if complaint not originally received by the Contractor), ET and IEC		◆		
3	2	Within 1 working day after the receipt of the Notification of Complaint, provide ER relevant works site information, e.g. types and locations of construction works.	◆			◇
4	2	Investigate the complaint to determine its validity, and to assess whether the source of the problem is due to the works activities. Report the validity of the complaint to ER.				◆◇
5	2	If complaint is valid and due to works, ER shall notify the Contractor. If complaint is invalid or not due to works, Go to Step 12.		◆		
6	2	Propose mitigation measures to ER within 1 working day of the receipt of the Notification.	◆			◇
7	2	Review and agree with the proposed mitigation measures and make recommendations where necessary.		◆◇		◆◇
8	2	Implement the mitigation measures once they have been agreed.	◆			
9	4	Audit the implementation of the proposed mitigation measures on site within 2 working days after measures have been agreed.		◆◇		◆◇
10	-	Undertake additional monitoring to verify the situation where necessary.			◆	
11	4	Report the investigation results and subsequent actions taken to ER within 2 working days after the implementation of mitigation measures.	◆		◆	
12	5	Respond to the complainant within 1 working day after receiving the investigation report.		◆		
13	25	If no further comments or complaints are received from the complainant within 20 working days after responding to the complainant, close the complaint record. If the complainant has further comments or complaints on the same issue, notify other parties on the same day and go to step 2.		◆		◆◇

◆ Action Party

◇ Enter comments/ proposals into appropriate complaint record where applicable

## **Appendix D EM&A Schedule**



**Impact Monitoring and Audit Schedule for June 2009**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
		<i>dust: A1, A2a noise: N1, N2, N3</i>	<b>weekly site inspection</b>			
7	8	9	10	11	12	13
	<i>dust: A1, A2a noise: N1, N2, N3</i>		<b>weekly site inspection</b>		<i>dust: A1, A2a</i>	
14	15	16	17	18	19	20
		<b>monthly site inspection</b>		<i>dust: A1, A2a noise: N1, N2, N3</i>		
21	22	23	24	25	26	27
			<i>dust: A1, A2a noise: N1, N2, N3</i>	<b>weekly site inspection</b>		
28	29	30				
		<i>dust: A1, A2a noise: N1, N2, N3</i>				

**Tentative Impact Monitoring and Audit Schedule for July 2009**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
			public holiday		<b>monthly site inspection</b>	
5	6	7	8	9	10	11
	<i>dust: A1, A2a noise: N1, N2, N3</i>		<b>weekly site inspection</b>	<b>end of EM&amp;A programme for Phase 1 Part 1</b>	<b>handover of site to occupant of Phase 1 Part 2</b>	
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

## **Appendix E**

# **Air Quality Monitoring Results and Graphical Presentation**

## EM&A Air Quality Monitoring Results

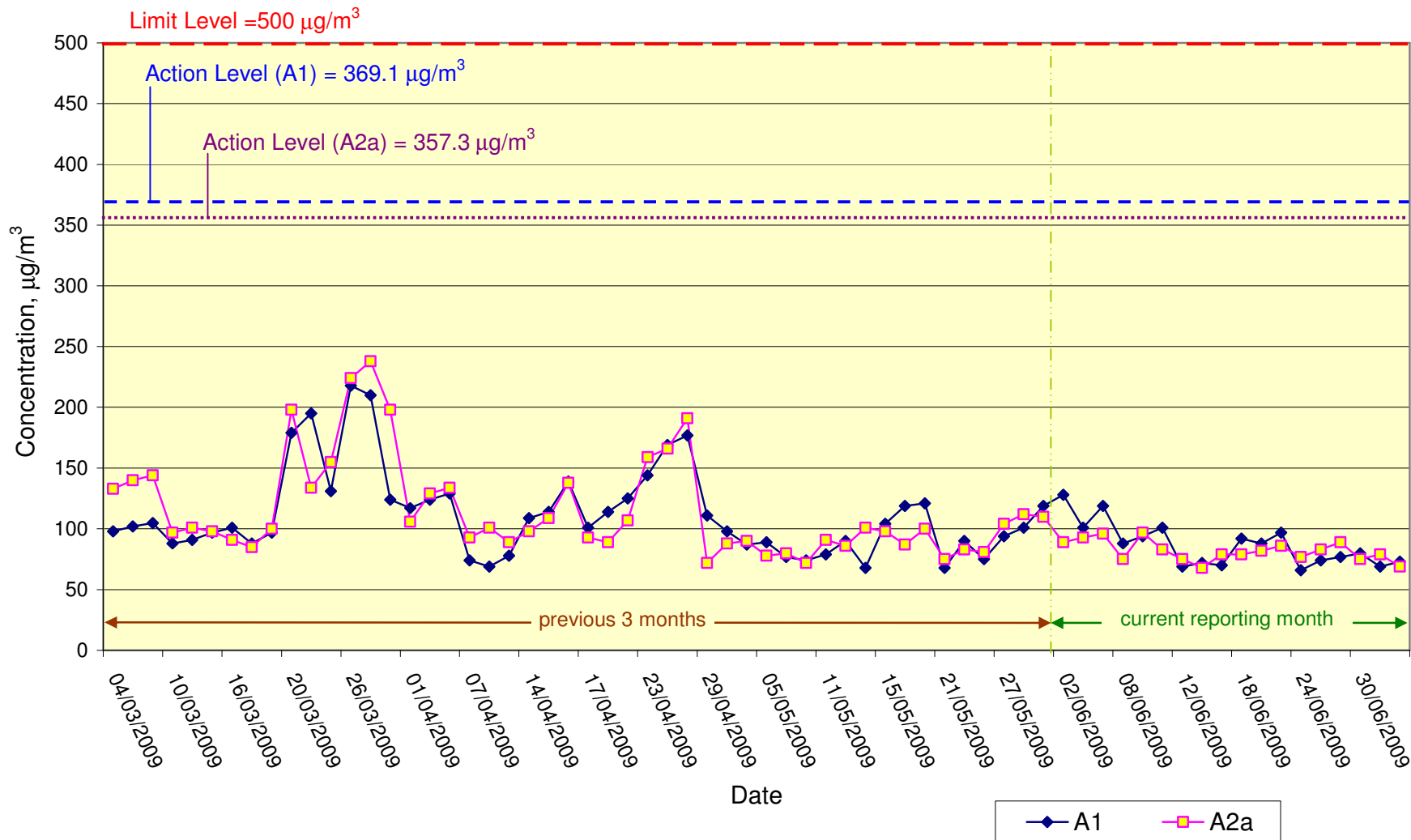
### 1-hour TSP Monitoring Results at Station A1

Date	Weather Condition	Starting Time	End Time	Concentration, $\mu\text{g}/\text{m}^3$				Site Conditions / Observations
				1st	2nd	3rd	Average	
02-Jun-09	Sunny	09:00	12:00	128	101	119	116	excavation work
08-Jun-09	Fine	09:10	12:10	88	94	101	94	nil
12-Jun-09	Fine	09:00	12:00	69	72	70	70	nil
18-Jun-09	Sunny	08:55	11:55	92	88	97	92	excavator work
24-Jun-09	Fine	09:00	12:00	66	74	77	72	nil
30-Jun-09	Fine	09:00	12:00	80	69	73	74	nil
							Min.	66
							Max.	128
							Average	89

### 1-hour TSP Monitoring Results at Station A2a

Date	Weather Condition	Starting Time	End Time	Concentration, $\mu\text{g}/\text{m}^3$				Site Conditions / Observations
				1st	2nd	3rd	Average	
02-Jun-09	Sunny	09:10	12:10	89	93	96	93	excavation work
08-Jun-09	Fine	09:20	12:20	75	97	83	85	nil
12-Jun-09	Fine	09:10	12:10	75	68	79	74	nil
18-Jun-09	Sunny	09:10	12:10	79	82	86	82	excavation work
24-Jun-09	Fine	09:15	12:15	77	83	89	83	nil
30-Jun-09	Fine	09:15	12:15	75	79	69	74	nil
							Min.	68
							Max.	97
							Average	83

### Graphical Presentation of 1-hr TSP Monitoring Results



## EM&A Air Quality Monitoring Results

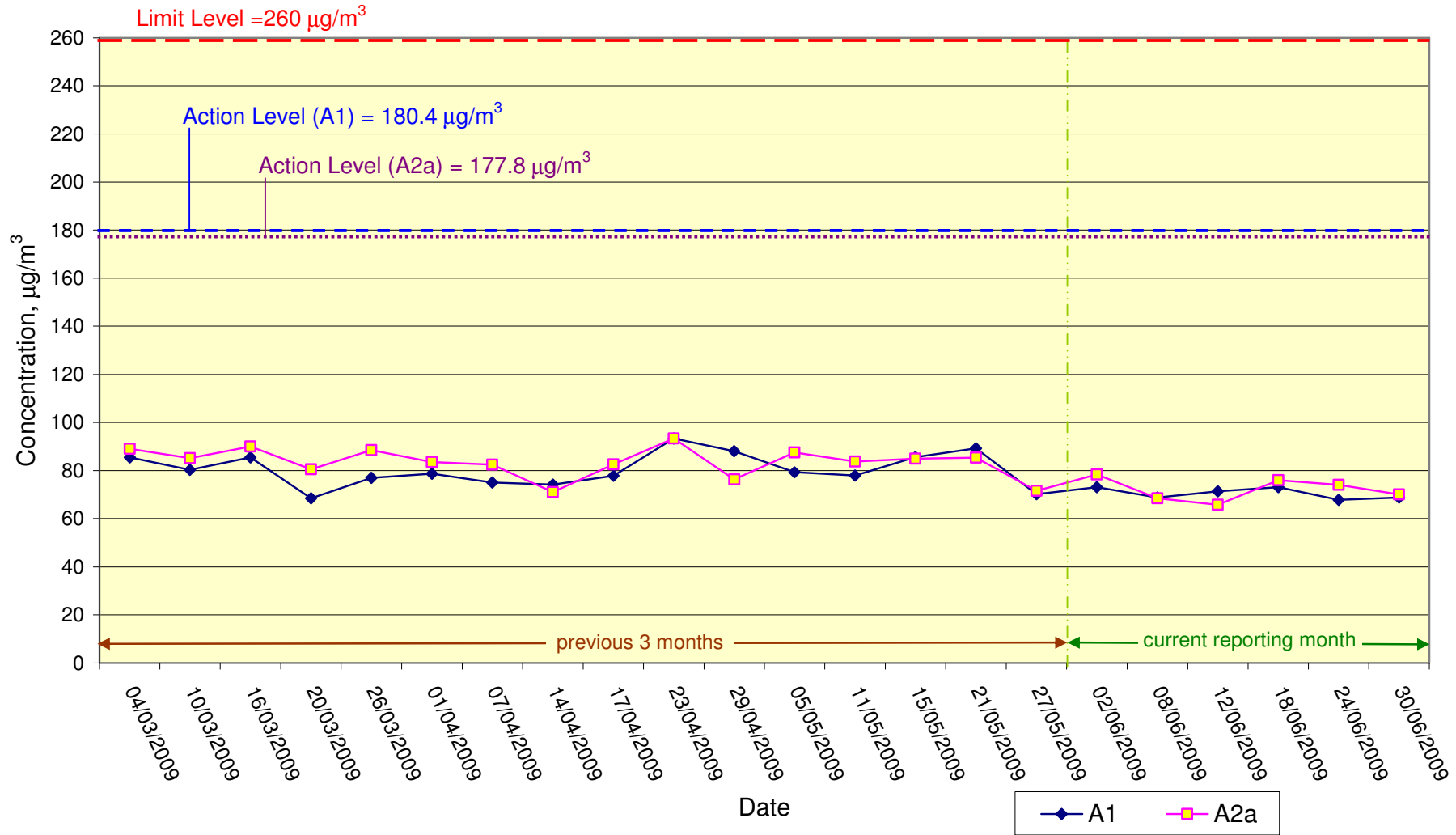
### 24-hour TSP Monitoring Results at Station A1

Date	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapsed Time		Sampling Time (hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Atmospheric Pressure(hPa)		Temperature (° C)		Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Observations / Remarks
	Initial	Final	Initial	Final	Initial	Final				Initial	Final	Initial	Final				
02-Jun-09	2.7900	2.9100	1.14	1.14	16123.85	16147.85	24.0	73.1	Sunny	1014	1011	28	28	0.1200	1.14	1641.6	nil
08-Jun-09	2.7881	2.9009	1.14	1.14	16147.85	16171.85	24.0	68.7	Fine	1014	1010	28	26	0.1128	1.14	1641.6	nil
12-Jun-09	2.7940	2.9112	1.14	1.14	16171.85	16195.85	24.0	71.4	Fine	1010	1010	27	25	0.1172	1.14	1641.6	nil
18-Jun-09	2.7944	2.9145	1.14	1.14	16195.85	16219.85	24.0	73.2	Sunny	1015	1012	29	27	0.1201	1.14	1641.6	nil
24-Jun-09	2.7998	2.9112	1.14	1.14	16219.85	16243.85	24.0	67.9	Sunny	1013	1012	30	30	0.1114	1.14	1641.6	nil
30-Jun-09	2.7959	2.9087	1.14	1.14	16243.85	16267.85	24.0	68.7	Fine	1012	1012	29	30	0.1128	1.14	1641.6	nil
								Min	67.9								
								Max	73.2								
								Average	70.5								

### 24-hour TSP Monitoring Results at Station A2a

Date	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapsed Time		Sampling Time (hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Atmospheric Pressure(hPa)		Temperature (° C)		Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Observations / Remarks
	Initial	Final	Initial	Final	Initial	Final				Initial	Final	Initial	Final				
02-Jun-09	2.7891	2.9188	1.15	1.15	8802.36	8826.36	24.0	78.3	Sunny	1014	1011	28	28	0.1297	1.15	1656.0	nil
08-Jun-09	2.7971	2.9105	1.15	1.15	8826.36	8850.36	24.0	68.5	Fine	1014	1010	28	26	0.1134	1.15	1656.0	nil
12-Jun-09	2.7915	2.9004	1.15	1.15	8850.36	8874.36	24.0	65.8	Fine	1010	1010	27	25	0.1089	1.15	1656.0	nil
18-Jun-09	2.7971	2.9229	1.15	1.15	8874.36	8898.36	24.0	76.0	Sunny	1015	1012	29	27	0.1258	1.15	1656.0	nil
24-Jun-09	2.8014	2.9241	1.15	1.15	8898.36	8922.36	24.0	74.1	Sunny	1013	1012	30	30	0.1227	1.15	1656.0	nil
30-Jun-09	2.7934	2.9114	1.17	1.17	8922.36	8946.36	24.0	70.0	Fine	1012	1012	29	30	0.1180	1.17	1684.8	nil
								Min	65.8								
								Max	78.3								
								Average	72.1								

### Graphical Presentation of 24-hr TSP Monitoring Results



## **Appendix F**

# **Airborne Fibre Monitoring Results**

Not applicable for this Reporting Month



## **Appendix G Noise Monitoring Results and Graphical Presentation**

## EM&A Noise Monitoring Results

### Daytime Noise Monitoring Results at Station N1

Station	Date	Weather Condition	Noise Level for 30-min, dB(A)					Other Noise Sources during monitoring
			Start Time	End Time	Leq	L10	L90	
N1	02-Jun-09	Fine	09:05	09:35	67.2	70.6	59.8	excavation work, traffic noise
N1	08-Jun-09	Fine	09:40	10:10	68.4	71.2	59.0	plant operating, traffic noise
N1	18-Jun-09	Sunny	09:00	09:30	65.6	68.7	59.1	excavator work, traffic noise
N1	24-Jun-09	Fine	09:08	09:38	65.8	68.5	61.4	traffic noise
N1	30-Jun-09	Fine	09:05	09:35	64.4	66.8	59.7	traffic noise
					Min.	64.4		
					Max.	68.4		

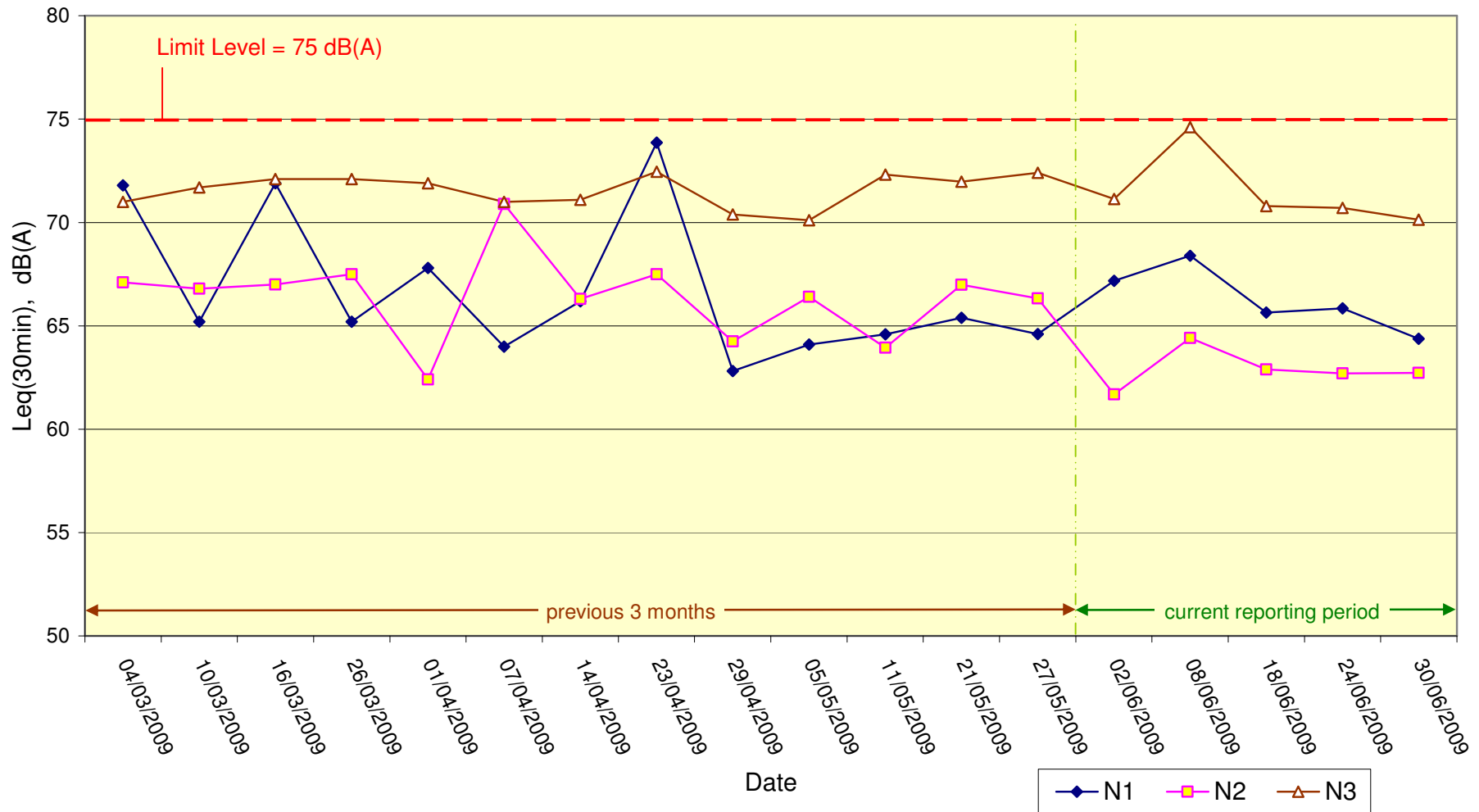
### Daytime Noise Monitoring Results at Station N2

Station	Date	Weather Condition	Noise Level for 30-min, dB(A)					Other Noise Sources during monitoring
			Start Time	End Time	Leq	L10	L90	
N2	02-Jun-09	Fine	09:45	10:15	61.7	64.4	57.1	traffic noise
N2	08-Jun-09	Fine	10:20	10:50	64.4	67.9	58.2	traffic noise
N2	18-Jun-09	Sunny	09:40	10:10	62.9	65.2	56.4	excavator work, traffic noise
N2	24-Jun-09	Fine	09:50	10:20	62.7	65.4	58.3	traffic noise
N2	30-Jun-09	Fine	09:45	10:15	62.7	65.2	58.1	traffic noise
					Min.	61.7		
					Max.	64.4		

### Daytime Noise Monitoring Results at Station N3

Station	Date	Weather Condition	Noise Level for 30-min, dB(A)					Other Noise Sources during monitoring
			Start Time	End Time	Leq	L10	L90	
N3	02-Jun-09	Sunny	10:30	11:00	71.1	74.0	62.4	traffic noise
N3	08-Jun-09	Fine	11:00	11:30	74.6	78.9	63.9	traffic noise
N3	18-Jun-09	Sunny	10:30	11:00	70.8	73.7	63.6	traffic noise
N3	24-Jun-09	Fine	10:35	11:05	70.7	74.0	63.5	traffic noise
N3	30-Jun-09	Fine	10:30	11:00	70.1	73.4	63.4	traffic noise
					Min.	70.1		
					Max.	74.6		

### Graphical Presentation of Noise Monitoring Results



## **Appendix H Photo Records for the Repairing of Deteriorated Cracks on Existing Concrete Ground Slab**

Not applicable for this Reporting Month

## **Appendix I Calibration Certificates**

High-Volume TSP Sampler  
5-Point Calibration Record

Location : A1(Kennedy Town)  
 Calibrated by : K.T.Ho  
 Date : 21/02/09

Sampler

Model : GMWS-2310 ACCU-VOL  
 Serial Number : S/N 9315

Calibration Orifice and Standard Calibration Relationship

Serial Number : CM-AIR-43  
 Service Date : 10 July 2008  
 Slope (m) : 0.056389  
 Intercept (b) : -0.025123  
 Correlation Coefficient(r) : 0.999909

Standard Condition

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

Calibration Condition

Pa (hpa) : 1011  
 Ta(K) : 293

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (indicated flow)	Y
1   18 holes	9.6	3.120	1.579	59	59.4
2   13 holes	7.0	2.664	1.352	51	51.4
3   10 holes	5.0	2.252	1.146	44	44.3
4   7 holes	3.6	1.911	0.975	38	38.3
5   5 holes	2.2	1.494	0.767	30	30.2

Sampler Calibration Relationship

Slope(m): 35.715 Intercept(b): 3.149 Correlation Coefficient(r): 0.9997

Checked by: Magnum Fan

Date: 22/02/09

High-Volume TSP Sampler  
1-Point Calibration Record

Location : A1(Kennedy Town)  
Calibrated by : K.T.Ho  
Date : 21/06/09  
Sampler

Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 9315

Calibration Orifice and Standard Calibration Relationship

Serial Number : CM-AIR-43  
Service Date : 10 July 2008  
Slope (m) : 0.056389  
Intercept (b) : -0.025123  
Correlation Coefficient(r) : 0.999909

Standard Condition

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

Calibration Condition

Pa (hpa) : 1012  
Ta(K) : 302

IC (Indicated flow) : 40 cfm

Actual flow : 1.14 m<sup>3</sup>/min

Checked by: Magnum Fan

Date: 25/06/09



High-Volume TSP Sampler  
5-Point Calibration Record

Location : A2a  
Calibrated by : K.T.Ho (Kennedy Town)  
Date : 21/02/09

Sampler

Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 9048

Calibration Orifice and Standard Calibration Relationship

Serial Number : CM-AIR-43  
Service Date : 10 July 2008  
Slope (m) : 0.056389  
Intercept (b) : -0.025123  
Correlation Coefficient(r) : 0.999909

Standard Condition

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

Calibration Condition

Pa (hpa) : 1011  
Ta(K) : 293

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	10.2	3.216	1.627	57	57.4
2   13 holes	8.0	2.848	1.443	50	50.4
3   10 holes	6.2	2.507	1.273	44	44.3
4   7 holes	4.0	2.014	1.027	35	35.2
5   5 holes	2.0	1.424	0.732	25	25.2

Sampler Calibration Relationship

Slope(m): 35.977 Intercept(b): -1.417 Correlation Coefficient(r): 0.9998

Checked by: Magnum Fan

Date: 22/02/09

High-Volume TSP Sampler  
1-Point Calibration Record

Location : A2a  
Calibrated by : K.T.Ho (Kennedy Town)  
Date : 21/06/09

Sampler

Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 9048

Calibration Orifice and Standard Calibration Relationship

Serial Number : CM-AIR-43  
Service Date : 10 July 2008  
Slope (m) : 0.056389  
Intercept (b) : -0.025123  
Correlation Coefficient(r) : 0.999909

Standard Condition

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

Calibration Condition

Pa (hpa) : 1012  
Ta(K) : 302

IC (Indicated flow) : 40 cfm

Actual flow : 1.15 m<sup>3</sup>/min

Checked by: Magnum Fan

Date: 25/06/09

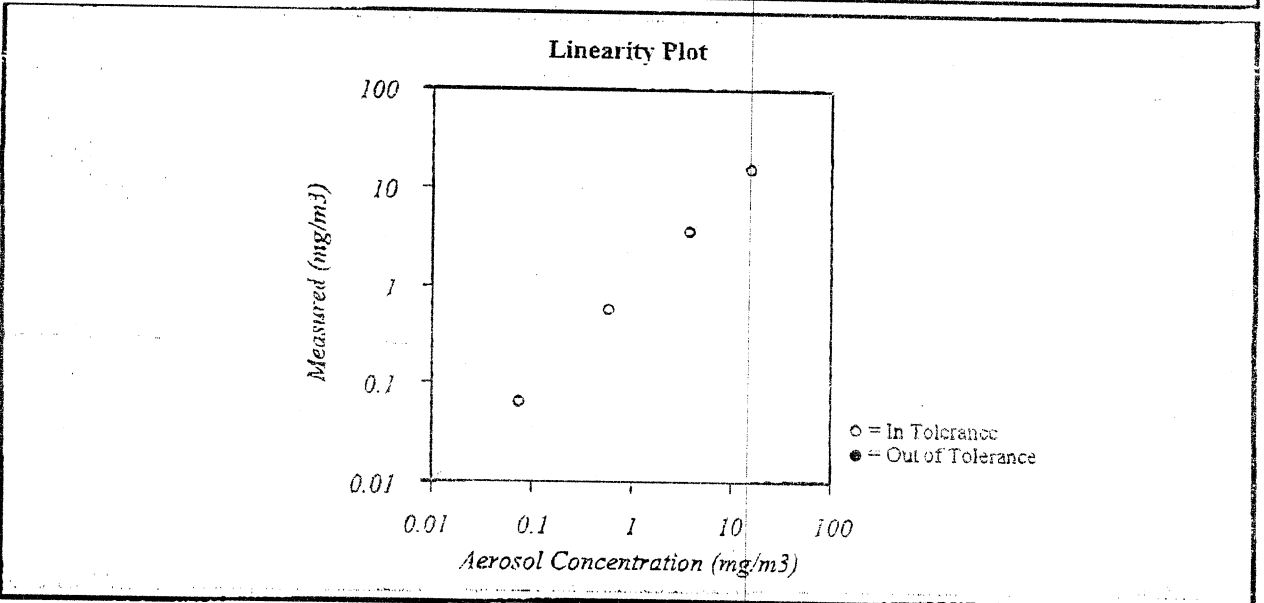


# CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA  
Tel: 1-800-874-2811 1-651-490-2911 Fax: 1-651-490-3824 http://www.tsi.com

Environment Condition			Model	8520
Temperature	74.8 (23.8)	°F (°C)	Serial Number	23183
Relative Humidity	15	%RH		
Barometric Pressure	28.88 (978.0)	inHg (hPa)		

As Left                       In Tolerance  
 As Found                       Out of Tolerance



**Zero Stability Results**

Average:	Minimum:	Maximum:	Time:
0.000 :mg/m <sup>3</sup>	0.000 :mg/m <sup>3</sup>	0.001 :mg/m <sup>3</sup>	4:00 :hrs.

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. There is no NIST standard for optical mass measurements. Calibration of this instrument performed by TSI has been done using emery oil and has been nominally adjusted to respirable mass of standard ISO 12103-1, A1 test dust (Arizona dust). Our calibration ratio is greater than 1.2:1

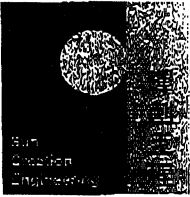
Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
Barometric Pressure	E001329	04-28-08	04-28-09	Temperature	E002873	02-24-09	02-24-10
Humidity	E002873	02-24-09	02-24-10	DC Voltage	E003322	10-10-08	12-10-09
DC Voltage	E003323	10-10-08	12-10-09	Photometer	E003336	12-30-08	06-30-09
Scale	D003403	07-08-08	08-08-09				

\_\_\_\_\_  
Technician

Final Function Check

March 12, 2009

\_\_\_\_\_  
Date



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C083195

## Certificate of Calibration

*This is to certify that the equipment*

*Description : Sound Level Meter*

*Manufacturer : Rion*

*Model No. : NL-31*

*Serial No. : 00320533*

*has been calibrated for the specific items and ranges.*

*The results are shown in the Calibration Report No. C083195.*

*The equipment is supplied by*

*Co. Name : Envirotech Services Co.*

*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,  
Hong Kong*

*Date of Issue : 25 June 2008*

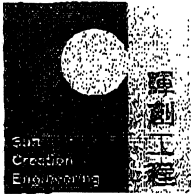
*Certified by :*

*K C Lee*

The test equipment used for testing are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

cto 4/F, Tsing Shan Wau Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong  
Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C092284

# Certificate of Calibration

*This is to certify that the equipment*

*Description : Sound Level Meter*

*Manufacturer : Rion*

*Model No. : NL-31*

*Serial No. : 00410224*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C092284.*

*The equipment is supplied by*

*Co. Name : Envirotech Services Co.*

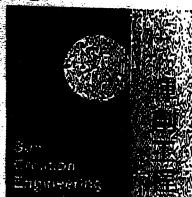
*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,  
Hong Kong*

*Date of Issue : 8 May 2009*

Certified by :

  
K. C. Lee

The equipment used for calibration are traceable to the National Standards as specified in this report.  
This report shall not be reproduced or made full and with prior written approval from this laboratory.



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C083194

# Certificate of Calibration

*This is to certify that the equipment*

*Description : Sound Level Calibrator*

*Manufacturer : Rion*

*Model No. : NC-73*

*Serial No. : 10997142*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C083194.*

*The equipment is supplied by*

*Co. Name : Envirotech Services Co.*

*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,  
Hong Kong*

*Date of Issue : 25 June 2008*

*Certified by :*

*K C Lee*

The test equipment used for testing are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory

Calibration and Testing Laboratory of Sun Creation Engineering Limited

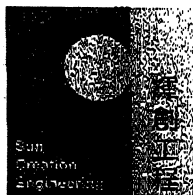
e.o. 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

Tel: 2927 2606

Fax: 2744 8986

E-mail: callab@suncreation.com

Website: www.suncreation.com



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C083506

## Certificate of Calibration

*This is to certify that the equipment*

*Description : Sound Level Calibrator*

*Manufacturer : Rion*

*Model No. : NC-73*

*Serial No. : 10786708*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C083506.*

*The equipment is supplied by*

*Co. Name : Envirotech Services Co.*

*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,  
Hong Kong*

*Date of Issue : 11 July 2008*

*Certified by :*

*K C Lee*

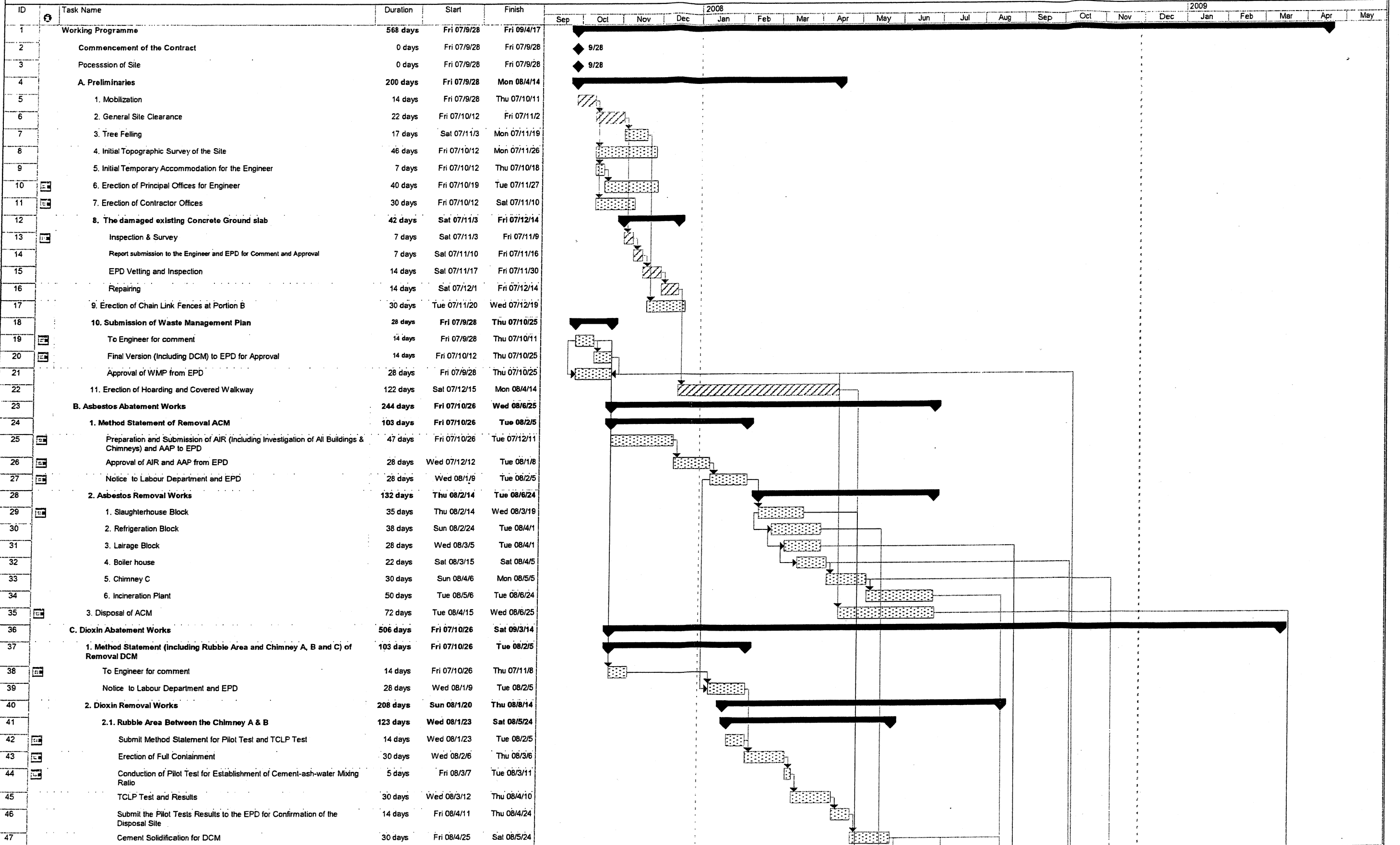
The test equipment used for testing are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o 4/F. Tsing Shan Wai Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong  
Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com

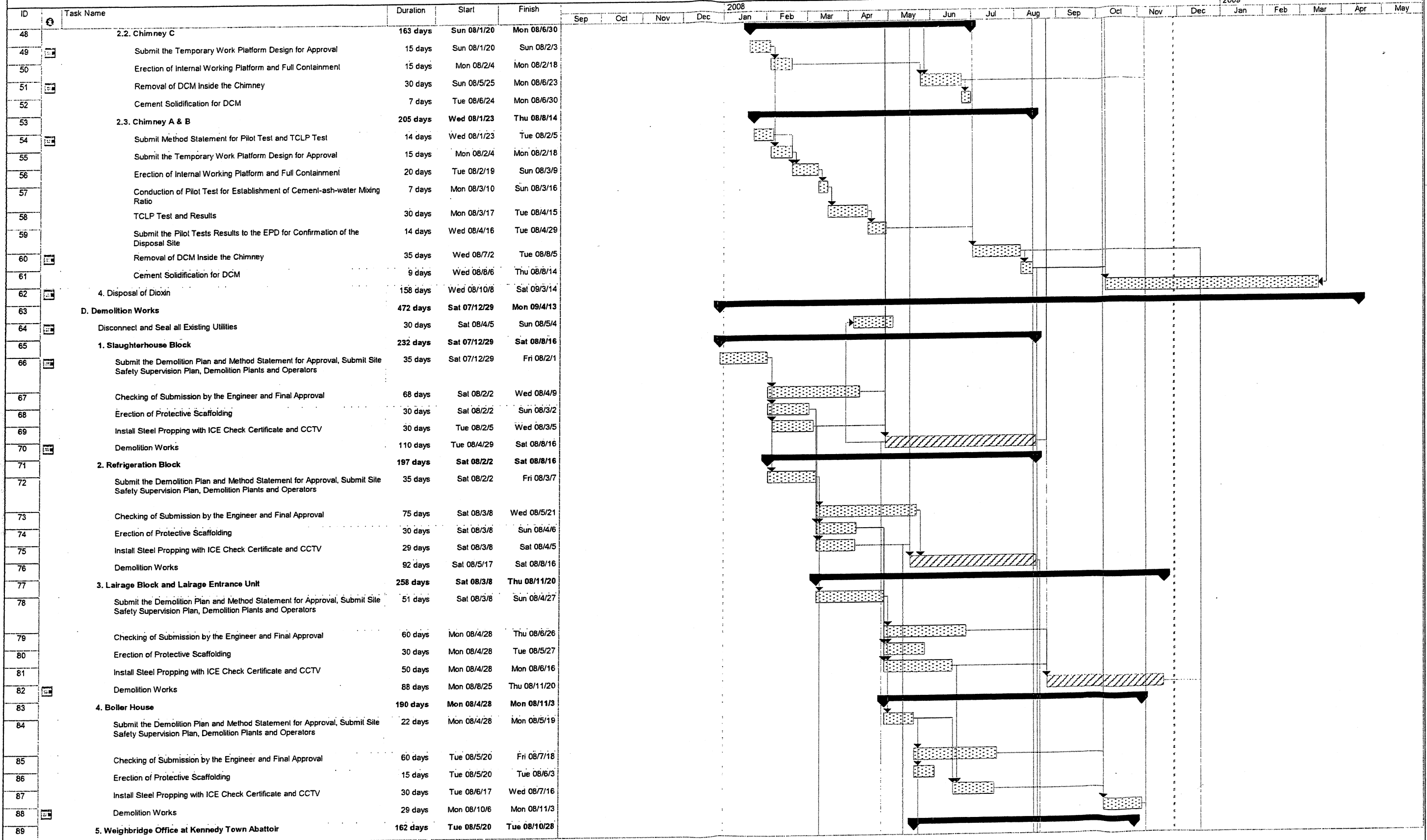
## **Appendix J Works Programme**





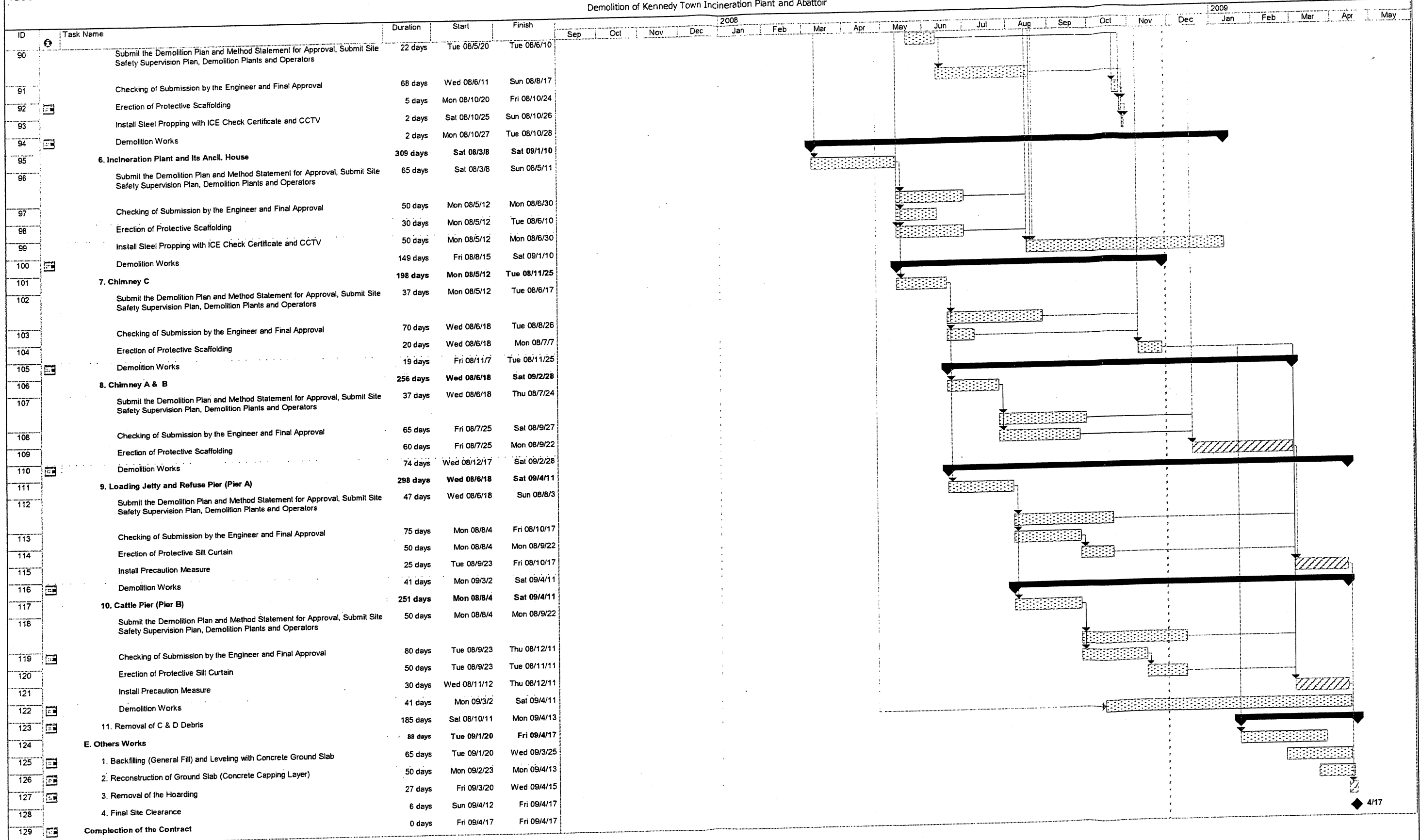
Project: Contract No. CV/2007/05  
Date: Fri 08/11/28

Task		Progress		Summary		External Tasks		Deadline	
Split		Milestone		Project Summary		External Milestone		Critical Path	



Project: Contract No. CV/2007/05  
Date: Fri 08/11/28

Task: [Dotted Pattern] Progress [Solid Black Bar] Summary [Hatched Pattern] External Tasks [Dashed Pattern] Milestone [Diamond Symbol] Project Summary [Solid Black Bar with Arrow] External Milestone [Diamond Symbol] Critical Path [Hatched Pattern]



Project: Contract No. CV/2007/05  
Date: Fri 08/11/28

Task: [Pattern] Progress [Pattern] Summary [Pattern] External Tasks [Pattern] Deadline [Pattern]

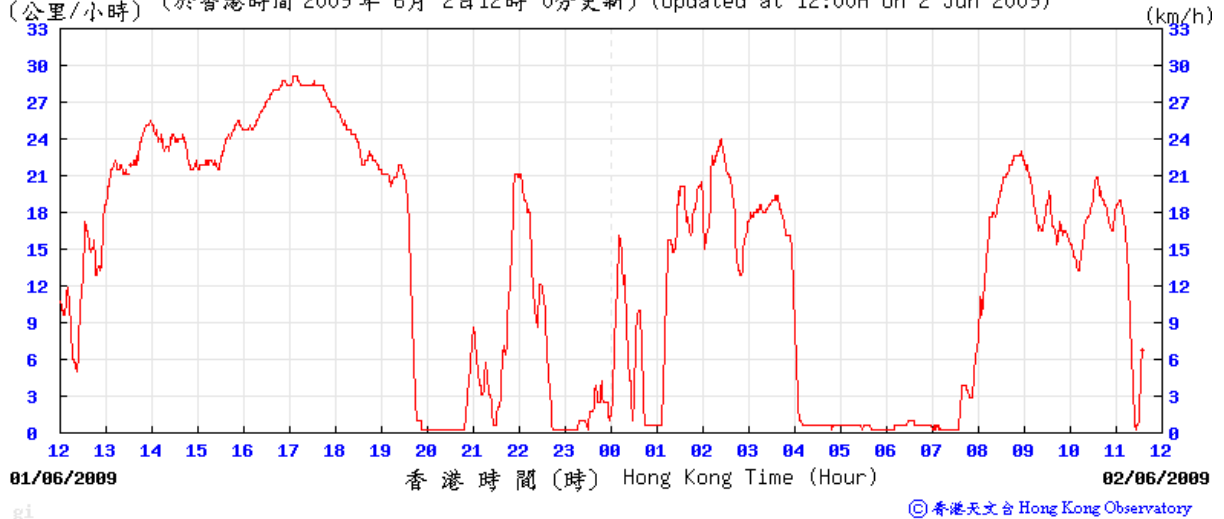
Split: [Pattern] Milestone [Pattern] Project Summary [Pattern] External Milestone [Pattern] Critical Path [Pattern]

## **Appendix K Wind Data**

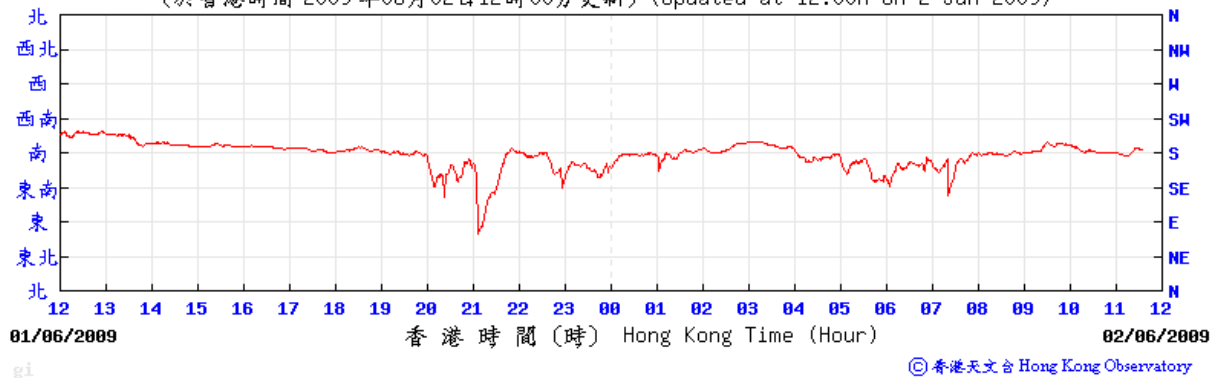
## Wind Data for Green Island

2 June 2009

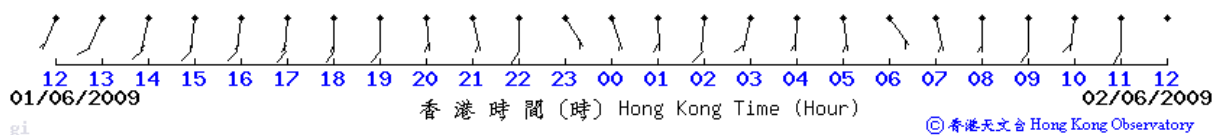
(公里/小時) (於香港時間 2009 年 6 月 2 日 12 時 0 分更新) (Updated at 12:00H on 2 Jun 2009)



(於香港時間 2009 年 06 月 02 日 12 時 00 分更新) (Updated at 12:00H on 2 Jun 2009)

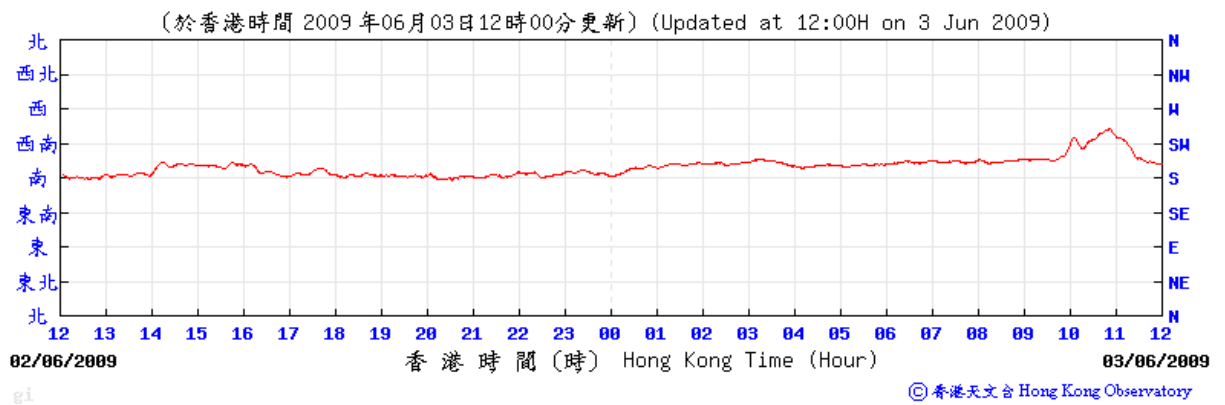
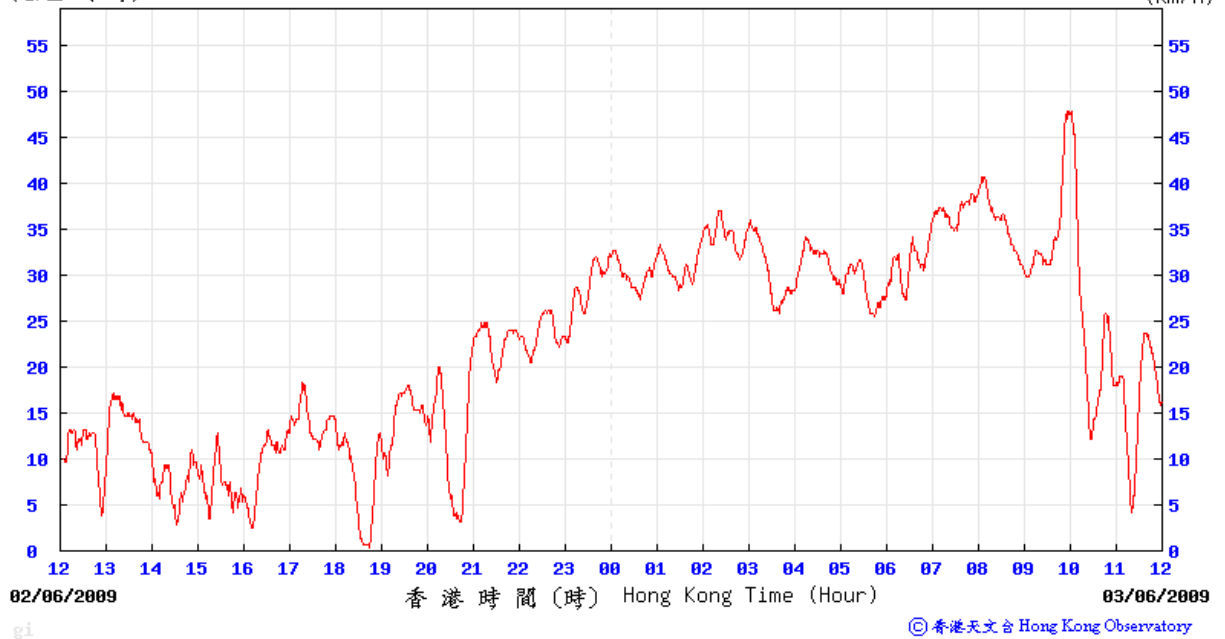


十分鐘平均風向及風速 10-minute mean wind

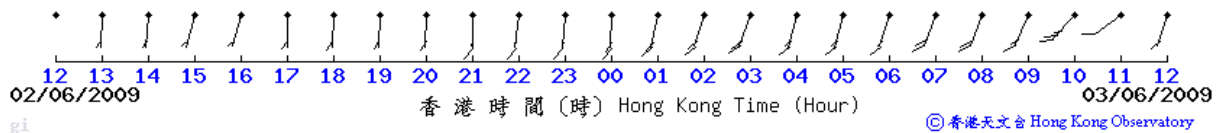


**3 June 2009**

(公里/小時) (於香港時間 2009 年 6 月 3 日 12 時 0 分更新) (Updated at 12:00H on 3 Jun 2009)

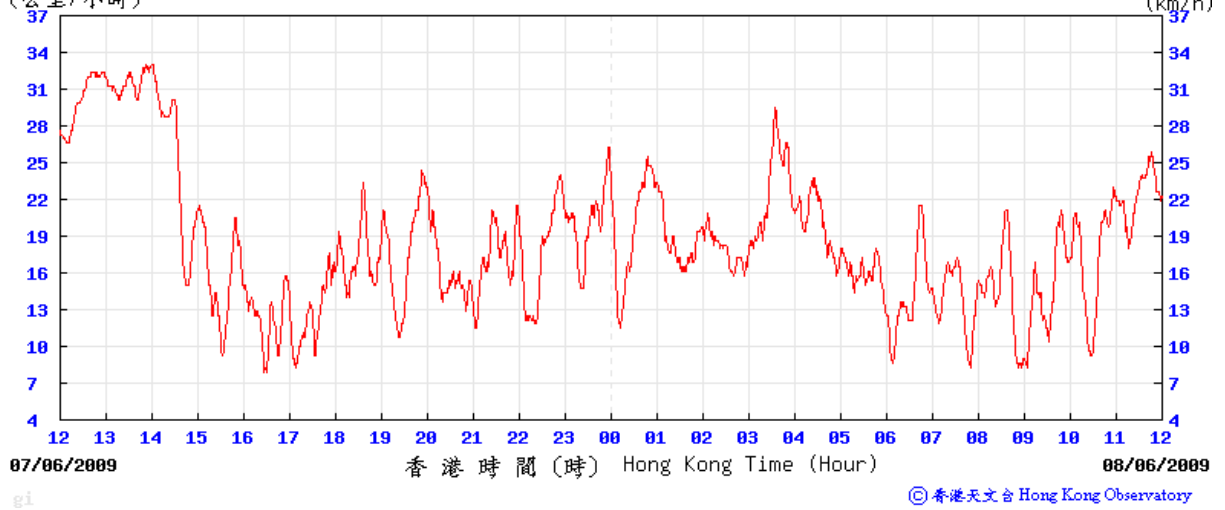


十分鐘平均風向及風速 10-minute mean wind

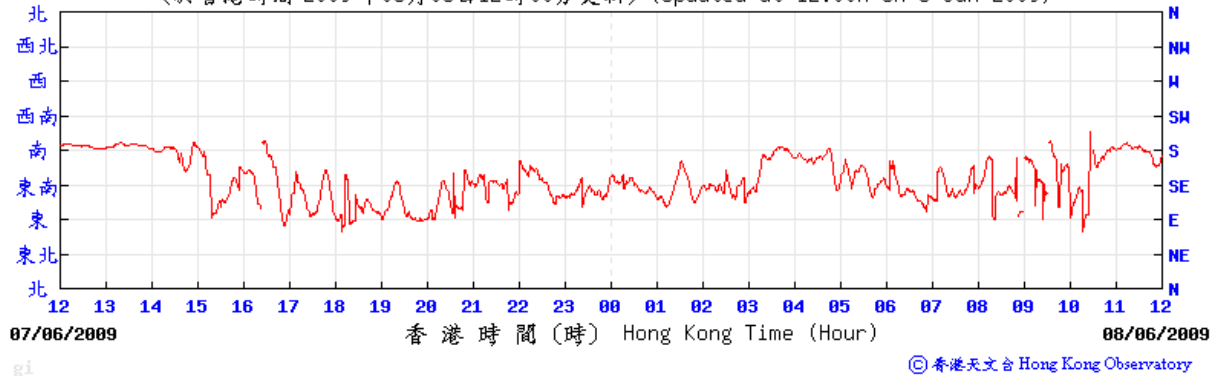


**8 June 2009**

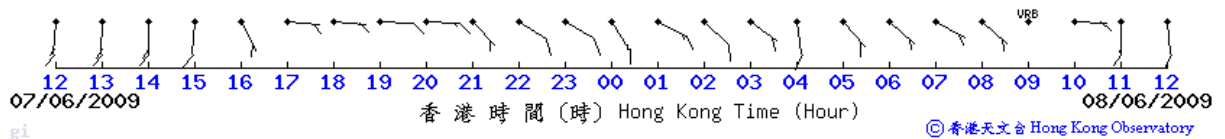
(公里/小時) (於香港時間 2009 年 6 月 8 日 12 時 0 分更新) (Updated at 12:00H on 8 Jun 2009)



(於香港時間 2009 年 06 月 08 日 12 時 00 分更新) (Updated at 12:00H on 8 Jun 2009)

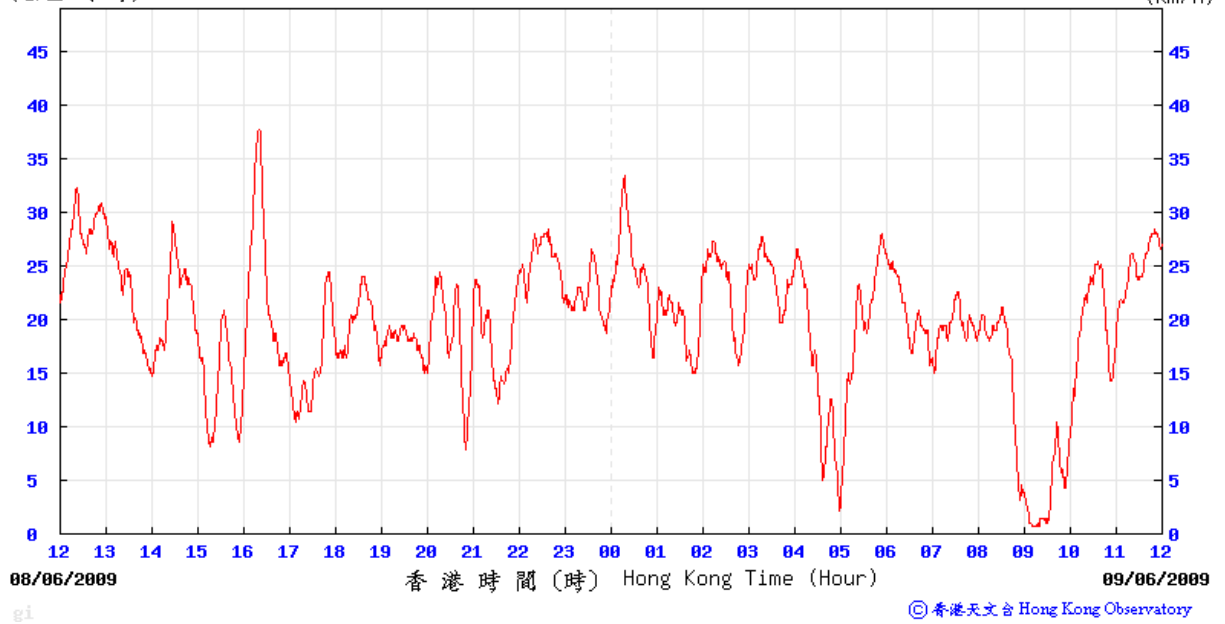


十分鐘平均風向及風速 10-minute mean wind

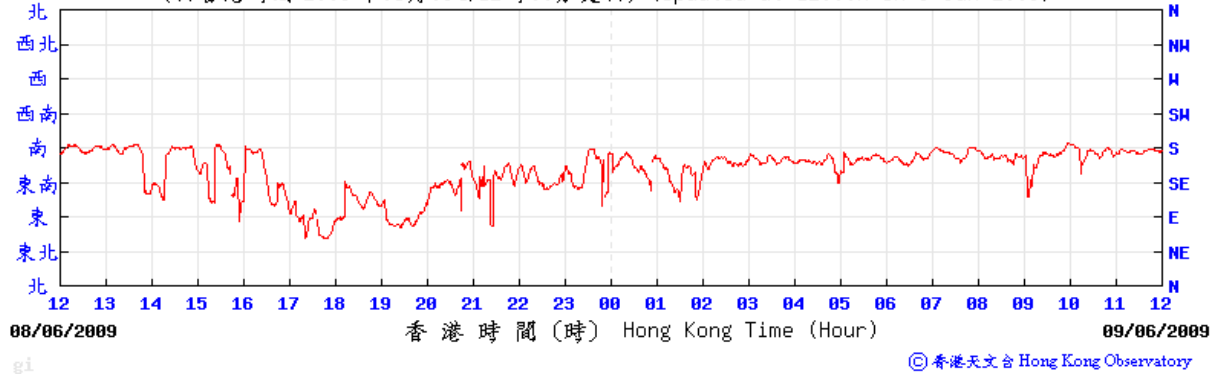


**9 June 2009**

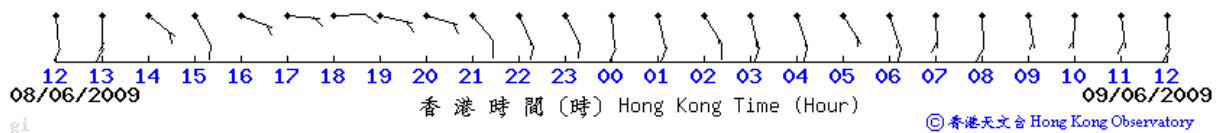
(公里/小時) (於香港時間 2009 年 6 月 9 日 12 時 0 分更新) (Updated at 12:00H on 9 Jun 2009)



(於香港時間 2009 年 06 月 09 日 12 時 00 分更新) (Updated at 12:00H on 9 Jun 2009)



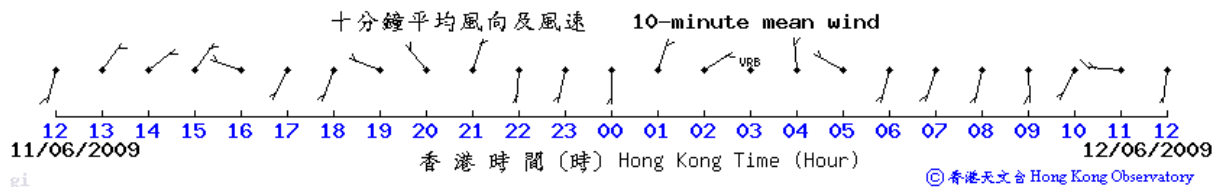
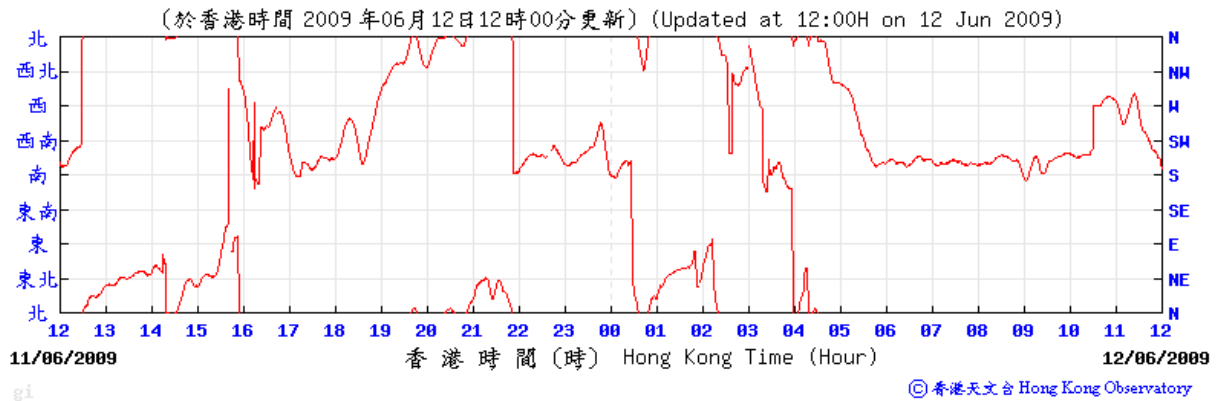
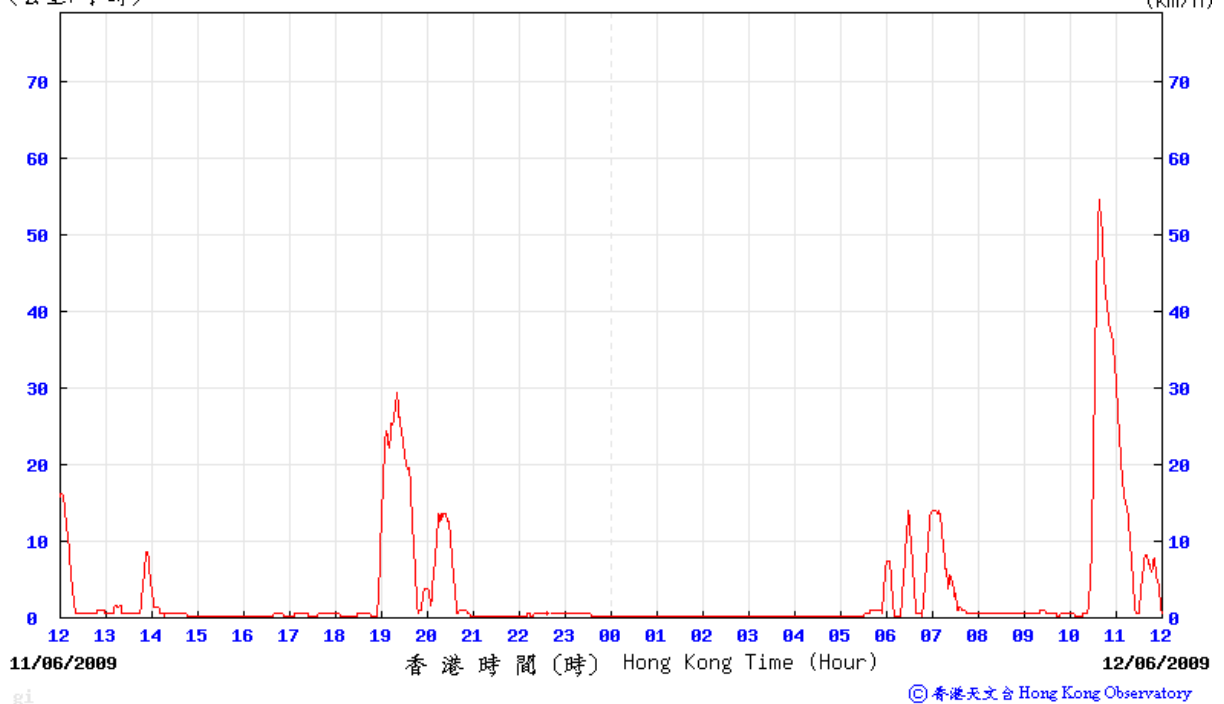
十分鐘平均風向及風速 10-minute mean wind





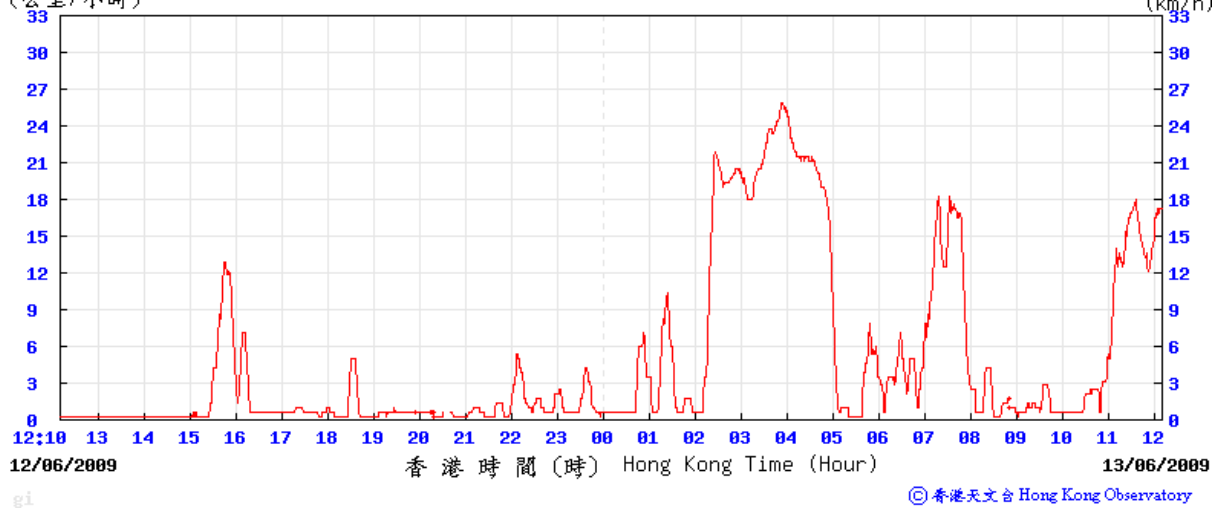
**12 June 2009**

(公里/小時) (於香港時間 2009 年 6月12日12時 0分更新) (Updated at 12:00H on 12 Jun 2009)

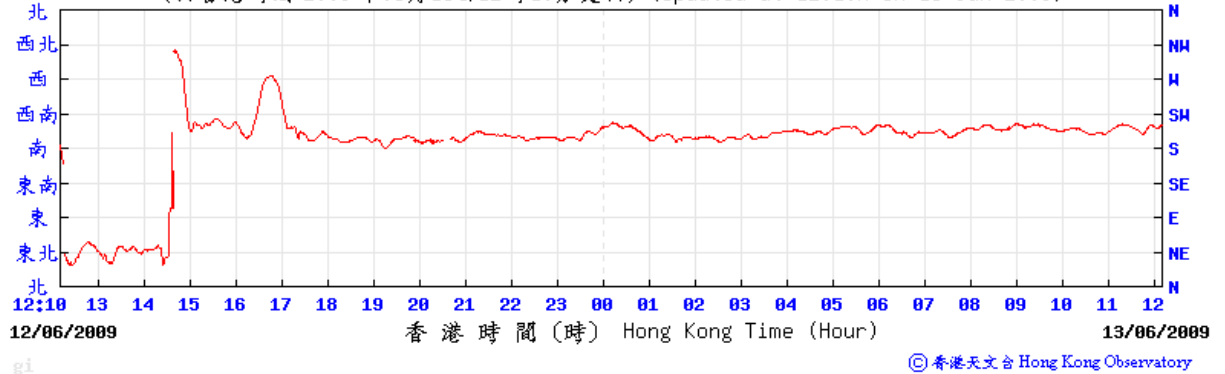


**13 June 2009**

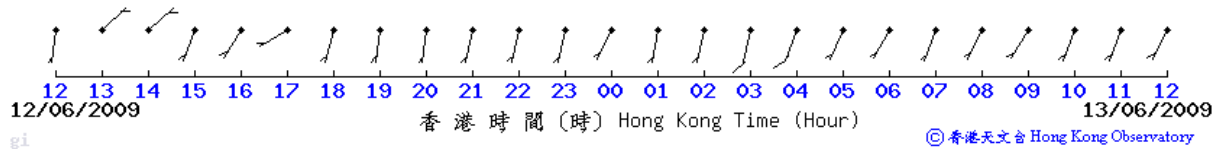
(公里/小時) (於香港時間 2009 年 6月13日12時10分更新) (Updated at 12:10H on 13 Jun 2009)



(於香港時間 2009 年06月13日12時10分更新) (Updated at 12:10H on 13 Jun 2009)

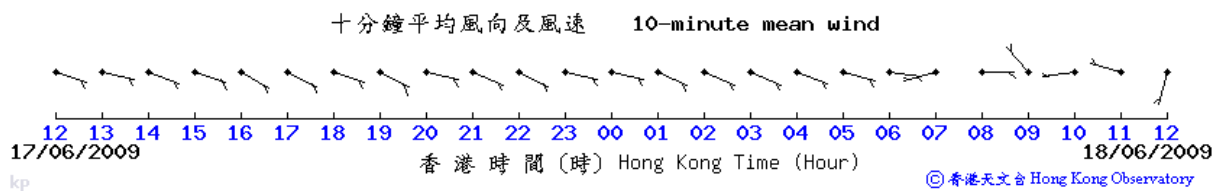
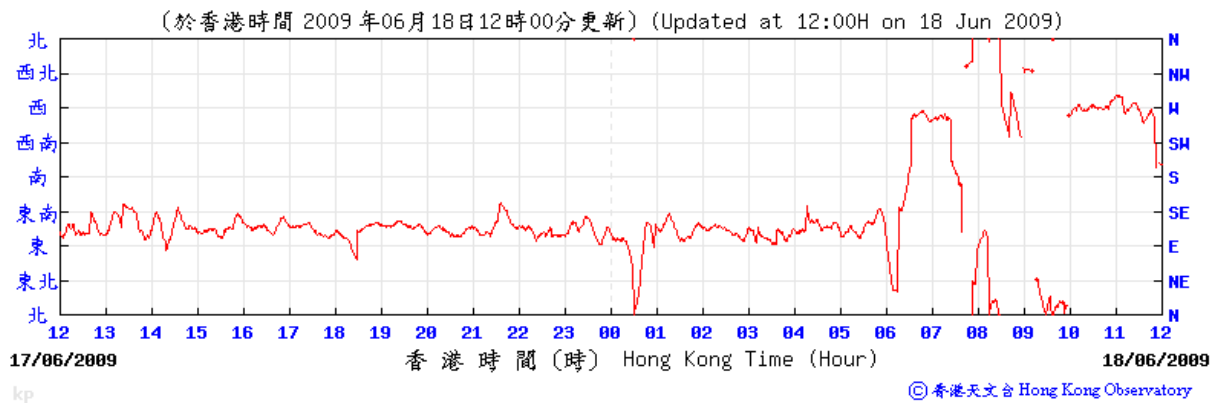
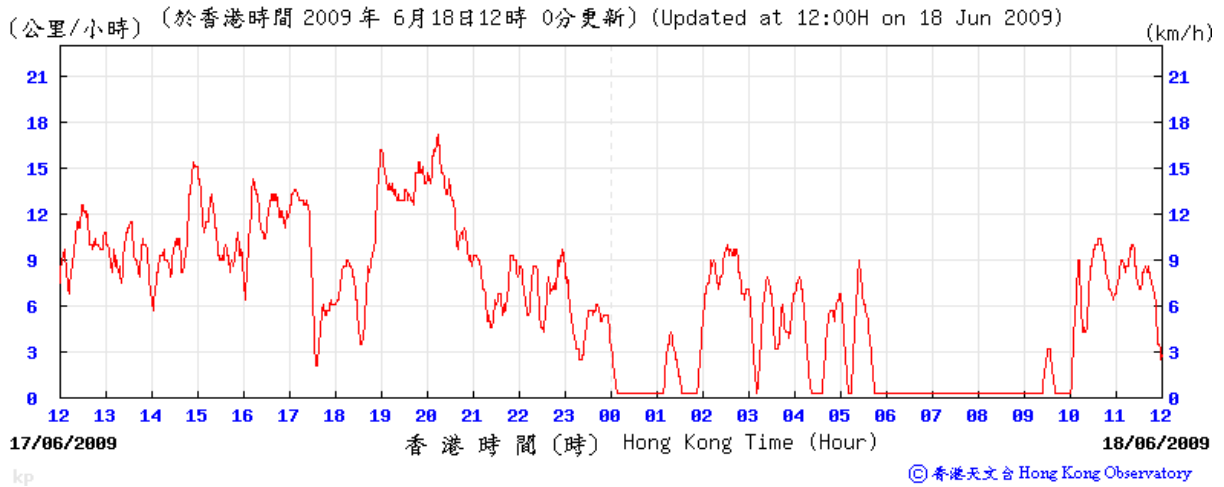


十分鐘平均風向及風速 10-minute mean wind



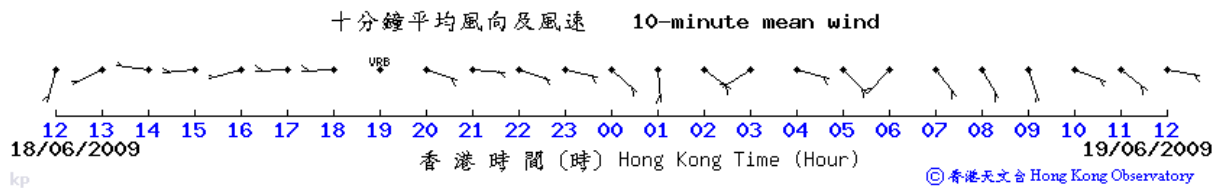
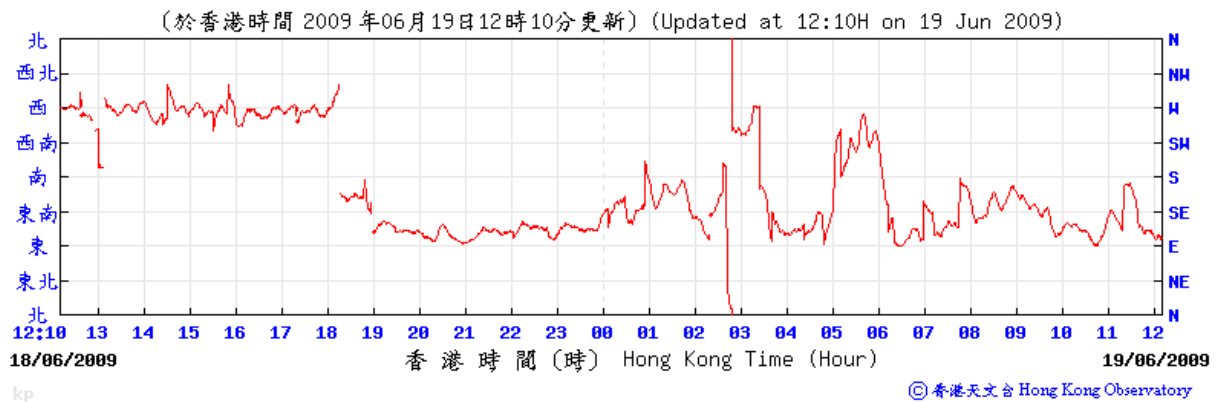
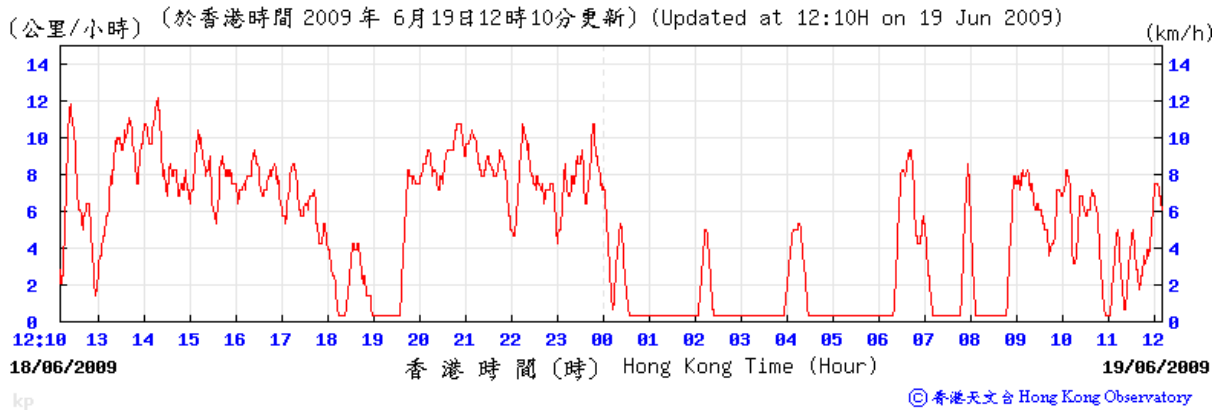
**18 June 2009**

Wind data at the nearest Hong Kong Observatory monitoring station at Green Island was unavailable due to ongoing maintenance. Wind data at the King's Park monitoring station is provided for reference.



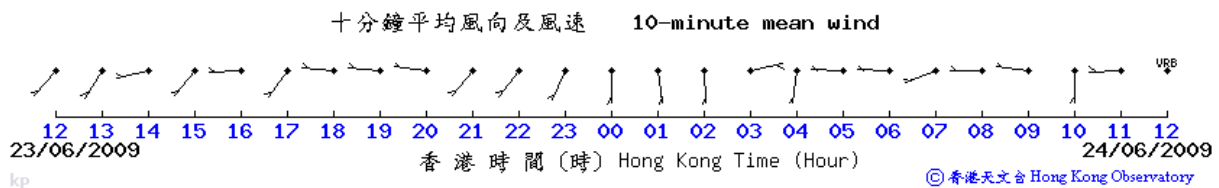
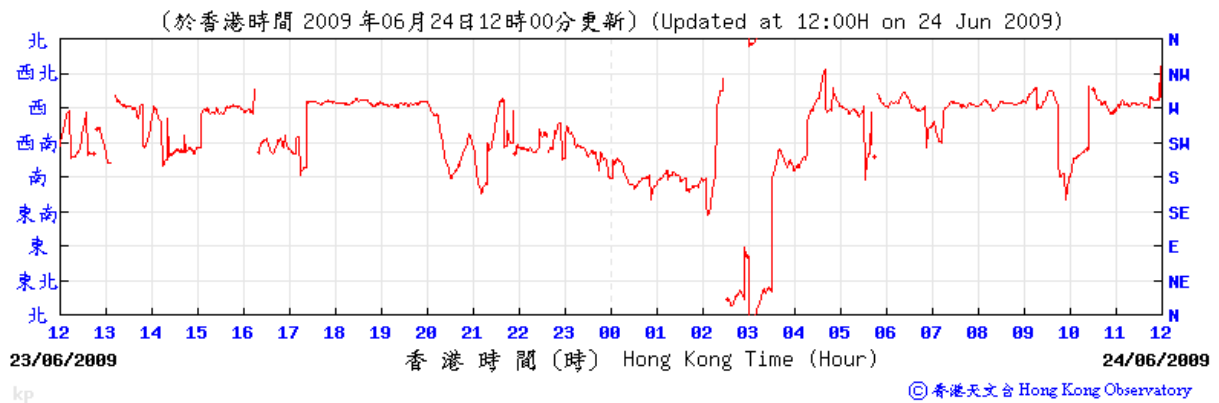
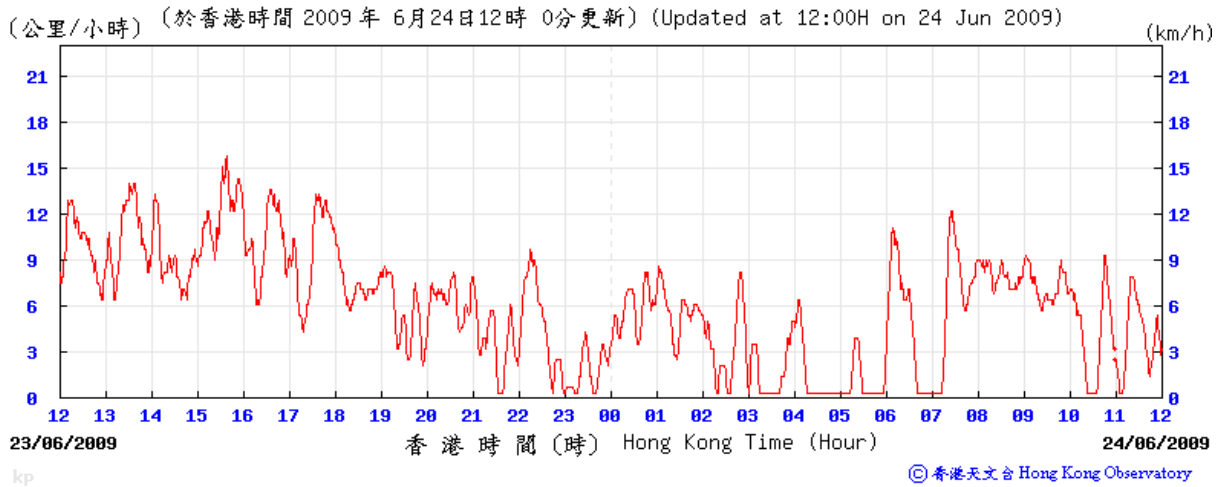
**19 June 2009**

Wind data at the nearest Hong Kong Observatory monitoring station at Green Island was unavailable due to ongoing maintenance. Wind data at the King's Park monitoring station is provided for reference.



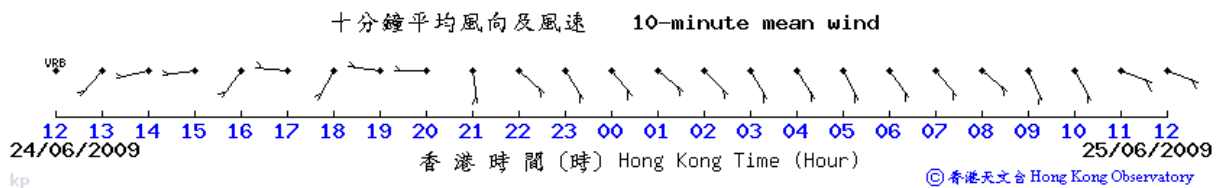
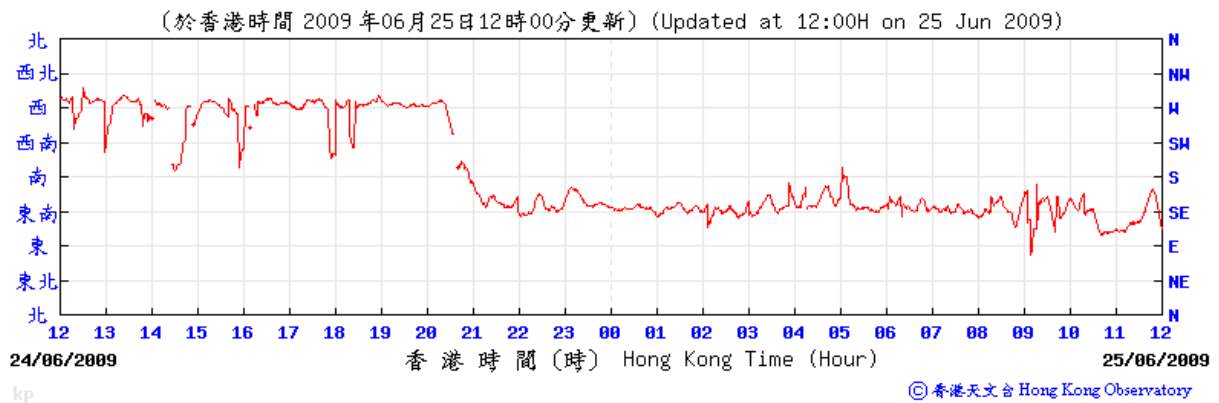
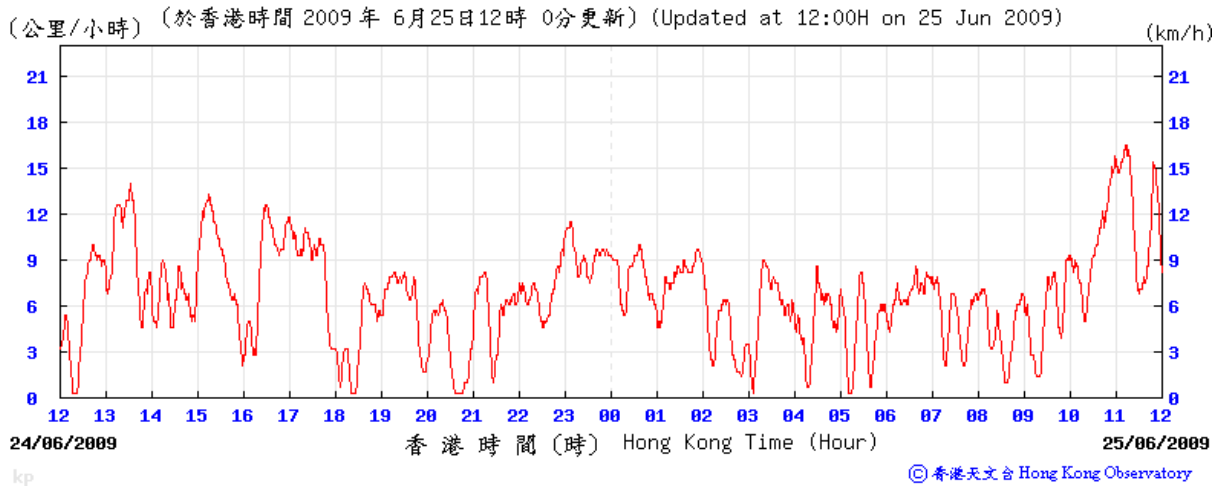
**24 June 2009**

Wind data at the nearest Hong Kong Observatory monitoring station at Green Island was unavailable due to ongoing maintenance. Wind data at the King's Park monitoring station is provided for reference.



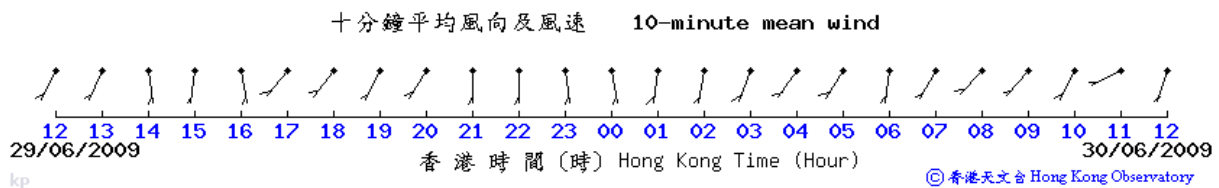
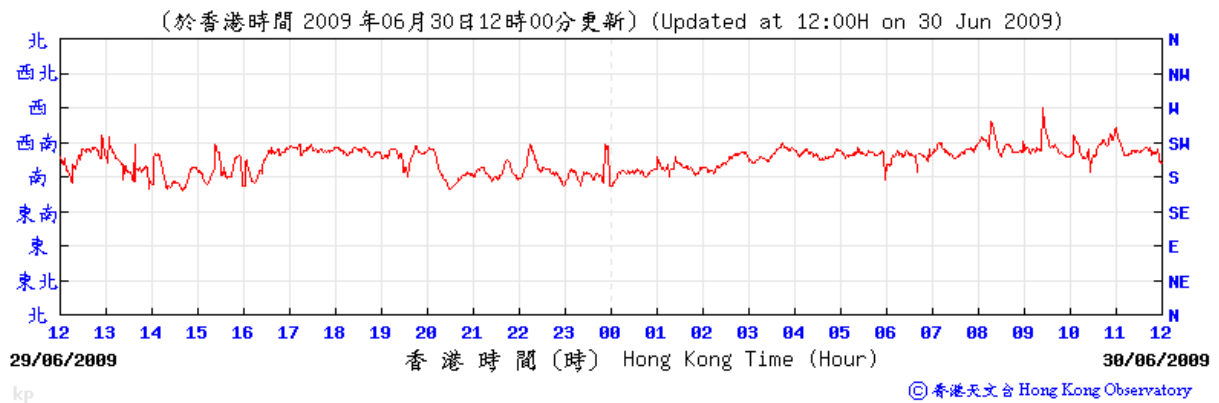
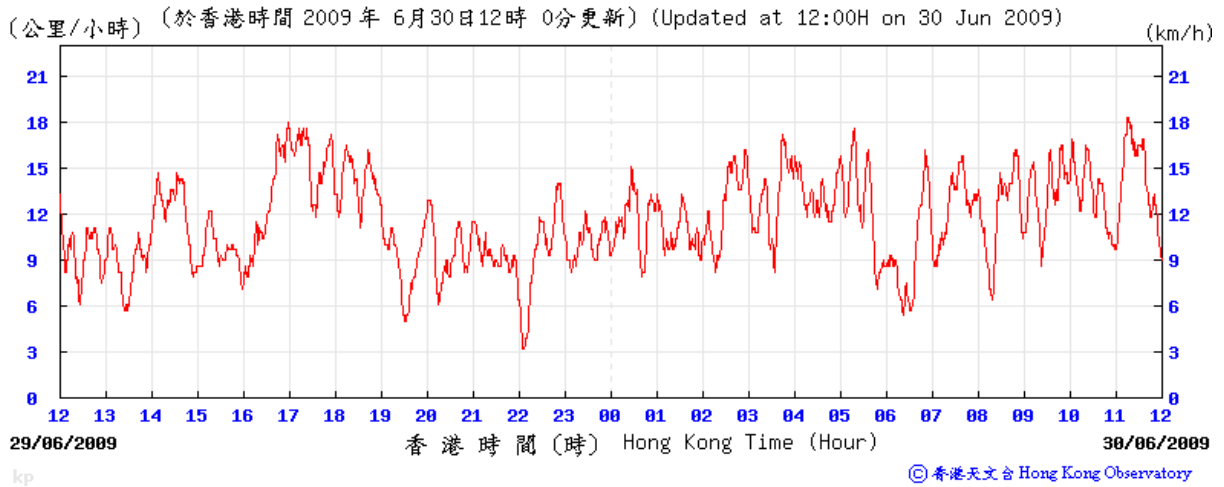
**25 June 2009**

Wind data at the nearest Hong Kong Observatory monitoring station at Green Island was unavailable due to ongoing maintenance. Wind data at the King's Park monitoring station is provided for reference.



**30 June 2009**

Wind data at the nearest Hong Kong Observatory monitoring station at Green Island was unavailable due to ongoing maintenance. Wind data at the King's Park monitoring station is provided for reference.



**1 July 2009**

Wind data at the nearest Hong Kong Observatory monitoring station at Green Island was unavailable due to ongoing maintenance. Wind data at the King's Park monitoring station is provided for reference.

