

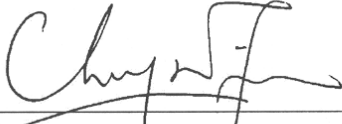
# Highways Department

## Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin

Contract No. HY/2003/10 - Environmental Team for  
Lai Chi Kok Viaduct and Eagle's Nest Tunnel

### Monthly EM&A Report Part I – Lai Chi Kok Viaduct (Version 1)

May 2006

Approved By   
(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties.

#### **CINOTECH CONSULTANTS LTD**

Room 1602-1610, Delta House,

3 On Yiu Street,

Shatin, NT, Hong Kong

Tel: (852) 2151 2083 Fax: (852) 3107 1388

Email: [info@cinotech.com.hk](mailto:info@cinotech.com.hk)

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
Introduction.....	1
Environmental Monitoring and Audit Works .....	1
Environmental Licenses and Permits .....	1
Key Information in the Reporting Month .....	1
<b>1. INTRODUCTION .....</b>	<b>3</b>
Background.....	3
Project Organizations.....	4
Construction Programme .....	4
Summary of EM&A Requirements.....	5
<b>2. AIR QUALITY .....</b>	<b>6</b>
Monitoring Requirements .....	6
Monitoring Locations.....	6
Monitoring Equipment.....	6
Monitoring Parameters, Frequency and Duration.....	6
Monitoring Methodology and QA/QC Procedure .....	7
Results and Observations .....	8
<b>3. NOISE.....</b>	<b>9</b>
Monitoring Requirements .....	9
Monitoring Locations.....	9
Monitoring Equipment.....	10
Monitoring Parameters, Frequency and Duration.....	10
Monitoring Methodology and QA/QC Procedures.....	10
Maintenance and Calibration .....	11
Results and Observations .....	11
<b>4. ENVIRONMENTAL AUDIT .....</b>	<b>13</b>
Site Audits.....	13
Review of Environmental Monitoring Procedures .....	13
Status of Environmental Licensing and Permitting .....	13
Implementation Status of Environmental Mitigation Measures .....	13
Summary of Exceedances .....	16
Implementation Status of Event Action Plans .....	17
Summary of Complaint and Prosecution .....	16
<b>5. FUTURE KEY ISSUES .....</b>	<b>18</b>
Key Issues for the Coming Month .....	18
Monitoring Schedule for the Next Month.....	18
Construction Program for the Next Month .....	18
<b>6. CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>19</b>
Conclusions.....	19
Recommendations .....	19

## **LIST OF TABLES**

Table I	Summary Table for Events Recorded in the Reporting Month
Table II	Summary Table for Key Information in the Reporting Month
Table 1.1	Key Project Contacts
Table 2.1	Locations for Air Quality Monitoring
Table 2.2	Air Quality Monitoring Equipment
Table 2.3	Impact Dust Monitoring Parameters, Frequency and Duration
Table 3.1	Noise Monitoring Stations
Table 3.2	Noise Monitoring Equipment
Table 3.3	Noise Monitoring Parameters, Frequency and Duration
Table 4.1	Summary of Environmental Licensing and Permit Status
Table 4.2	Observations and Recommendations of Site Audit

## **LIST OF FIGURES**

Figure 1	Locations of Monitoring Stations
----------	----------------------------------

## **LIST OF APPENDICES**

A	Action and Limit Levels for Air Quality and Noise
B	Copies of Calibration Certificates
C	Environmental Monitoring Schedules
D	Wind Data
E	1-hour TSP Monitoring Results and Graphical Presentations
F	24-hour TSP Monitoring Results and Graphical Presentations
G	Noise Monitoring Results and Graphical Presentations
H	Summary of Exceedance
I	Site Audit Summary
J	Event Action Plans
K	Environmental Mitigation Implementation Schedule (EMIS)
L	Construction Programme
M	Complaint Log

## ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
CEDD	Civil Engineering and Development Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HVS	High Volume Sampler
HyD	Highways Department
IEC	Independent Environmental Checker
NOE	Notification of Exceedance
QA/QC	Quality Assurance / Quality Control
RE	Resident Engineer
RH	Relative Humidity
SLM	Sound Level Meter
TSP	Total Suspended Particulates

## EXECUTIVE SUMMARY

### Introduction

- This is the thirtieth monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the “Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin, Lai Chi Kok Viaduct & Eagle’s Nest Tunnel”. This report documents the findings of EM&A Works conducted in May 2006 for Contract No. HY/2003/01, Lai Chi Kok Viaduct (the Project).
- The major site activities undertaken in the reporting month included construction of abutments and columns, excavation works, drainage works and segment erection works.

### Environmental Monitoring and Audit Works

- Environmental monitoring and audit works for the Project was performed regularly as stipulated in the updated EM&A Manual and the results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- Summary of the events and action taken in the reporting month is tabulated in **Table I**.

**Table I Summary Table for Events Recorded in the Reporting Month**

Parameter	No. of Events		No. of Events Due to the Project	Action Taken
	Action Level	Limit Level		
1-hr TSP	0	0	0	N/A
24-hr TSP	0	0	0	N/A
Noise	1	0	1	Complaint report was issued to all relevant parties

### Environmental Licenses and Permits

- Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, the Water Discharge Licenses (WDLs) and the Construction Noise Permits (CNPs). Eight new CNPs were issued to the Project by EPD in the reporting month.

### Key Information in the Reporting Month

- Summary of key information in this reporting month is tabulated in **Table II**.

**Table II Summary Table for Key Information in the Reporting Month**

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	1	Noise	Complaint Investigation	Closed	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N/A	N/A	---
Status of submissions under EP	0	---	N/A	N/A	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---

**Future Key Issues:**

Major site activities for the coming month include:

- Construction of cross head of column at Pier P2;
- Bulk excavation works at slope CCR-S1;
- Soil nail installation at slope CCR-S4;
- Bulk excavation works at slope CCR-S4, CCR-R3, CCR-R4 & CCR-R6;
- Retaining wall construction at CCR-R1 to CCR-R6, LCK-R1;
- Drainage works at Rest Garden area, Hoi Lai Estate & Piers B1;
- Offsite fabrication of pre-cast deck segment mould and segment casting;
- Segment erection by launching gantry at night at Pier P20;
- Cast in-situ of slip road C;
- Cast in-situ and precast segment erection at slip road D; and
- Segment erection by lifting crane at pier C6, D3, D8 & Abutment M.

The anticipated environmental impacts will be mainly on air impact from soil nail installation, noise impact from excavation works and water quality impact during rainy days.

## 1. INTRODUCTION

### Background

- 1.1 Route 9 (Kowloon Section) (R9K) (hereinafter call the R9K-Project) forms part of the Route 9 between Cheung Sha Wan and Sha Tin (R9-CSWST) project, which will be a new expressway connecting West Kowloon and Sha Tin. It will be the fourth external link between Sha Tin and Kowloon and will form an important link between the northeast New Territories and the west Kowloon, Lantau Island and the western New Territories. R9K is being managed and implemented by the Highways Department (HyD).
- 1.2 The engineering design of R9K is covered under Agreement No. CE 50/98 “Route 9 between Cheung Sha Wan and Sha Tin – Design Construction Assignment”. The main consultant engaged under Agreement No. CE 50/98 is Maunsell Hyder Joint Venture (MHJV), who will act as the Engineer for the construction contracts. The works of R9K mainly comprise a 1.4km dual 3-lane Lai Chi Kok Viaduct from Lai Wan Interchange to Butterfly Valley; 0.5 km of dual 3-lane at-grade carriageway linking to the 2.1 km dual 3-lane twin-bore Eagle's Nest Tunnel with associated portal buildings; a toll plaza with an administration building located with the Sha Tin valley woodland; a ventilation building and an adit; associated noise barriers, noise enclosures, drainage, slope and landscape works; and electrical and mechanical works for the whole R9-CSWST. The remainder of the R9-CSWST forms the Sha Tin Section (R9S) of the project and is being managed and implemented separately by the Civil Engineering and Development Department (CEDD).
- 1.3 The R9-CSWST project is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). An environmental impact assessment (EIA) report has been prepared in 1998 for the R9-CSWST project (1998 R9 EIA) to consider the key issues of noise, air quality, water quality, ecological, construction waste, landscape and visual, land use and cultural impacts, and identify possible mitigation measures.
- 1.4 An Updated Final EIA report was subsequently completed in August 1999 for the R9-CSWST project (1999 R9 EIA), to cater for some changes in R9K portion as mentioned in paragraph 1 in the report. The 1999 R9 EIA was endorsed by Environmental Protection Department (EPD) in November 1999. The 1998 R9 EIA and the 1999 R9 EIA (R9 EIA Reports) were included in the EIA register under the EIAO as report no. EIA-135/BC and AEIAR-022/1999 respectively. An Environmental Monitoring and Audit (EM&A) Manuals for each of the R9 EIA Reports (EM&A Manuals) were also included as part of the EIA reports in the register.
- 1.5 Subsequent to the endorsement of the R9 EIA Reports by EPD in November 1999, the project programme was deferred to start in 2002/2003 for completion by 2006/07. The implementation of the project was then separated into the R9S and R9K portion. An Environmental Permit (EP) No. EP-103/2001 was issued on 17 September 2001 for R9K to the HyD as Permit Holder and a varied EP No. EP-103/2001/A was subsequently issued on 20 May 2003 for R9K (R9K EP) to HyD as Permit Holder. A varied EP-103/2001/C was recently issued on 22 July 2005.

- 1.6 The major construction activities of two civil contracts of the R9K project, Contract No. HY/2003/01 entitled “Route 9 – Lai Chi Kok Viaduct” and Contract No. HY/2003/02 entitled “Route 9 – Eagle’s Nest Tunnel and Associated Works”, were commenced in 15<sup>th</sup> December 2003 for completion in April 2007.
- 1.7 “Route 9” was recently re-titled as “Route 8 (previously known as Route 9)”. Cinotech Consultants Limited (Cinotech) was commissioned by HyD to undertake the Environmental Monitoring and Audit works for “Route 8 between Cheung Sha Wan and Sha Tin - Environmental Team (ET) for Lai Chi Kok Viaduct and Eagle’s Nest Tunnel (Contract No. HY/2003/10)”. Dr. Priscilla CHOY of Cinotech Consultants Ltd. was appointed as the ET Leader under Condition 2.2 of the EP. Mr. David YEUNG of CH2M HILL Hong Kong Ltd. was appointed as the IEC under Condition 2.1 of the EP. This is the thirtieth monthly EM&A report summarizing the EM&A works for the Project in May 2006.

### **Project Organizations**

- 1.8 Different parties with different levels of involvement in the project organization include:
- Project Proponent – Major Works Project Management Office (MWPMO) of Highways Department (HyD)
  - Engineer (E) / Engineer’s Representative (ER) – Maunsell-Hyder Joint Venture
  - Environmental Team (ET) – Cinotech Consultants Limited
  - Independent Environmental Checker (IEC) – CH2M HILL Hong Kong Limited
  - Contractor – Acciona Infraestructuras S.A.
- 1.9 The responsibilities of respective parties are detailed in Section 1.8.3 of the EM&A Manual (1999) of the Project.
- 1.10 The key contacts of the Project are shown in **Table 1.1**.

### **Construction Programme**

- 1.11 The site activities undertaken in the reporting month were:
- Construction of abutment M and column at Pier 21;
  - Rock dowel and raking drain installation at slope CCR-S1;
  - Bulk excavation works at CCR-S4, CCR-S3, CCR-R4 and CCR-R6;
  - Retaining wall construction at CCR-R1, CCR-R2, CCR-R3, CCR-R4, CCR-R5 and CCR-R6;
  - Drainage works at Rest Garden Area, Hoi Lai Estate and Pier B1;
  - Offsite fabrication of pre-cast deck segment moulds and segment casting;
  - Segment erection by lifting frame at Pier D7;
  - Segment erection by launching gantry works at night at Pier P20;
  - Segment erection by lifting crane at Pier D1, D2, D3, D7, D8, D9 and PA/L; and
  - Cast in-situ of slip roads C.



**Table 1.1 Key Project Contacts**

Party	Role	Name	Position	Phone No.	Fax No.
HyD	Permit Holder	Mr. Kroc Leung	SE2/R8K	2762 3662	2714 5198
		Mr. Esther Yung	E1/R8K	2762 3677	
		Mr. LC Chung	E2/R8K	2762 3613	
MHJV	Engineer	Mr. Conrad Ng	Project Manager	2605 6262	2691 2649
	Engineer's Representative	Mr. D.F. Lilliman	CRE	2959 0010	2959 0290
		Mr. Henry Liu	SRE	2991 1068	
		Mr. Joseph Chi	RE	2991 1034	
Cinotech	Environmental Team	Dr. Priscilla Choy	The ET Leader	2151 2089	3107 1388
		Miss Attle Hui	Audit Team Leader	2151 2093	
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
CH2M	Independent Environmental Checker	Mr. David Yeung	Independent Environmental Checker	2872 2934	2507 2293
		Mr. Billy Yu	Assistant Independent Environmental Checker	2872 2949	
Acciona	Contractor	Mr. Rafael Rubio	Project Director	2956 3300	2956 3331
		Mr. Lawrence Kwok	QA/E Manager		
24-hour Emergency Hotline				2370 9200	-

### Summary of EM&A Requirements

1.12 The EM&A programme requires construction phase monitoring for air quality and construction noise, and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.13 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 4 of this report.

1.14 This report presents the environmental monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely dust and noise levels and audit works for the Project in the reporting month.

## 2. AIR QUALITY

### Monitoring Requirements

- 2.1 Monitoring of 1-hour and 24-hour TSP was conducted to monitor the air quality. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

### Monitoring Locations

- 2.2 One designated monitoring station, AM2 was selected for impact dust monitoring for the Project. **Table 2.1** describes the air quality monitoring location, which is also depicted in **Figures 1**.

**Table 2.1 Locations for Air Quality Monitoring**

Monitoring Station	Description	Location
AM2	Lai Chi Kok Park Sports Centre	Rooftop

### Monitoring Equipment

- 2.3 **Table 2.2** summarizes the equipment used for the air quality monitoring. Copies of calibration certificates are attached in **Appendix B**.

**Table 2.2 Air Quality Monitoring Equipment**

Equipment	Model and Make	Quantity
Calibrator	GMW25; S/N: 1536	1
HVS Sampler	Graseby GMW Model GS2310 High Volume TSP Sampler and associated equipment and shelter	1

### Monitoring Parameters, Frequency and Duration

- 2.4 **Table 2.3** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting period is shown in **Appendix C**.

**Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration**

Parameters	Frequency
1-hr TSP	Three times / 6 days
24-hr TSP	Once / 6 days

## Monitoring Methodology and QA/QC Procedure

### Instrumentation

- 2.5 Graseby GMW Model GS2310 TSP High Volume Sampler (HVS) was employed for 1-hour & 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in Sections 2.2 to 2.4 of the EM&A Manual (1999).

### Operating/Analytical Procedures

- 2.6 Operating/analytical procedures for the operation of HVS were as follows:
- A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
  - No two samplers were placed less than 2 meters apart.
  - The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
  - A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
  - A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
  - No furnaces or incineration flues were nearby.
  - Airflow around the sampler was unrestricted.
  - The sampler was more than 20 meters from the drip line.
  - Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.
- 2.7 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m<sup>3</sup>/min. and 1.4 m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- 2.8 For TSP sampling, fiberglass filters (G810) were used.
- 2.9 The power supply was checked to ensure the sampler worked properly.
- 2.10 On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- 2.11 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- 2.12 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

- 2.13 The shelter lid was closed and secured with the aluminum strip.
- 2.14 The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- 2.15 After sampling, the filter was removed and sent to the laboratory for weighing. The elapsed time was also recorded.
- 2.16 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than  $\pm 3^\circ\text{C}$ ; the relative humidity (RH) should be  $< 50\%$  and not vary by more than  $\pm 5\%$ . A convenient working RH is 40%.

#### Maintenance/Calibration

- 2.17 The following maintenance/calibration was required for the HVS:
- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
  - High volume samplers were calibrated at bi-monthly intervals using GMW-25 Calibration Kit throughout all stages of the air quality monitoring.

#### **Results and Observations**

- 2.18 All TSP monitoring was conducted as scheduled in this reporting month.
- 2.19 No Action/Limit Level exceedance was recorded for both 1-hr and 24-hr TSP monitoring in the reporting month.
- 2.20 Wind data monitoring equipment has been installed in Shatin Heights for logging wind speed and wind direction. These wind data for the reporting month is summarized in **Appendix D**.
- 2.21 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices E** and **F**, respectively.

### 3. NOISE

#### Monitoring Requirements

- 3.1 Monitoring and audit of construction noise levels is required to be conducted, in accordance with the EM&A Manual, to ensure that any unacceptable noise impacts could be readily detected and timely and appropriate action be undertaken to rectify the situation.
- 3.2 The construction noise levels shall be measured in terms of the A-weighted equivalent continuous sound pressure level (Leq). Leq (30min) shall be used as the monitoring parameter for the time period between 0700-1900 hours on normal weekdays. For all other time periods, Leq (5min) shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. As supplementary information for data auditing, statistical results such as  $L_{10}$  and  $L_{90}$  shall also be obtained for reference.
- 3.3 Four designated noise monitoring stations, namely NM4, NM8a, NM8b and NM9 were selected for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

#### Monitoring Locations

- 3.4 Noise monitoring was conducted at five designated monitoring stations as summarized in **Table 3.1**. **Figures 1** show the locations of these stations.

**Table 3.1** Noise Monitoring Stations

Stations*	Description	Location
NM4	Mei Foo Sun Chuen, Phase 5	Rooftop of Block 9
NM8a	Nob Hill	M/F of Car Park
NM8b	Nob Hill	3/F of Car Park
NM9	Hoi Lai Estate	G/F of Hoi Fai House

- (1) Renovation work was undertaken at the Lai Chi Kok Reception Centre (NM2) and the centre was found vacated. The noise monitoring was suspended since December 2004. Approval for the change of EM&A Programme was granted by EPD on 30<sup>th</sup> December 2004.
- (2) The Lai Chi Kok Hospital (NM3) was also found vacated and noise monitoring has been suspended since January 2005, as approved by EPD on 15<sup>th</sup> March 2005.

- 3.5 Stations NM8a and NM8b were installed at Nob Hill in May 2004. Station NM8b is located at 3/F of the car park of Nob Hill, which is strongly influenced by traffic noise from Ching Cheung Road. The measurement at this station is for reference purpose, but not for compliance check of construction noise. The measured noise level at Station NM8a, which is located at M/F of car park and closer to the construction site, acts as an indicator of the construction noise. Since the domestic premises are located above 5/F, noise assessment would be performed to assess the level of nuisance resulting from the construction noise at the domestic premises whenever the measured noise level at NM8a exceeds the noise limit level.

- 3.6 A new housing estate, Hoi Lai Estate, became one of the noise sensitive receivers close to the Project site. As recommended by the Regional (West) Office of EPD, noise monitoring at this location (Station NM9) was newly included in the EM&A programme. Approval for the change of EM&A programme was granted by EPD on 30<sup>th</sup> December 2004.

### Monitoring Equipment

- 3.7 **Table 3.2** summarizes the noise monitoring equipment model being used. Copies of calibration certificates are attached in **Appendix B**.

**Table 3.2 Noise Monitoring Equipment**

Equipment	Model and Make	Qty.
Integrating Sound Level Meter	B&K Model 2238	5
Calibrator	B&K 4231	2
Wind Speed Anemometer	RS232 Integral Vane Digital Anemometer	1

### Monitoring Parameters, Frequency and Duration

- 3.8 **Table 3.3** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix C**.

**Table 3.3 Noise Monitoring Parameters, Frequency and Duration**

Stations	Parameter	Period	Frequency	Measurement
NM4	L <sub>10</sub> (30 min.)dB(A) L <sub>90</sub> (30 min.)dB(A) L <sub>eq</sub> (30 min.)dB(A)	0700-1900 hrs. on weekdays	Once per week	Façade
NM8a				Façade
NM8b				Façade
NM9				Façade

### Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was generally set on a tripod at a height of 1.2 m above the ground, depending to the actual monitoring condition.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement : 30 minutes / 5 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was 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.
- The wind speed was frequently checked with the portable wind meter.

- At the end of the monitoring period, the  $L_{eq}$ ,  $L_{90}$  and  $L_{10}$  were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

### **Maintenance and Calibration**

- 3.9 The microphone head of the sound level meter and calibrator was cleaned with soft cloth regularly.
- 3.10 The meters were sent to the supplier to check and calibrate on a yearly interval.

### **Results and Observations**

- 3.11 Noise monitoring was performed at the four designated locations as scheduled in this reporting month.
- 3.12 All the Construction Noise Levels (CNLs) reported in this report, except those collected at Stations NM8a, NM8b and NM9, were adjusted with the corresponding baseline level (i.e. Measured  $L_{eq}$  – Baseline  $L_{eq}$  = Measured CNL), in order to facilitate the interpretation of the noise exceedance.
- 3.13 Noise monitoring results and graphical presentations are shown in **Appendix G**.
- 3.14 One Action Level (noise complaint) exceedance was recorded on 22<sup>nd</sup> May 2006. No Limit Level exceedance was recorded in the reporting month.
- 3.15 The complaint was referred to ET by EPD on 22<sup>nd</sup> May 2006. It was about the noise produced from construction work during the periods between 2300 hours and 0100 hours every night since three weeks ago. The complainant described the noise being like sound of pouring concrete.
- 3.16 According to the RSS's records, only precast segment transportation works at concerned area (which was used as the segment storage yard) near Pier P5L to Piers near Mui Kong Tsuen. No concreting activities were carried out at the abovementioned area between 2300 hours and 0100 hours every night in the concerned period. The above night works were undertaken the three construction noise permits CNP No.GW-RW0740-05, GW-RW0145-06, GW-RW0269-06.
- 3.17 An ad-hoc inspection was carried out by the Environmental Team at 2300 on 26/5/06. No construction activities were carried out such as segment transportation works near Pier 5L, where the tractor and mobile crane were throttled down. Therefore, no noise monitoring was carried out.
- 3.18 Based on the information collected, the complaint was considered not justifiable. The

complaint report was issued on 1 June 2006 and the detail of the complaint is shown in **Appendix M**.

- 3.19 At Stations NM8a and NM8b, the major noise source identified during the monitoring exercises was mainly the road traffic noise.
- 3.20 At Station NM4 and NM9, construction noise from the Project and occasionally the traffic noise were identified as the major noise source during monitoring.



#### 4. ENVIRONMENTAL AUDIT

##### Site Audits

- 4.1 Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix I**.
- 4.2 Site audits were conducted on 3<sup>rd</sup>, 10<sup>th</sup>, 17<sup>th</sup>, 24<sup>th</sup> and 29<sup>th</sup> May 2006 by ET.

##### Review of Environmental Monitoring Procedures

- 4.3 The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

##### *Air Quality Monitoring*

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

##### *Noise Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

##### Status of Environmental Licensing and Permitting

- 4.4 All permits/licenses obtained for the Project are summarized in **Table 4.1**. Eight new CNPs were issued to the Project in the reporting month.

##### Implementation Status of Environmental Mitigation Measures

- 4.5 According to the Environmental Permit and the EM&A Manuals, the mitigation measures detailed in the documents are required to be implemented. An updated summary of the EMIS is provided in **Appendix K**.

**Table 4.1 Summary of Environmental Licensing and Permit Status**

Permit No.	Valid Period		Details	Status
	From	To		
<b>Environmental Permit (EP)</b>				
EP-103/2001/C	22/7/05	N/A	<p><u>Construction and operation of</u></p> <p>(a) All civil works (including highways, traffic, geotechnical, drainage, structural, architectural and landscaping works) for the Lai Chi Kok Viaduct, the interchange with Ching Cheung Road, the main road within Butterfly Valley and the Eagle's Nest Tunnel;</p> <p>(b) All E&amp;M works (including ventilation, Traffic Control &amp; Surveillance System (TCSS), toll collection system and lighting) for the whole Route 9 between Cheung Sha Wan and Sha Tin;</p> <p>(c) The permanent slope works above the northern portal of the Eagle's Nest Tunnel;</p> <p>(d) The architectural works (including fitting out and furnishings) of the portal buildings of the Sha Tin Heights Tunnel.</p>	Valid
<b>Registration of Chemical Waste Producer</b>				
WPN 5213-261-N2413-04	17/11/03	N/A	N/A	Valid
<b>Water Discharge Licence</b>				
EP482/260/251/1	05/12/03	31/12/08	Discharge of industrial trade effluent arising from the construction site at Route 9 – Lai Po Road Section of Lai Chi Kok Viaduct (Contract HY/2003/01).	Valid
EP482/260/251/2	15/12/03	31/12/08	Discharge of industrial trade effluent arising from the construction site at Route 9 – Lai Chi Kok Viaduct excluding Lai Po Road Section.	Valid
<b>Construction Noise Permit (CNP)</b>				
GW-RW0699-05	7/11/05	5/5/06	<p><i>Location:</i> Lai Po Road near West Kowloon Highway</p> <p><i>Time Period:</i> Any day not being a general holiday between 2100-0700 hrs</p>	Expired
GW-RW0738-05 (replaced by GW-RW0270-06)	15/11/05	14/5/06	<p><i>Location:</i> Lai Po Road near Hoi Lai Estate</p> <p><i>Time Period:</i> General holidays (including Sundays) between 0700-2300 hrs and any other days between 1900-2300 hrs</p>	Expired
GW-RW0740-05 (replaced by GW-RW0269-06)	16/11/05	14/5/06	<p><i>Location:</i> Lai Po Road near Yuet Lun Street</p> <p><i>Time Period:</i> Whole day of general holidays (including Sundays) and any other days between 1900-0700 hrs on next day</p>	Expired
GW-RW0745-05	18/11/05	17/5/06	<p><i>Location:</i> Ching Cheung Road near LCK Swimming Pool</p> <p><i>Time Period:</i> Whole day of general holidays (including Sundays) and any other days between 1900-0700 hrs on next day</p>	Expired
GW-RW0780-05 (replaced by GW-RW0135-06)	5/12/05	4/5/06	<p><i>Location:</i> Butterfly Valley, Lai Chi Kok</p> <p><i>Time period:</i> general holiday including Sundays between 0900-2300 hrs and any day not being a general holiday between 0000-0700 hrs and 1900-2400</p>	Expired
GW-RW0844-05 (replaced by GW-RW0258-06)	15/1/06	14/6/06	<p><i>Location:</i> Butterfly Valley</p> <p><i>Time Period:</i> Whole day of general holidays (including Sundays) and any other days between 1900-0700 hrs on next day</p>	Valid

Permit No.	Valid Period		Details	Status
	From	To		
GW-RW0867-05	3/2/06	2/8/06	<i>Location:</i> Hing Wah Street West (Jetty Area) <i>Time Period:</i> Whole day of general holidays (including Sundays) and any other days between 1900-0700 hrs on next day	Valid
GW-RW0083-06 (replaced by GW-RW0121-06)	18/2/06	17/8/06	<i>Location:</i> Ching Cheung Road near Mei Foo Sun Chuen <i>Time Period:</i> General holidays (including Sundays) between 0700-2300 hrs and any other days between 1900-2300 hrs	Valid
GW-RW0091-06	19/2/06	13/8/06	<i>Location:</i> Ching Cheung Road near CLP Substation <i>Time Period:</i> General holidays (including Sundays) between 0900-2100 hrs	Valid
GW-RW0093-06 (replaced by GW-RW0244-06)	26/2/06	21/5/06	<i>Location:</i> Ching Cheung Road near Lai Wan Road <i>Time Period:</i> General holidays (including Sundays) between 0700-1900 hrs	Expired
GW-RW0121-06	11/3/06	6/9/06	<i>Location:</i> Ching Cheung Road near Castle Peak Road <i>Time Period:</i> Whole day of general holidays (including Sundays) and any other days between 1900-0700 hrs on next day	Valid
GW-RW0135-06	16/3/06	15/9/06	<i>Location:</i> Butterfly Valley <i>20/03/06 to 31/03/06 Time Period:</i> Whole day of general holidays (including Sundays) and any other days between 1900-0700 hrs on next day <i>1/4/06 to 15/9/06 Time Period:</i> General holidays (including Sundays) between 0900-2300 hrs and any other days between 1900-0700 hrs on next day	Valid
GW-RW0142-06	22/3/06	15/9/06	<i>Location:</i> Lai Wan Road <i>Time Period:</i> Any day not being a general holiday between 2100-0700 hrs on next day	Valid
GW-RW0145-06	31/3/06	30/9/06	<i>Location:</i> Lai Po Road and Yuet Lun Street <i>Time Period:</i> Any day not being a general holiday between 2100-0700 hrs on next day	Valid
GW-RW0146-06	22/3/06	19/9/06	<i>Location:</i> Lai Wan Road <i>Time Period:</i> Whole day of general holidays (including Sundays) and any other days between 1900-0700 hrs on next day	Valid
GW-RW0173-06	31/3/06	30/9/06	<i>Location:</i> Butterfly Valley Road, Lai Chi Kok <i>Time period:</i> General holiday including Sundays between 0000-2300 hrs and any day not being a general holiday between 1900-2300	Valid
GW-RW0192-06	7/4/06	6/10/06	<i>Location:</i> Junction of Ching Cheung Road and Castle Peak Road <i>Time Period:</i> General holidays (including Sundays) between 0700-2300 hours and any other days between 1900-2300 hours	Valid
GW-RW0244-06	27/4/06	26/9/06	<i>Location:</i> Ching Cheung Road near Mei Foo Sun Chuen <i>Time Period:</i> General holiday (included Sundays) between 0700-2300 hours and any day not being a general holiday between 1900-2300 hours.	Valid (new)

Permit No.	Valid Period		Details	Status
	From	To		
GW-RW0257-06	4/5/06	3/10/06	<i>Location:</i> Castle Peak Road near Ching Cheung Road <i>Time Period:</i> General holiday (includes Sundays) between 0700-2300 hours and any day not being a general holiday between 1900-2300 hours.	Valid (new)
GW-RW0258-06	5/5/06	4/10/06	<i>Location:</i> Butterfly Valley <i>Time Period:</i> General holiday (includes Sundays) between 0000-2400 hours and any day not being a general holiday between 1900-0700 hours.	Valid (new)
GW-RW0269-06	15/5/06	14/11/06	<i>Location:</i> Lai Po Road near Yuet Lun Street <i>Time Period:</i> General holiday (includes Sundays) between 0000-2400 hours and any day not being a general holiday between 1900-0700 hours.	Valid (new)
GW-RW0270-06	15/5/06	14/11/06	<i>Location:</i> Lai Po Road near Hoi Lai Estate <i>Time Period:</i> General holiday (includes Sundays) between 0000-2400 hours and any day not being a general holiday between 1900-0700 hours.	Valid (new)
GW-RW0271-06	15/5/06	10/11/06	<i>Location:</i> Ching Cheung Road near Butterfly Valley Road <i>Time Period:</i> Any day not being a general holiday between 2100-2400 hours (immediately following a general holiday) and between 2100-0700 hours (not immediately following a general holiday).	Valid (new)
GW-RW0276-06	15/5/06	11/11/06	<i>Location:</i> Butterfly Valley Road near Lai Chi Kok Interchange <i>Time Period:</i> Any day not being a general holiday between 2100-2400 hours (immediately following a general holiday) and between 2100-0700 hours (not immediately following a general holiday).	Valid (new)
GW-RW0319-06	30/5/06	26/11/06	<i>Location:</i> Ching Cheung Road near Butterfly Valley Road <i>Time Period:</i> General holiday (includes Sundays) between 0000-2400 hours and any day not being a general holiday between 1900-0700 hours.	Valid (new)

4.6 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations are summarized in **Table 4.2**.

### Summary of Exceedances

#### 1-hr and 24-hr TSP Monitoring

4.7 No Action/Limit Level exceedance was recorded in the reporting month.

#### Construction Noise Monitoring

4.8 One Action Level (noise complaint) exceedance was recorded on 22<sup>nd</sup> May 2006. No Limit Level exceedance was recorded in the reporting month.

4.9 The complaint was referred to ET by EPD on 22<sup>nd</sup> May 2006. It was about the noise produced from construction work during the periods between 2300 hours and 0100 hours every night since three weeks ago. The complainant described the noise being like sound of pouring concrete. According to the RSS's records, only precast segment transportation works at concerned area (which was used as the segment storage yard) near Pier P5L to Piers near Mui Kong Tsuen. No concreting activities were carried out at the abovementioned area between 2300 hours and 0100 hours every night in the concerned period. The above night works were undertaken the three construction noise permits CNP No.GW-RW0740-05, GW-RW0145-06, GW-RW0269-06. An ad-hoc inspection was carried out by the Environmental Team at 2300 on 26/5/06. No construction activities were carried out such as segment transportation works near Pier 5L, where the tractor and mobile crane were throttled down. Based on the information collected, the complaint was considered not justifiable. The complaint report was issued on 1 June 2006 and the detail of the complaint is shown in **Appendix M**.

### Implementation Status of Event Action Plans

4.10 The Event Action Plans for air quality and construction noise are presented in **Appendix J**.

**Table 4.2 Observations and Recommendations of Site Audits**

Parameters	Date	Observations and Recommendations	Follow-up
<i>Water Quality</i>	10-May-06	Standing water was observed in drip tray at site Wan man Tsuen. It should be cleaned up avoid flooding and mosquito breeding.	The situation was found improved / rectified during the audit on 17-May-06.
	29-May-06	Yellow surface runoff directly discharge to public drain was observed at site at C14. De-silting measures should be improved before discharge.	The situation would be followed in June 2006.
<i>Chemical Management</i>	24-May-06	Two drums of diesel oil without drip tray were observed on bare ground at Mui Kong Tsuen. Drip Tray should be provided to avoid spillage.	The situation was found improved / rectified during the audit on 29-May-06.

### Summary of Complaint and Prosecution

- 4.11 One public complaint was received on 22<sup>nd</sup> May 2006 about construction noise nuisance in the reporting month.
- 4.12 No prosecution was received in the reporting month.
- 4.13 There were 25 environmental complaints referred to the ET and 1 prosecution received since the commencement of the Project. The Complaint Log is attached in **Appendix M**.

## 5. FUTURE KEY ISSUES

### Key Issues for the Coming Month

5.1 Key issues to be considered in the coming month include:

- Construction noise from excavation, construction of cross head of column, slope works and retaining wall at Pier P2, CCR-S1, CCR-S3, CCR-S4 and CCR-R1 to CCR-R6;
- Surface runoff generated at the areas CCR-S3, CCR-S4 and CCR-R1 to CCR-R6;
- Dust generation from stockpiles of dusty materials, exposed retain wall, excavation works and soil nail installations at CCR-S1, CCR-S4, CCR-R1 to CCR-R6;
- Standing water accumulated within the site after rains; and
- Nighttime construction noise from segment transportation and segment erection at Pier P20.

### Monitoring Schedule for the Next Month

5.2 The tentative monitoring schedule for the next month is shown in **Appendix C**.

### Construction Program for the Next Month

5.3 The major construction activities in coming months include:

- Construction of cross head of column at Pier P2;
- Bulk excavation works at slope CCR-S1;
- Soil nail installation at slope CCR-S4;
- Bulk excavation works at slope CCR-S4, CCR-R3, CCR-R4 & CCR-R6;
- Retaining wall construction at CCR-R1 to CCR-R6, LCK-R1;
- Drainage works at Rest Garden area, Hoi Lai Estate & piers B1;
- Offsite fabrication of pre-cast deck segment mould and segment casting;
- Segment erection by launching gantry at night at Pier P20;
- Cast in-situ of slip road C;
- Cast in-situ and precast segment erection at slip road D; and
- Segment erection by lifting crane at pier C6, D3, D8 & Abutment M

5.4 The tentative construction program for the Project is provided in **Appendix L**.

## 6. CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 6.1 Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.
- 6.2 One public complaint was received on 3<sup>rd</sup> May 2006 about construction noise nuisance in the reporting month.
- 6.3 No prosecution was received in the reporting month.

### Recommendations

- 6.4 According to the environmental audit performed in the reporting month, the following recommendations were made:

#### *Water Impact*

- To ensure properly maintenance for de-silting facilities
- To review and implement temporary drainage system for the upcoming wet season.
- To review the capacity of de-silting facilities for discharge.

#### *Noise Impact*

- To provide temporary noise barriers for noisy activities, such as breaking works.
- To review the works sequence of site activities so as to reduce the number of noisy equipment in concurrent operation.
- To employ quiet powered mechanical equipment if possible.
- To ensure compliance of CNP conditions during restricted-hour works.

#### *Dust Impact*

- To ensure water spray is applied for the dust emissive works, such as soil nail installation, loading and unloading of soil materials, excavation works.
- To cover soil stockpiles and exposed slope surface by impervious sheets or other means.

#### *Waste / Chemical Management*

- To ensure the performance of sorting of C&D materials at source (during generation);
- To carry out inspection of dump truck at site exit to ensure inert and non-inert C&D materials are properly segregated before removing off site.
- To ensure proper collection and disposal of rubbish generated on site.
- To avoid any discharge or accidental spillage of chemical waste directly from the site.

---

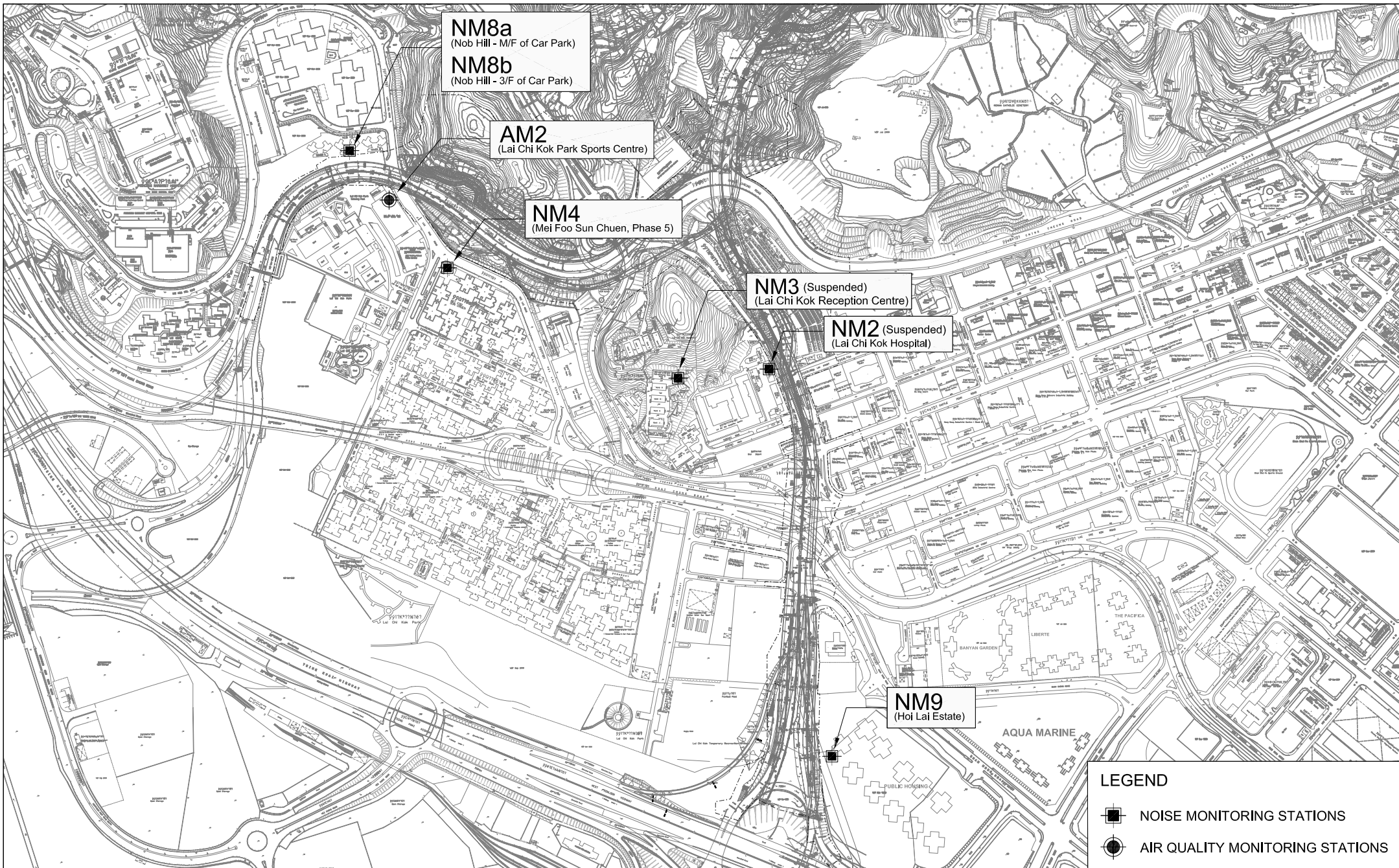
---

## FIGURES

---

---





LEGEND	
	NOISE MONITORING STATIONS
	AIR QUALITY MONITORING STATIONS

Title ROUTE 8 (PREVIOUSLY KNOWN AS ROUTE 9) BETWEEN CHEUNG SHA WAN AND SHA TIN  
CONTRACT HY/2003/01 - LAI CHI KOK VIADUCT

LOCATIONS OF MONITORING STATIONS

Scale	1 : 8000 (A4)	Project No.	MA3024
Date	2006	Figure No.	1



---

---

**APPENDIX A  
ACTION AND LIMIT LEVELS**

---

---

## Appendix A - Action and Limit Levels (LCKV)

### 1-Hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM2	301	500

### 24-Hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM2	177	260

### Construction Noise

Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)
0700-2300 hrs on holidays & 1900-2300 hrs on all other days		70* dB(A)
2300-0700 hrs of next day		55* dB(A)

(\*) The Area Sensitivity Rating for the noise monitoring stations (NM4, NM8a, NM8b and NM9) is taken as C, according to Table 1 of EPD's Technical Memorandum on Noise from Construction Work other than Percussive Piling.

---

---

**APPENDIX B  
COPIES OF CALIBRATION  
CERTIFICATES**

---

---





# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/06/60502
Date of Issue:	2006-05-02
Date Received:	2006-05-01
Date Tested:	2006-05-01
Date Completed:	2006-05-02

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description : RS232 Integral Vane Digital Anemometer  
Manufacturer : AZ Instrument  
Model No. : 451104  
Serial No. : 9020746  
Equipment No. : A-03-01

**Test conditions:**

Room Temperature : 21 degree Celsius  
Relative Humidity : 66%  
Pressure : 1018.4 kPa

**Methodology:**

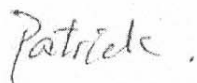
The anemometer has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

**Results:**

	Reference Set Point	Instrument Readings
Measuring Air Velocity, m/s	2.00	2.00
Temperature, °C	21.0	21.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

*Laboratory Manager*



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

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 13, 2006 Roots-meter S/N 9833620 Ta (K) - 294  
 Operator Tisch Orifice I.D. - 0993 Pa (mm) - 746.76

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3890	3.2	2.00
2	NA	NA	1.00	0.9850	6.3	4.00
3	NA	NA	1.00	0.8810	7.8	5.00
4	NA	NA	1.00	0.8410	8.6	5.50
5	NA	NA	1.00	0.6950	12.5	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9917	0.7139	1.4113	0.9957	0.7168	0.8874
0.9876	1.0026	1.9959	0.9916	1.0067	1.2549
0.9854	1.1185	2.2315	0.9894	1.1231	1.4030
0.9844	1.1706	2.3405	0.9884	1.1753	1.4715
0.9792	1.4090	2.8227	0.9832	1.4147	1.7747
Qstd slope (m) = 2.03154			Qa slope (m) = 1.27212		
intercept (b) = -0.03970			intercept (b) = -0.02496		
coefficient (r) = 0.99999			coefficient (r) = 0.99999		
y axis = SQRT[H2O(Pa/760)(298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

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

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

For subsequent flow rate calculations:

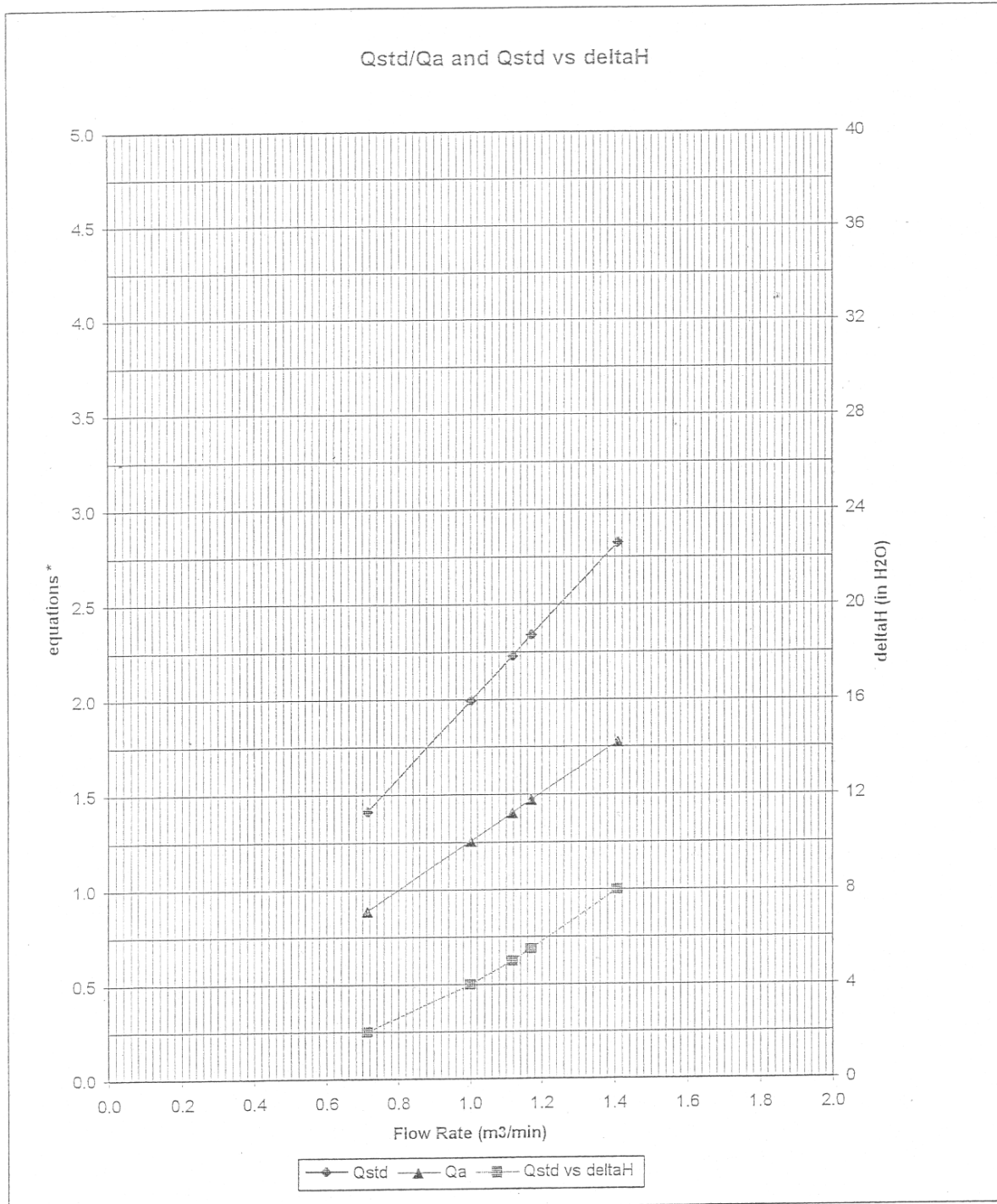
Qstd = 1/m{ [SQRT(H2O(Pa/760)(298/Ta))] - b }  
 Qa = 1/m{ [SQRT H2O(Ta/Pa)] - b }





TISCH ENVIROMENTAL, INC.  
 145 SOUTH MIAMI AVE.  
 VILLAGE OF CLEVELS, OH 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX  
 WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT



\* y-axis equations:

Qstd series: 
$$\sqrt{\Delta H \left( \frac{P_a}{P_{std}} \right) \left( \frac{T_{std}}{T_a} \right)}$$

Qa series: 
$$\sqrt{(\Delta H (T_a / P_a))}$$

#0993

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/51216/1
Date of Issue:	2005-12-16
Date Received:	2005-12-15
Date Tested:	2005-12-15
Date Completed:	2005-12-16
Next Due Date:	2006-12-15

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

#### Item for calibration:

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2337665
Microphone No.	: 2289749
Equipment No.	: N-01-01

#### Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 63%

#### Test Specifications:

Performance checking at 94 and 114 dB

#### Methodology:

In-house method, according to manufacturer instruction manual

#### Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
\_\_\_\_\_  
**PATRICK TSE**  
Operation Manager

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/51116/1
Date of Issue:	2005-11-16
Date Received:	2005-11-15
Date Tested:	2005-11-15
Date Completed:	2005-11-16
Next Due Date:	2006-11-15

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

#### Item for calibration:

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2337666
Microphone No.	: 2289750
Equipment No.	: N-01-02

#### Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 60%

#### Test Specifications:

Performance checking at 94 and 114 dB

#### Methodology:

In-house method, according to manufacturer instruction manual

#### Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

*Patrick*

**PATRICK TSE**  
Operation Manager

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/50905-1
Date of Issue:	2005-09-06
Date Received:	2005-09-05
Date Tested:	2005-09-06
Date Completed:	2005-09-06
Next Due Date:	2006-09-05

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

#### Item for calibration:

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2359311
Microphone No.	: 2346382
Equipment No.	: N-01-03

#### Test conditions:

Room Temperature	: 22 degree Celsius
Relative Humidity	: 65%

#### Test Specifications:

Performance checking at 94 and 114 dB

#### Methodology:

In-house method, according to manufacturer instruction manual

#### Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

*Patrick*

**PATRICK TSE**  
Laboratory Manager

*This test document cannot be reproduced in any way, except in full context, without the prior approval in writing of the laboratory.*

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/50905-2
Date of Issue:	2005-09-06
Date Received:	2005-09-05
Date Tested:	2005-09-05
Date Completed:	2005-09-06
Next Due Date:	2006-09-05

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

**Item for calibration:**

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2359303
Equipment No.	: N-01-04

**Test conditions:**

Room Temperature	: 21 degree Celsius
Relative Humidity	: 62%
Pressure	: 1006.5hPa

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
*Operation Manager*

*This test document cannot be reproduced in any way, except in full context, without the prior approval in writing of the laboratory.*

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/N/51015/1
Date of Issue:	2005-10-15
Date Received:	2005-10-13
Date Tested:	2005-10-14
Date Completed:	2005-10-15
Next Due Date:	2006-10-14

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Certificate of Calibration

#### Item for calibration:

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2394976
Microphone No.	: 2407349
Equipment No.	: N-01-05

#### Test conditions:

Room Temperature	: 22 degree Celsius
Relative Humidity	: 65%

#### Test Specifications:

Performance checking at 94 and 114 dB

#### Methodology:

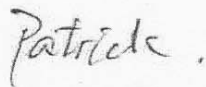
In-house method, according to manufacturer instruction manual

#### Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Operation Manager

*This test document cannot be reproduced in any way, except in full context, without the prior approval in writing of the laboratory.*

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/05/1115-1
Date of Issue:	2005-11-15
Date Received:	2005-11-14
Date Tested:	2005-11-15
Date Completed:	2005-11-15
Next Due Date:	2006-11-14

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2326353
Project No.	: C13
Equipment No.	: N-02-01

### Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 65%
Pressure	: 1015.2 hPa

### Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

Sound Pressure Level	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

*Patrick*

**PATRICK TSE**  
Operation Manager

# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
1602-1610 Delta House,  
3 On Yiu Street,  
Shatin, N.T.

Test Report No.:	C/06/60304
Date of Issue:	2006-03-04
Date Received:	2006-03-03
Date Tested:	2006-03-03
Date Completed:	2006-03-04
Next Due Date:	2007-03-04

**ATTN:** Mr. Henry Leung

Page: 1 of 1

### Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2343007
Project No.	: C13
Equipment No.	: N-02-02

### Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 71%
Pressure	: 1020.1hPa

### Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

Sound Pressure Level	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.2 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

*Patrick .*

**PATRICK TSE**  
Operation Manager



# WELLAB LTD.

Unit C, 1/F, Goldlion Holdings Center  
13-15 Yuen Shun Circuit,  
Shatin, Hong Kong.  
Tel: (852) 2898 7388  
Fax: (852) 2898 7076

## TEST REPORT

**APPLICANT:** **Cinotech Consultants Limited**  
**1602-1610 Delta House,**  
**3 On Yiu Street,**  
**Shatin, N.T.**

Test Report No.:	C/N/50905-1A
Date of Issue:	2005-09-06
Date Received:	2005-09-05
Date Tested:	2005-09-05
Date Completed:	2005-09-06
Next Due Date:	2006-09-05

**ATTN:** **Mr. Henry Leung**

Page: 1 of 1

### Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2412367
Equipment No.	: N-02-03

### Test conditions:

Room Temperature	: 21 degree Celsius
Relative Humidity	: 62%
Pressure	: 1006.5hPa

### Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

### Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

*Patrick .*

**PATRICK TSE**  
*Operation Manager*

---

---

**APPENDIX C  
ENVIRONMENTAL MONITORING AND  
AUDIT SCHEDULE**

---

---

**Environmental Monitoring for Lai Chi Kok Viaduct  
Tentative Air Quality and Noise Monitoring Schedule for May 2006**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>30-Apr</b>	<b>1-May</b>	2-May	3-May	4-May	<b>5-May</b>	6-May
		1 hr TSP 24 hrs TSP	1 hr TSP Noise	1 hr TSP		
<b>7-May</b>	8-May	9-May	10-May	11-May	12-May	13-May
	24 hrs TSP	1 hr TSP Noise	1 hr TSP	1 hr TSP		24 hrs TSP
<b>14-May</b>	15-May	16-May	17-May	18-May	19-May	20-May
		1 hr TSP Noise	1 hr TSP	1 hr TSP	24 hrs TSP	
<b>21-May</b>	22-May	23-May	24-May	25-May	26-May	27-May
		1 hr TSP Noise		1 hr TSP 24 hrs TSP	1 hr TSP	
<b>28-May</b>	29-May	30-May	<b>31-May</b>	1-Jun	2-Jun	3-Jun
	1 hr TSP	24 hrs TSP		1 hr TSP Noise	1 hr TSP	

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

AM2      Lai Chi Kok Sports Centre  
 NM4      Mei Foo Sun Chuen, Phase 5  
 NM8a     M/F of Nob Hill  
 NM8b     3/F of Nob Hill  
 NM9      G/F, Hoi Fai House, Hoi Lai Estate

**Environmental Monitoring for Lai Chi Kok Viaduct  
Tentative Air Quality and Noise Monitoring Schedule for June 2006**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>28-May</b>	29-May	30-May	<b>31-May</b>	1-Jun	2-Jun	3-Jun
	1 hr TSP	24 hrs TSP		1 hr TSP Noise	1 hr TSP	
<b>4-Jun</b>	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun	10-Jun
	24 hrs TSP	1 hr TSP	1 hr TSP Noise	1 hr TSP		24 hrs TSP
<b>11-Jun</b>	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun	17-Jun
	1 hr TSP	1 hr TSP Noise		1 hr TSP	24 hrs TSP	
<b>18-Jun</b>	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun
	1 hr TSP	1 hr TSP Noise		24 hrs TSP	1 hr TSP	
<b>25-Jun</b>	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	<b>1-Jul</b>
		1 hr TSP	1 hr TSP Noise 24 hrs TSP	1 hr TSP		

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

AM2      Lai Chi Kok Sports Centre  
 NM4      Mei Foo Sun Chuen, Phase 5  
 NM8a     M/F of Nob Hill  
 NM8b     3/F of Nob Hill  
 NM9      G/F, Hoi Fai House, Hoi Lai Estate

---

---

**APPENDIX D**  
**WIND DATA**

---

---

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
1-May-2006	00:00	0	SSW
1-May-2006	01:00	0	---
1-May-2006	02:00	0	---
1-May-2006	03:00	0	---
1-May-2006	04:00	0	---
1-May-2006	05:00	0	---
1-May-2006	06:00	0	---
1-May-2006	07:00	0	---
1-May-2006	08:00	0	SSW
1-May-2006	09:00	0	W
1-May-2006	10:00	0.9	SW
1-May-2006	11:00	2.2	SW
1-May-2006	12:00	2.7	SW
1-May-2006	13:00	2.2	SW
1-May-2006	14:00	2.7	SW
1-May-2006	15:00	2.7	SW
1-May-2006	16:00	1.8	SW
1-May-2006	17:00	1.8	SSW
1-May-2006	18:00	1.3	SSW
1-May-2006	19:00	0.9	SW
1-May-2006	20:00	0.9	SSW
1-May-2006	21:00	0.9	SW
1-May-2006	22:00	0.4	S
1-May-2006	23:00	0.4	S
2-May-2006	00:00	0.4	SSW
2-May-2006	01:00	0.4	SW
2-May-2006	02:00	0.4	SW
2-May-2006	03:00	0	W
2-May-2006	04:00	0	WSW
2-May-2006	05:00	0	WSW
2-May-2006	06:00	0	WSW
2-May-2006	07:00	0	---
2-May-2006	08:00	0	WSW
2-May-2006	09:00	0.4	SSW
2-May-2006	10:00	0	SW
2-May-2006	11:00	1.3	SW
2-May-2006	12:00	1.3	SSW
2-May-2006	13:00	1.8	SW
2-May-2006	14:00	1.3	SSW
2-May-2006	15:00	1.8	SSW
2-May-2006	16:00	1.3	SW
2-May-2006	17:00	0.9	SW
2-May-2006	18:00	0.9	NNE
2-May-2006	19:00	0	SE
2-May-2006	20:00	0	SE
2-May-2006	21:00	0	SE
2-May-2006	22:00	0.9	ENE
2-May-2006	23:00	1.8	NE
3-May-2006	00:00	1.8	ENE
3-May-2006	01:00	0.9	ENE
3-May-2006	02:00	0.9	NE
3-May-2006	03:00	1.8	NE
3-May-2006	04:00	1.3	NE
3-May-2006	05:00	0.4	ENE

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
3-May-2006	06:00	0	SW
3-May-2006	07:00	0.9	ENE
3-May-2006	08:00	0.9	N
3-May-2006	09:00	0	SSW
3-May-2006	10:00	0	SSW
3-May-2006	11:00	0	S
3-May-2006	12:00	0.4	W
3-May-2006	13:00	0	W
3-May-2006	14:00	0.4	NNW
3-May-2006	15:00	0	NNW
3-May-2006	16:00	0.4	NNW
3-May-2006	17:00	0	NNW
3-May-2006	18:00	0.4	NNW
3-May-2006	19:00	0	NNE
3-May-2006	20:00	0	E
3-May-2006	21:00	0	E
3-May-2006	22:00	0	E
3-May-2006	23:00	0	SE
4-May-2006	00:00	0	SSE
4-May-2006	01:00	0	SE
4-May-2006	02:00	0	SE
4-May-2006	03:00	0	SE
4-May-2006	04:00	0	SE
4-May-2006	05:00	0	SE
4-May-2006	06:00	0	SE
4-May-2006	07:00	0	NE
4-May-2006	08:00	0.4	E
4-May-2006	09:00	0.4	ENE
4-May-2006	10:00	0.9	ENE
4-May-2006	11:00	1.8	ENE
4-May-2006	12:00	0.9	ENE
4-May-2006	13:00	0.9	NE
4-May-2006	14:00	1.3	ENE
4-May-2006	15:00	1.3	ENE
4-May-2006	16:00	3.1	WSW
4-May-2006	17:00	2.7	WSW
4-May-2006	18:00	4	W
4-May-2006	19:00	2.2	W
4-May-2006	20:00	2.2	WSW
4-May-2006	21:00	1.8	W
4-May-2006	22:00	3.6	WSW
4-May-2006	23:00	2.2	WSW
5-May-2006	00:00	2.2	SSW
5-May-2006	01:00	2.2	W
5-May-2006	02:00	2.2	WSW
5-May-2006	03:00	2.2	SW
5-May-2006	04:00	2.7	WSW
5-May-2006	05:00	1.8	SW
5-May-2006	06:00	1.8	SW
5-May-2006	07:00	1.3	S
5-May-2006	08:00	0.4	S
5-May-2006	09:00	0.9	NW
5-May-2006	10:00	2.2	N
5-May-2006	11:00	1.3	N

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
5-May-2006	12:00	1.3	NNW
5-May-2006	13:00	1.8	N
5-May-2006	14:00	3.6	NNE
5-May-2006	15:00	4	N
5-May-2006	16:00	4	N
5-May-2006	17:00	4	NNE
5-May-2006	18:00	3.1	N
5-May-2006	19:00	3.1	NNE
5-May-2006	20:00	3.1	N
5-May-2006	21:00	3.1	NNE
5-May-2006	22:00	2.7	NNE
5-May-2006	23:00	3.6	NNE
6-May-2006	00:00	3.1	NE
6-May-2006	01:00	4	NNE
6-May-2006	02:00	3.1	NNE
6-May-2006	03:00	1.8	NNE
6-May-2006	04:00	1.8	NE
6-May-2006	05:00	1.8	ENE
6-May-2006	06:00	1.8	NE
6-May-2006	07:00	2.2	NNE
6-May-2006	08:00	2.7	NNE
6-May-2006	09:00	3.1	NNE
6-May-2006	10:00	3.1	NNE
6-May-2006	11:00	4.9	N
6-May-2006	12:00	4.9	NNE
6-May-2006	13:00	4.5	NNE
6-May-2006	14:00	5.4	NNE
6-May-2006	15:00	4.9	NNE
6-May-2006	16:00	4	NE
6-May-2006	17:00	3.6	NE
6-May-2006	18:00	3.1	NE
6-May-2006	19:00	3.6	NNE
6-May-2006	20:00	2.2	NNE
6-May-2006	21:00	1.8	NE
6-May-2006	22:00	1.3	NE
6-May-2006	23:00	0.4	ENE
7-May-2006	00:00	0	---
7-May-2006	01:00	0.9	E
7-May-2006	02:00	1.8	NE
7-May-2006	03:00	0.9	ENE
7-May-2006	04:00	0.4	ENE
7-May-2006	05:00	0.4	ENE
7-May-2006	06:00	0.4	E
7-May-2006	07:00	0	ENE
7-May-2006	08:00	1.3	NNE
7-May-2006	09:00	2.2	NE
7-May-2006	10:00	3.1	NE
7-May-2006	11:00	3.6	NNE
7-May-2006	12:00	3.6	NNE
7-May-2006	13:00	3.6	NE
7-May-2006	14:00	4	NNE
7-May-2006	15:00	2.7	NE
7-May-2006	16:00	2.7	NE
7-May-2006	17:00	2.7	NNE



## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
7-May-2006	18:00	1.8	NNE
7-May-2006	19:00	1.8	E
7-May-2006	20:00	1.3	E
7-May-2006	21:00	0	E
7-May-2006	22:00	0.4	NNE
7-May-2006	23:00	0.4	NNE
8-May-2006	00:00	0	NNE
8-May-2006	01:00	0	NNE
8-May-2006	02:00	0	ENE
8-May-2006	03:00	0.4	NE
8-May-2006	04:00	0	E
8-May-2006	05:00	0	E
8-May-2006	06:00	0	---
8-May-2006	07:00	0	NE
8-May-2006	08:00	1.8	NNE
8-May-2006	09:00	2.2	NNE
8-May-2006	10:00	2.7	NE
8-May-2006	11:00	3.1	NE
8-May-2006	12:00	3.1	NE
8-May-2006	13:00	3.6	NE
8-May-2006	14:00	3.6	NE
8-May-2006	15:00	3.6	NE
8-May-2006	16:00	2.7	NE
8-May-2006	17:00	3.1	NE
8-May-2006	18:00	2.2	E
8-May-2006	19:00	1.3	ENE
8-May-2006	20:00	1.8	NE
8-May-2006	21:00	1.3	NE
8-May-2006	22:00	1.3	NE
8-May-2006	23:00	1.3	NE
9-May-2006	00:00	1.3	NE
9-May-2006	01:00	1.3	NE
9-May-2006	02:00	0.9	NE
9-May-2006	03:00	0.9	NE
9-May-2006	04:00	1.3	E
9-May-2006	05:00	0.4	E
9-May-2006	06:00	0	ENE
9-May-2006	07:00	0.4	NE
9-May-2006	08:00	1.3	NE
9-May-2006	09:00	2.7	NNE
9-May-2006	10:00	2.7	NE
9-May-2006	11:00	3.6	N
9-May-2006	12:00	4	NE
9-May-2006	13:00	3.6	NNE
9-May-2006	14:00	3.6	NNE
9-May-2006	15:00	3.1	NE
9-May-2006	16:00	4	NE
9-May-2006	17:00	3.6	NE
9-May-2006	18:00	3.1	NE
9-May-2006	19:00	2.2	NE
9-May-2006	20:00	1.8	ENE
9-May-2006	21:00	1.3	E
9-May-2006	22:00	1.3	E
9-May-2006	23:00	1.3	E

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
10-May-2006	00:00	2.2	E
10-May-2006	01:00	1.3	E
10-May-2006	02:00	0.9	E
10-May-2006	03:00	1.3	E
10-May-2006	04:00	1.3	ENE
10-May-2006	05:00	0.4	E
10-May-2006	06:00	0	NE
10-May-2006	07:00	0.9	NE
10-May-2006	08:00	1.8	NNE
10-May-2006	09:00	3.6	NNE
10-May-2006	10:00	3.1	NNE
10-May-2006	11:00	3.6	NE
10-May-2006	12:00	3.6	NNE
10-May-2006	13:00	4.5	NE
10-May-2006	14:00	3.6	NE
10-May-2006	15:00	3.6	NE
10-May-2006	16:00	2.7	NE
10-May-2006	17:00	2.2	NNE
10-May-2006	18:00	1.3	NE
10-May-2006	19:00	0.9	E
10-May-2006	20:00	0.9	E
10-May-2006	21:00	0	E
10-May-2006	22:00	0.4	E
10-May-2006	23:00	0	E
11-May-2006	00:00	0	ESE
11-May-2006	01:00	0.4	E
11-May-2006	02:00	0	E
11-May-2006	03:00	0	---
11-May-2006	04:00	0	E
11-May-2006	05:00	0	E
11-May-2006	06:00	0	---
11-May-2006	07:00	0	---
11-May-2006	08:00	0	---
11-May-2006	09:00	0.9	W
11-May-2006	10:00	2.7	W
11-May-2006	11:00	2.2	WNW
11-May-2006	12:00	4	WNW
11-May-2006	13:00	3.6	WNW
11-May-2006	14:00	4.5	W
11-May-2006	15:00	4	WNW
11-May-2006	16:00	4.5	WNW
11-May-2006	17:00	4	WNW
11-May-2006	18:00	4.9	WNW
11-May-2006	19:00	2.7	WNW
11-May-2006	20:00	3.1	WNW
11-May-2006	21:00	3.1	WNW
11-May-2006	22:00	4.9	WNW
11-May-2006	23:00	3.6	WNW
12-May-2006	00:00	3.1	WNW
12-May-2006	01:00	3.1	WNW
12-May-2006	02:00	3.1	WNW
12-May-2006	03:00	3.6	W
12-May-2006	04:00	4	WNW
12-May-2006	05:00	4.5	W

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
12-May-2006	06:00	3.6	WNW
12-May-2006	07:00	3.1	WNW
12-May-2006	08:00	3.1	W
12-May-2006	09:00	3.1	WNW
12-May-2006	10:00	2.7	WNW
12-May-2006	11:00	2.2	W
12-May-2006	12:00	1.8	W
12-May-2006	13:00	2.2	SSW
12-May-2006	14:00	2.2	W
12-May-2006	15:00	1.3	WNW
12-May-2006	16:00	0.4	SSW
12-May-2006	17:00	0.9	W
12-May-2006	18:00	1.3	ENE
12-May-2006	19:00	0.4	NNE
12-May-2006	20:00	0.4	ENE
12-May-2006	21:00	0	---
12-May-2006	22:00	0	---
12-May-2006	23:00	0	---
13-May-2006	00:00	0	NE
13-May-2006	01:00	0	---
13-May-2006	02:00	0	---
13-May-2006	03:00	0	---
13-May-2006	04:00	0	---
13-May-2006	05:00	0	---
13-May-2006	06:00	0	---
13-May-2006	07:00	0	---
13-May-2006	08:00	0	NE
13-May-2006	09:00	0.4	WNW
13-May-2006	10:00	1.3	WNW
13-May-2006	11:00	1.8	W
13-May-2006	12:00	3.1	W
13-May-2006	13:00	5.8	WNW
13-May-2006	14:00	4.9	WSW
13-May-2006	15:00	4.5	W
13-May-2006	16:00	4	WSW
13-May-2006	17:00	3.6	SW
13-May-2006	18:00	4.5	WSW
13-May-2006	19:00	4.9	WSW
13-May-2006	20:00	4.5	WSW
13-May-2006	21:00	4	WSW
13-May-2006	22:00	3.6	WSW
13-May-2006	23:00	4	WSW
14-May-2006	00:00	3.1	W
14-May-2006	01:00	3.1	WSW
14-May-2006	02:00	3.1	WSW
14-May-2006	03:00	3.1	WSW
14-May-2006	04:00	2.7	WSW
14-May-2006	05:00	2.2	WSW
14-May-2006	06:00	3.1	WNW
14-May-2006	07:00	3.6	WNW
14-May-2006	08:00	3.1	WSW
14-May-2006	09:00	4	WSW
14-May-2006	10:00	3.1	WSW
14-May-2006	11:00	4.5	WNW

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
14-May-2006	12:00	4.9	WSW
14-May-2006	13:00	7.6	WNW
14-May-2006	14:00	6.7	WNW
14-May-2006	15:00	4.9	W
14-May-2006	16:00	4.5	WSW
14-May-2006	17:00	4.5	W
14-May-2006	18:00	3.6	WSW
14-May-2006	19:00	1.3	SW
14-May-2006	20:00	0.9	S
14-May-2006	21:00	0.4	WNW
14-May-2006	22:00	0.4	S
14-May-2006	23:00	0	---
15-May-2006	00:00	0.4	WNW
15-May-2006	01:00	0.4	WNW
15-May-2006	02:00	1.8	SW
15-May-2006	03:00	2.2	SW
15-May-2006	04:00	2.7	SW
15-May-2006	05:00	3.1	SW
15-May-2006	06:00	4	WSW
15-May-2006	07:00	3.6	W
15-May-2006	08:00	4	WNW
15-May-2006	09:00	4	WNW
15-May-2006	10:00	3.6	WNW
15-May-2006	11:00	4.5	WNW
15-May-2006	12:00	4.5	W
15-May-2006	13:00	4	WNW
15-May-2006	14:00	3.6	WNW
15-May-2006	15:00	2.7	WSW
15-May-2006	16:00	3.1	WSW
15-May-2006	17:00	4.5	W
15-May-2006	18:00	3.6	W
15-May-2006	19:00	2.7	WNW
15-May-2006	20:00	2.2	W
15-May-2006	21:00	2.2	SW
15-May-2006	22:00	3.6	SW
15-May-2006	23:00	3.1	SW
16-May-2006	00:00	3.1	SW
16-May-2006	01:00	3.6	WSW
16-May-2006	02:00	3.6	SW
16-May-2006	03:00	3.1	WSW
16-May-2006	04:00	2.7	SW
16-May-2006	05:00	4.5	WSW
16-May-2006	06:00	4.9	WSW
16-May-2006	07:00	4.5	WSW
16-May-2006	08:00	4	WSW
16-May-2006	09:00	3.6	WSW
16-May-2006	10:00	3.6	WSW
16-May-2006	11:00	3.6	W
16-May-2006	12:00	5.4	WSW
16-May-2006	13:00	5.4	WSW
16-May-2006	14:00	4.5	WSW
16-May-2006	15:00	4	WSW
16-May-2006	16:00	4	WNW
16-May-2006	17:00	4.9	W

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
16-May-2006	18:00	6.3	WNW
16-May-2006	19:00	4.5	WNW
16-May-2006	20:00	5.8	WNW
16-May-2006	21:00	5.8	WNW
16-May-2006	22:00	5.8	WNW
16-May-2006	23:00	5.4	WSW
17-May-2006	00:00	4.5	WSW
17-May-2006	01:00	5.4	WSW
17-May-2006	02:00	4.9	WSW
17-May-2006	03:00	5.8	WSW
17-May-2006	04:00	6.3	WSW
17-May-2006	05:00	5.8	WSW
17-May-2006	06:00	5.8	WSW
17-May-2006	07:00	6.3	WSW
17-May-2006	08:00	6.3	WSW
17-May-2006	09:00	5.8	W
17-May-2006	10:00	5.8	WSW
17-May-2006	11:00	4.9	W
17-May-2006	12:00	4.5	W
17-May-2006	13:00	4.5	WNW
17-May-2006	14:00	4.5	W
17-May-2006	15:00	4.5	W
17-May-2006	16:00	4	WSW
17-May-2006	17:00	4	W
17-May-2006	18:00	4.5	WNW
17-May-2006	19:00	5.4	SSW
17-May-2006	20:00	5.4	WNW
17-May-2006	21:00	4.5	W
17-May-2006	22:00	2.7	N
17-May-2006	23:00	2.2	E
18-May-2006	00:00	2.2	N
18-May-2006	01:00	2.7	E
18-May-2006	02:00	1.3	N
18-May-2006	03:00	2.2	NE
18-May-2006	04:00	2.7	ENE
18-May-2006	05:00	1.3	NNE
18-May-2006	06:00	1.3	ESE
18-May-2006	07:00	1.3	ESE
18-May-2006	08:00	1.8	NW
18-May-2006	09:00	1.8	W
18-May-2006	10:00	2.7	W
18-May-2006	11:00	2.7	WNW
18-May-2006	12:00	2.7	WSW
18-May-2006	13:00	2.2	W
18-May-2006	14:00	2.2	W
18-May-2006	15:00	1.8	W
18-May-2006	16:00	1.8	W
18-May-2006	17:00	1.3	WSW
18-May-2006	18:00	0.9	WNW
18-May-2006	19:00	0.9	SSW
18-May-2006	20:00	0.4	SSW
18-May-2006	21:00	0	SSW
18-May-2006	22:00	0	SSW
18-May-2006	23:00	0	---

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
19-May-2006	00:00	0	---
19-May-2006	01:00	0	---
19-May-2006	02:00	0	---
19-May-2006	03:00	0	---
19-May-2006	04:00	0	SW
19-May-2006	05:00	0	---
19-May-2006	06:00	0	---
19-May-2006	07:00	0	---
19-May-2006	08:00	0	WSW
19-May-2006	09:00	1.8	WNW
19-May-2006	10:00	2.7	WNW
19-May-2006	11:00	4	WNW
19-May-2006	12:00	4	WNW
19-May-2006	13:00	2.7	W
19-May-2006	14:00	2.2	WNW
19-May-2006	15:00	2.2	W
19-May-2006	16:00	2.7	NE
19-May-2006	17:00	2.2	ENE
19-May-2006	18:00	0.9	E
19-May-2006	19:00	0.4	ENE
19-May-2006	20:00	0	NE
19-May-2006	21:00	0	---
19-May-2006	22:00	0.4	S
19-May-2006	23:00	0.4	W
20-May-2006	00:00	0.4	SSW
20-May-2006	01:00	1.8	WNW
20-May-2006	02:00	2.2	WNW
20-May-2006	03:00	1.8	WNW
20-May-2006	04:00	2.2	W
20-May-2006	05:00	2.2	W
20-May-2006	06:00	0.9	W
20-May-2006	07:00	1.3	WNW
20-May-2006	08:00	2.2	WNW
20-May-2006	09:00	2.7	WNW
20-May-2006	10:00	3.1	WNW
20-May-2006	11:00	2.7	W
20-May-2006	12:00	3.1	W
20-May-2006	13:00	4	WNW
20-May-2006	14:00	4.5	WNW
20-May-2006	15:00	4	WNW
20-May-2006	16:00	4	W
20-May-2006	17:00	3.6	W
20-May-2006	18:00	3.1	W
20-May-2006	19:00	2.7	WNW
20-May-2006	20:00	2.2	W
20-May-2006	21:00	1.3	WNW
20-May-2006	22:00	2.2	W
20-May-2006	23:00	2.2	W
21-May-2006	00:00	1.3	W
21-May-2006	01:00	1.3	WSW
21-May-2006	02:00	1.8	WSW
21-May-2006	03:00	2.2	WSW
21-May-2006	04:00	1.8	W
21-May-2006	05:00	1.3	WNW

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
21-May-2006	06:00	1.3	W
21-May-2006	07:00	2.2	W
21-May-2006	08:00	2.7	W
21-May-2006	09:00	3.1	W
21-May-2006	10:00	3.1	W
21-May-2006	11:00	3.6	W
21-May-2006	12:00	2.7	WSW
21-May-2006	13:00	3.1	WSW
21-May-2006	14:00	3.6	SW
21-May-2006	15:00	2.2	SSW
21-May-2006	16:00	2.7	SSW
21-May-2006	17:00	1.3	S
21-May-2006	18:00	0.9	SSW
21-May-2006	19:00	2.2	S
21-May-2006	20:00	1.8	W
21-May-2006	21:00	2.7	NNE
21-May-2006	22:00	2.2	N
21-May-2006	23:00	1.8	NNE
22-May-2006	00:00	1.3	NE
22-May-2006	01:00	2.2	N
22-May-2006	02:00	1.3	N
22-May-2006	03:00	1.8	ENE
22-May-2006	04:00	4	NE
22-May-2006	05:00	3.6	NNE
22-May-2006	06:00	2.7	NE
22-May-2006	07:00	2.7	NE
22-May-2006	08:00	3.6	NE
22-May-2006	09:00	3.1	NNE
22-May-2006	10:00	3.6	NE
22-May-2006	11:00	2.2	NE
22-May-2006	12:00	2.2	NE
22-May-2006	13:00	1.8	NE
22-May-2006	14:00	2.2	NE
22-May-2006	15:00	2.7	NNE
22-May-2006	16:00	2.2	NE
22-May-2006	17:00	0.9	NE
22-May-2006	18:00	1.8	NE
22-May-2006	19:00	0.9	E
22-May-2006	20:00	0.4	ENE
22-May-2006	21:00	0.4	ENE
22-May-2006	22:00	1.8	NE
22-May-2006	23:00	1.3	E
23-May-2006	00:00	0	E
23-May-2006	01:00	0	ENE
23-May-2006	02:00	0	ENE
23-May-2006	03:00	0	---
23-May-2006	04:00	0	ENE
23-May-2006	05:00	0	ENE
23-May-2006	06:00	0	---
23-May-2006	07:00	0	ENE
23-May-2006	08:00	0	ENE
23-May-2006	09:00	0.4	ENE
23-May-2006	10:00	0.9	NE
23-May-2006	11:00	0.9	NE

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
23-May-2006	12:00	2.2	NNE
23-May-2006	13:00	2.7	NNE
23-May-2006	14:00	2.7	NE
23-May-2006	15:00	1.3	ENE
23-May-2006	16:00	1.3	NNE
23-May-2006	17:00	0	ENE
23-May-2006	18:00	0	---
23-May-2006	19:00	0	ENE
23-May-2006	20:00	0	E
23-May-2006	21:00	0	W
23-May-2006	22:00	0.4	W
23-May-2006	23:00	0	---
24-May-2006	00:00	0	---
24-May-2006	01:00	0	---
24-May-2006	02:00	0	SE
24-May-2006	03:00	0	ESE
24-May-2006	04:00	0	---
24-May-2006	05:00	0	---
24-May-2006	06:00	0	---
24-May-2006	07:00	0	SE
24-May-2006	08:00	0	---
24-May-2006	09:00	0	SE
24-May-2006	10:00	0	S
24-May-2006	11:00	0	---
24-May-2006	12:00	0	S
24-May-2006	13:00	0	W
24-May-2006	14:00	0.4	NNE
24-May-2006	15:00	2.2	N
24-May-2006	16:00	0.9	N
24-May-2006	17:00	0.4	E
24-May-2006	18:00	0	ENE
24-May-2006	19:00	0	ENE
24-May-2006	20:00	0	---
24-May-2006	21:00	0	---
24-May-2006	22:00	0	---
24-May-2006	23:00	0	NNE
25-May-2006	00:00	0	NNW
25-May-2006	01:00	0	---
25-May-2006	02:00	0	S
25-May-2006	03:00	0	ENE
25-May-2006	04:00	0.4	ENE
25-May-2006	05:00	0.4	ENE
25-May-2006	06:00	0	E
25-May-2006	07:00	0	---
25-May-2006	08:00	0	SSW
25-May-2006	09:00	0	NNW
25-May-2006	10:00	0.9	NNE
25-May-2006	11:00	2.2	NE
25-May-2006	12:00	2.7	ENE
25-May-2006	13:00	3.1	ENE
25-May-2006	14:00	2.7	NE
25-May-2006	15:00	3.1	NE
25-May-2006	16:00	3.1	NE
25-May-2006	17:00	2.7	NE



## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
25-May-2006	18:00	2.2	NE
25-May-2006	19:00	1.8	NE
25-May-2006	20:00	1.3	NE
25-May-2006	21:00	0.9	NNE
25-May-2006	22:00	0.9	E
25-May-2006	23:00	0.9	E
26-May-2006	00:00	1.3	E
26-May-2006	01:00	0.9	NE
26-May-2006	02:00	0.9	NE
26-May-2006	03:00	0.9	NE
26-May-2006	04:00	1.8	NE
26-May-2006	05:00	1.8	NE
26-May-2006	06:00	2.2	NE
26-May-2006	07:00	2.2	NE
26-May-2006	08:00	2.7	NE
26-May-2006	09:00	3.1	NE
26-May-2006	10:00	3.1	NNE
26-May-2006	11:00	4.5	NNE
26-May-2006	12:00	4.9	NNE
26-May-2006	13:00	5.4	NNE
26-May-2006	14:00	5.4	NNE
26-May-2006	15:00	5.4	NNE
26-May-2006	16:00	4.9	NNE
26-May-2006	17:00	4.5	NE
26-May-2006	18:00	3.6	NE
26-May-2006	19:00	2.7	NE
26-May-2006	20:00	1.3	NE
26-May-2006	21:00	0.4	ENE
26-May-2006	22:00	0.4	E
26-May-2006	23:00	0.4	ENE
27-May-2006	00:00	0.9	NE
27-May-2006	01:00	1.3	NE
27-May-2006	02:00	1.3	NNE
27-May-2006	03:00	2.2	NNE
27-May-2006	04:00	1.8	NNE
27-May-2006	05:00	3.1	NNE
27-May-2006	06:00	2.2	NE
27-May-2006	07:00	2.7	NE
27-May-2006	08:00	2.7	NE
27-May-2006	09:00	3.1	NE
27-May-2006	10:00	3.6	NE
27-May-2006	11:00	4	NNE
27-May-2006	12:00	4	NNE
27-May-2006	13:00	3.6	NNE
27-May-2006	14:00	3.1	NNE
27-May-2006	15:00	2.2	NE
27-May-2006	16:00	2.2	ENE
27-May-2006	17:00	2.2	ENE
27-May-2006	18:00	0.4	E
27-May-2006	19:00	0	E
27-May-2006	20:00	0	E
27-May-2006	21:00	0	ENE
27-May-2006	22:00	0	W
27-May-2006	23:00	0	W

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
28-May-2006	00:00	0	---
28-May-2006	01:00	0.4	NE
28-May-2006	02:00	2.7	NE
28-May-2006	03:00	1.8	NE
28-May-2006	04:00	3.1	NE
28-May-2006	05:00	4.5	NNE
28-May-2006	06:00	4.5	NNE
28-May-2006	07:00	3.6	NE
28-May-2006	08:00	2.7	NE
28-May-2006	09:00	3.1	ENE
28-May-2006	10:00	2.2	NE
28-May-2006	11:00	3.6	NE
28-May-2006	12:00	4.5	NE
28-May-2006	13:00	4.5	ENE
28-May-2006	14:00	1.8	ENE
28-May-2006	15:00	0.9	NE
28-May-2006	16:00	0.4	NE
28-May-2006	17:00	0.4	NNE
28-May-2006	18:00	0	NNE
28-May-2006	19:00	0	NNE
28-May-2006	20:00	0	---
28-May-2006	21:00	1.3	W
28-May-2006	22:00	2.2	W
28-May-2006	23:00	1.3	W
29-May-2006	00:00	0.4	W
29-May-2006	01:00	0.4	SW
29-May-2006	02:00	0.4	W
29-May-2006	03:00	0.9	W
29-May-2006	04:00	0	W
29-May-2006	05:00	0	W
29-May-2006	06:00	0	W
29-May-2006	07:00	0.4	W
29-May-2006	08:00	0.4	W
29-May-2006	09:00	0.9	W
29-May-2006	10:00	1.3	W
29-May-2006	11:00	1.3	W
29-May-2006	12:00	1.3	SW
29-May-2006	13:00	1.3	SW
29-May-2006	14:00	2.7	WSW
29-May-2006	15:00	2.2	SW
29-May-2006	16:00	1.3	W
29-May-2006	17:00	2.2	W
29-May-2006	18:00	1.8	W
29-May-2006	19:00	2.2	SW
29-May-2006	20:00	1.8	SSW
29-May-2006	21:00	1.3	SSW
29-May-2006	22:00	3.1	SW
29-May-2006	23:00	2.7	WSW
30-May-2006	00:00	2.7	SW
30-May-2006	01:00	3.1	WSW
30-May-2006	02:00	2.7	WSW
30-May-2006	03:00	2.2	WSW
30-May-2006	04:00	2.7	WSW
30-May-2006	05:00	0.9	SSW

## Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
30-May-2006	06:00	0	SSW
30-May-2006	07:00	0	---
30-May-2006	08:00	0	WSW
30-May-2006	09:00	0	WSW
30-May-2006	10:00	0	---
30-May-2006	11:00	0.4	NNE
30-May-2006	12:00	0.4	E
30-May-2006	13:00	0	ESE
30-May-2006	14:00	0	ESE
30-May-2006	15:00	0.4	N
30-May-2006	16:00	0	N
30-May-2006	17:00	0.9	N
30-May-2006	18:00	0	N
30-May-2006	19:00	0.9	NNE
30-May-2006	20:00	0	NNE
30-May-2006	21:00	0	SSE
30-May-2006	22:00	0.4	SSW
30-May-2006	23:00	1.3	SSW
31-May-2006	00:00	1.8	WSW
31-May-2006	01:00	1.3	SSW
31-May-2006	02:00	2.2	WSW
31-May-2006	03:00	2.2	WSW
31-May-2006	04:00	1.8	WSW
31-May-2006	05:00	0	SSW
31-May-2006	06:00	0	---
31-May-2006	07:00	0.4	SSW
31-May-2006	08:00	0.4	SSE
31-May-2006	09:00	0	W
31-May-2006	10:00	0	---
31-May-2006	11:00	2.2	NE
31-May-2006	12:00	3.6	NNE
31-May-2006	13:00	4	NNE
31-May-2006	14:00	4.5	NNE
31-May-2006	15:00	4.5	NNE
31-May-2006	16:00	4.5	NNE
31-May-2006	17:00	4	NNE
31-May-2006	18:00	4	NNE
31-May-2006	19:00	3.6	NNE
31-May-2006	20:00	3.6	NNE
31-May-2006	21:00	3.1	NNE
31-May-2006	22:00	3.6	NNE
31-May-2006	23:00	2.7	NNE

---

---

**APPENDIX E  
1-HOUR TSP MONITORING RESULTS  
AND GRAPHICAL PRESENTATION**

---

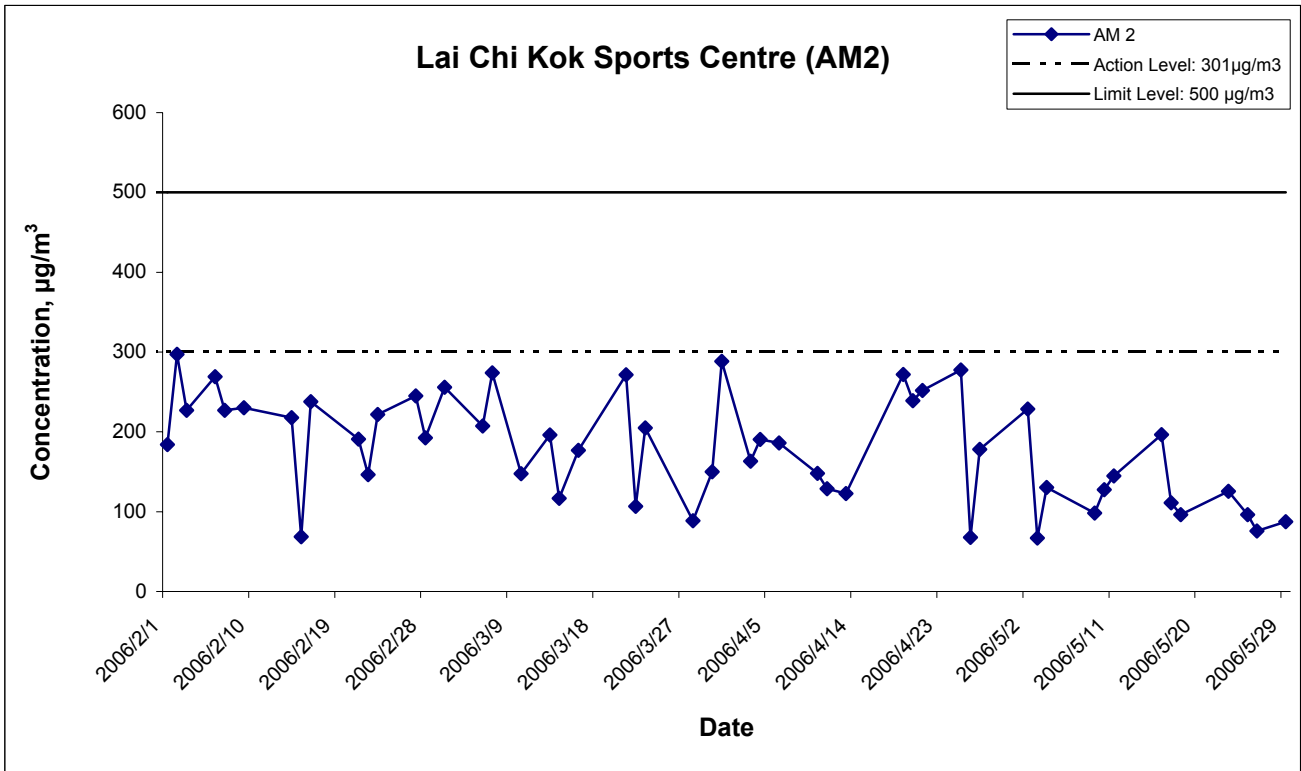
---

## Appendix E - 1-hour TSP Monitoring Results

### Location AM 2 - Lai Chi Kok Sports Centre

Date	Weather Condition	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final							
2-May-06	Cloudy	2.8672	2.8837	1.20	1.20	4179.1	4180.1	302.1	759.3	0.0165	1.20	72.2	1.0	228.4
3-May-06	Rainy	2.8681	2.8730	1.22	1.22	4204.1	4205.1	297.3	761.4	0.0049	1.22	73.0	1.0	67.2
4-May-06	Cloudy	2.8547	2.8642	1.21	1.21	4205.1	4206.1	298.5	762.1	0.0095	1.21	72.8	1.0	130.5
9-May-06	Sunny	2.8712	2.8783	1.20	1.20	4230.1	4231.1	302.9	759.5	0.0071	1.20	72.1	1.0	98.4
10-May-06	Sunny	2.8360	2.8452	1.20	1.20	4231.1	4232.1	302.7	760.3	0.0092	1.20	72.2	1.0	127.4
11-May-06	Sunny	2.8422	2.8526	1.20	1.20	4232.1	4233.1	304.3	758.3	0.0104	1.20	71.9	1.0	144.6
16-May-06	Rainy	2.8516	2.8659	1.21	1.21	4257.1	4258.1	296.8	757.7	0.0143	1.21	72.8	1.0	196.4
17-May-06	Rainy	2.8802	2.8883	1.21	1.21	4258.1	4529.1	295.2	753.2	0.0081	1.21	72.8	271.0	111.3
18-May-06	Sunny	2.8827	2.8897	1.21	1.21	4259.1	4260.1	296.6	757.1	0.0070	1.21	72.8	1.0	96.1
23-May-06	Cloudy	2.8525	2.8616	1.21	1.21	4284.1	4285.1	298.7	757.2	0.0091	1.21	72.6	1.0	125.4
25-May-06	Cloudy	2.8457	2.8527	1.21	1.21	4285.1	4286.1	300.7	759.5	0.0070	1.21	72.8	1.0	96.2
26-May-06	Sunny	2.8472	2.8527	1.21	1.21	4310.1	4311.1	302.2	760.2	0.0055	1.21	72.7	1.0	75.6
29-May-06	Cloudy	2.8476	2.8540	1.22	1.22	4311.1	4312.1	296.8	757.7	0.0064	1.22	73.2	1.0	87.4
													Min	67.2
													Max	228.4
													Average	121.9

# 1-hr TSP Levels



Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/01 - Lai Chi Kok Viaduct Graphical Presentation of 1-hour TSP Impact Monitoring Results	Scale N.T.S	Project No. MA3024	
	Date May 06	Appendix E	

---

---

**APPENDIX F  
24-HOUR TSP MONITORING RESULTS  
AND GRAPHICAL PRESENTATION**

---

---

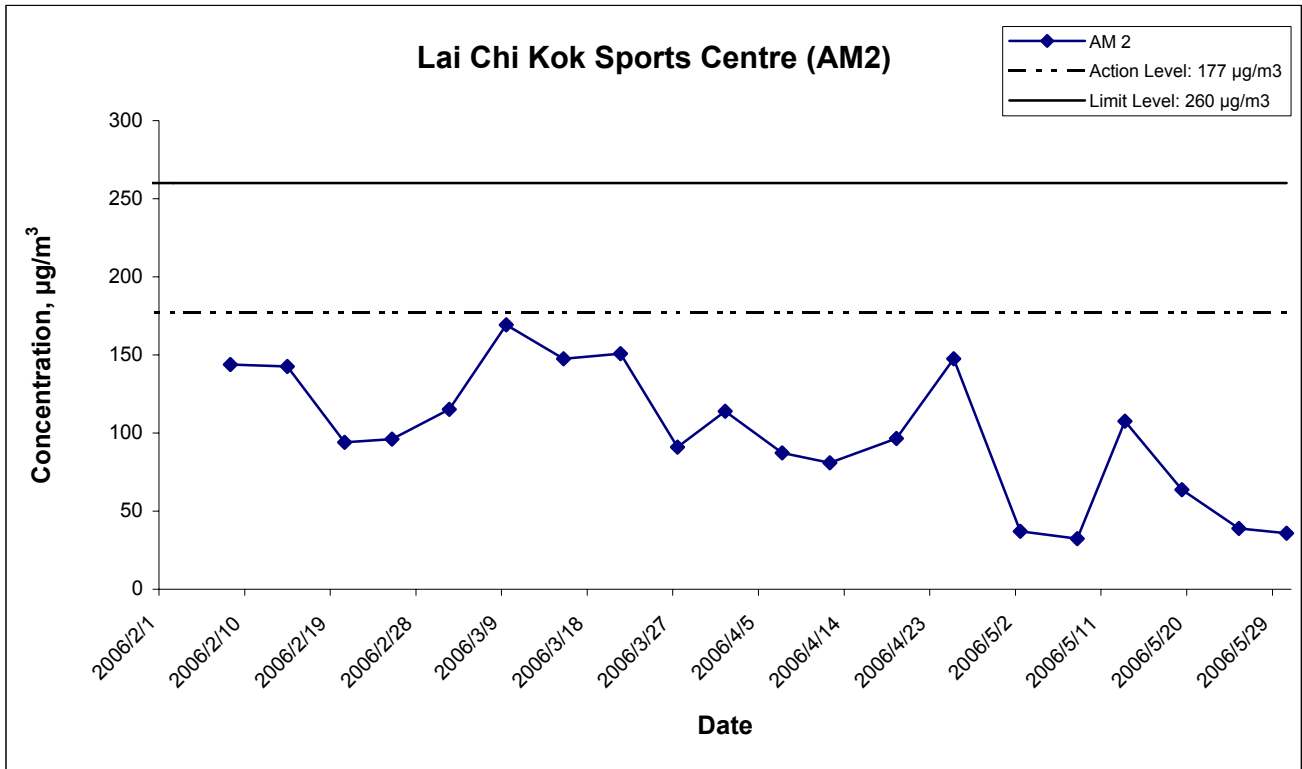
## Appendix F - 24-hour TSP Monitoring Results

### Location AM 2 - Lai Chi Kok Sports Centre

Date	Weather Condition	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final							
2-May-06	Rainy	2.8459	2.9103	1.20	1.20	4180.1	4204.1	302.3	759.1	0.0644	1.20	1732.8	24.0	37.2
8-May-06	Sunny	2.8326	2.8888	1.20	1.20	4206.1	4230.1	302.9	760.3	0.0562	1.20	1732.4	24.0	32.4
13-May-06	Sunny	2.9065	3.0937	1.21	1.21	4233.1	4257.1	301.1	762.1	0.1872	1.21	1739.9	24.0	107.6
19-May-06	Cloudy	2.8605	2.9717	1.21	1.21	4260.1	4284.1	298.6	759.3	0.1112	1.21	1744.2	24.0	63.8
25-May-06	Sunny	2.8657	2.9337	1.21	1.21	4286.1	4310.1	301.2	759.2	0.0680	1.21	1745.6	24.0	39.0
30-May-06	Cloudy	2.8669	2.9301	1.22	1.22	4312.1	4336.1	296.8	758.2	0.0632	1.22	1757.5	24.0	36.0
													Min	32.4
													Max	107.6
													Average	52.6



## 24-hr TSP Levels



Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/01 - Lai Chi Kok Viaduct Graphical Presentation of 24-hour TSP Impact Monitoring Results	Scale N.T.S	Project No. MA3024	
	Date May 06	Appendix F	

---

---

**APPENDIX G  
NOISE MONITORING RESULTS AND  
GRAPHICAL PRESENTATION**

---

---

## Appendix G - Noise Monitoring Results

Location NM4 - Mei Foo Sun Chuen, Phase 5								
Date	Time	Weather	Unit: dB (A) (30-min)			Remarks		
			Measured Noise Level				Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>		L <sub>eq</sub>	L <sub>eq</sub>
3-May-06	09:30	Cloudy	75.9	78.5	74.5	Road traffic noise from Ching Cheung Road was identified as the major noise source.		
9-May-06	09:40	Fine	75.2	78.0	72.5			
16-May-06	09:00	Cloudy	74.3	77.0	70.0			
23-May-06	10:30	Cloudy	75.6	78.8	73.0			

Location NM8a - M/F of Nob Hill								
Date	Time	Weather	Unit: dB (A) (30-min)			Remarks		
			Measured Noise Level				Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>		L <sub>eq</sub>	L <sub>eq</sub>
3-May-06	10:20	Cloudy	73.8	75.5	70.5	Road traffic noise from Ching Cheung Road was identified as the major noise source.		
9-May-06	10:25	Fine	73.8	78.5	71.0			
16-May-06	10:40	Cloudy	72.8	74.5	69.5			
23-May-06	11:18	Cloudy	74.1	76.0	71.0			

Location NM8b - 3/F of Nob Hill								
Date	Time	Weather	Unit: dB (A) (30-min)			Remarks		
			Measured Noise Level				Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>		L <sub>eq</sub>	L <sub>eq</sub>
3-May-06	10:58	Cloudy	77.0	79.0	74.0	Road traffic noise from Ching Cheung Road was identified as the major noise source.		
9-May-06	11:15	Fine	76.7	79.0	73.5			
16-May-06	11:15	Cloudy	75.2	77.5	72.0			
23-May-06	13:10	Cloudy	75.7	78.5	72.0			

Location NM9 - Hoi Lai Estate								
Date	Time	Weather	Unit: dB (A) (30-min)			Remarks		
			Measured Noise Level				Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>		L <sub>eq</sub>	L <sub>eq</sub>
3-May-06	13:45	Cloudy	69.4	72.0	64.5			
9-May-06	13:30	Fine	71.6	75.5	67.5			
16-May-06	10:00	Cloudy	71.2	73.5	67.5			
23-May-06	15:30	Cloudy	70.0	72.0	66.0			

# Construction Noise Level (Leq) = Measured Noise Level (Leq) - Baseline Noise Level (Leq)

\*Bolted value indicated limit level exceedance

## Appendix G - Noise Monitoring Results

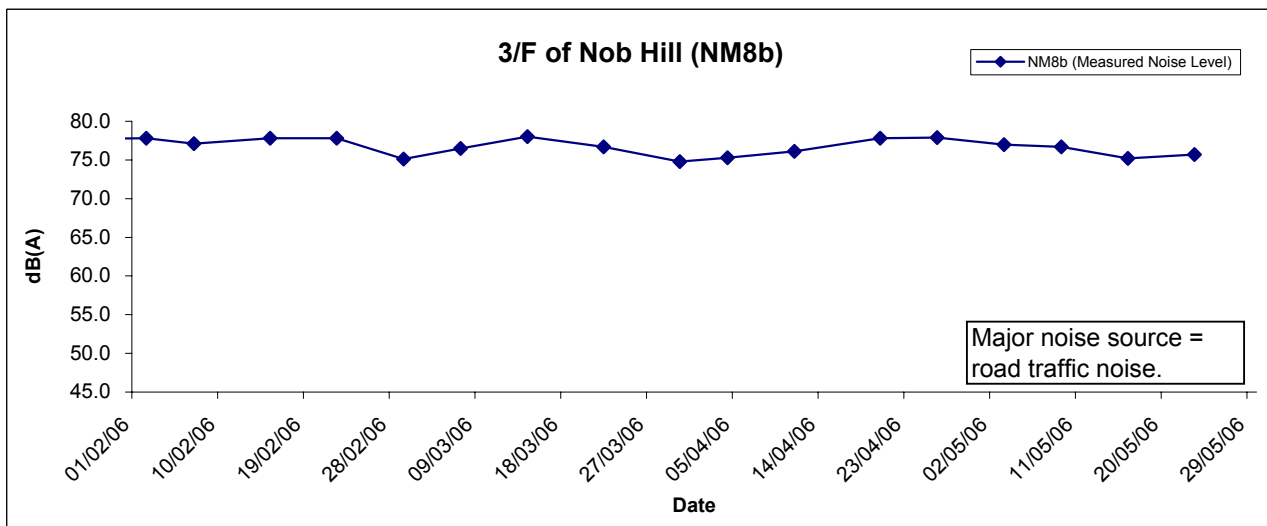
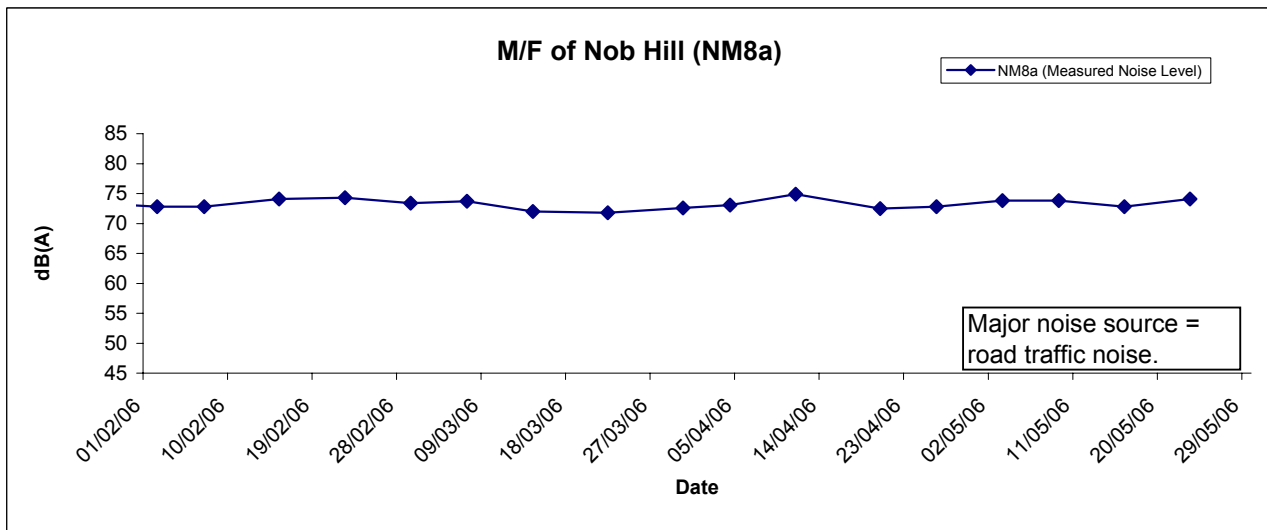
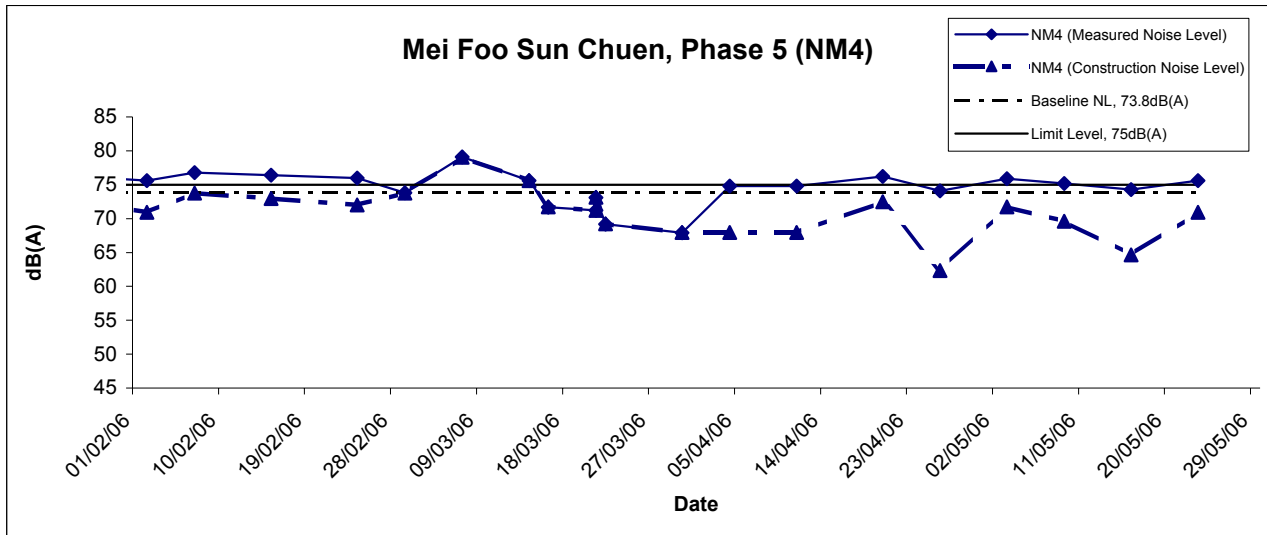
### Restricted Hours - 19:00 to 23:00 on normal weekdays

Location NM9 - Hoi Lai Estate						
Date	Time	Weather	dB (A) (5-min)			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	Average L <sub>eq</sub>
2-May-06	19:00	Cloudy	63.1	67.5	60.0	63.2
	19:05		63.2	67.5	60.0	
	19:10		63.4	67.5	60.0	
9-May-06	19:15	Cloudy	63.8	67.5	59.5	64.3
	19:20		64.5	68.5	60.0	
	19:25		64.6	68.5	60.0	
16-May-06	20:00	Cloudy	63.1	68.0	61.0	62.9
	20:05		62.8	68.0	60.5	
	20:10		62.9	68.0	60.5	
23-May-06	19:15	Cloudy	64.1	68.0	60.5	64.2
	19:20		64.0	68.0	60.5	
	19:25		64.5	69.0	61.0	
30-May-06	19:00	Cloudy	63.7	67.0	60.0	63.8
	19:05		63.7	67.0	60.0	
	19:10		63.9	67.5	60.5	

# Construction Noise Level (Leq) = Measured Noise Level (Leq) - Baseline Noise Level (Leq)

\*Bolted value indicated limit level exceedance

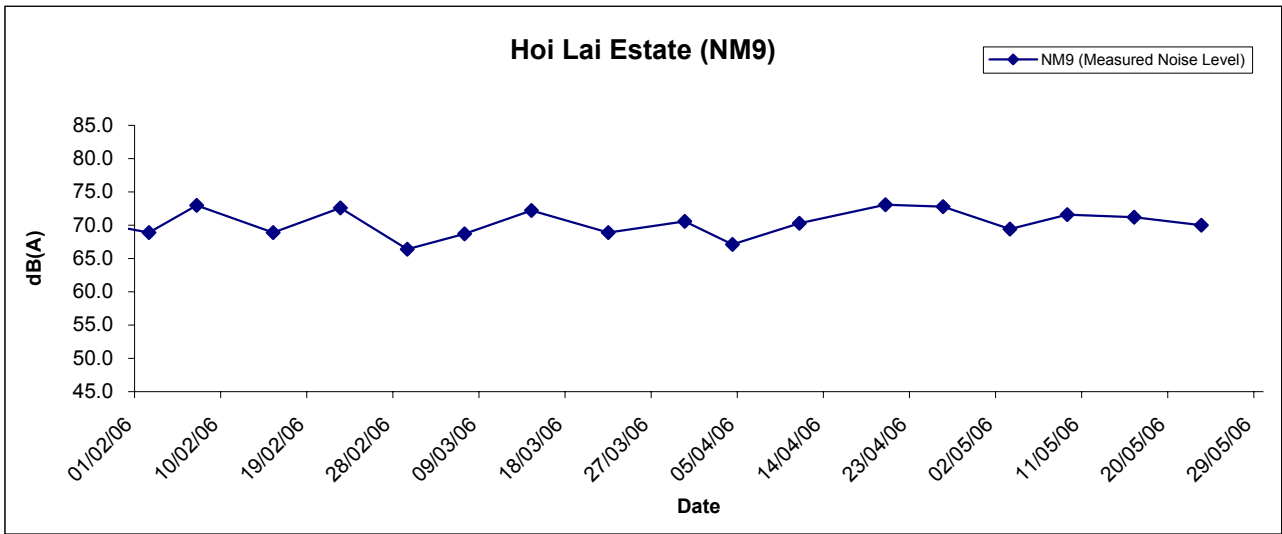
### Noise Levels



\* Construction Noise Level = Measured Noise Level - Baseline Level  
 (If the measured noise level is lower than the baseline level, the construction noise level will be taken as the measured one)

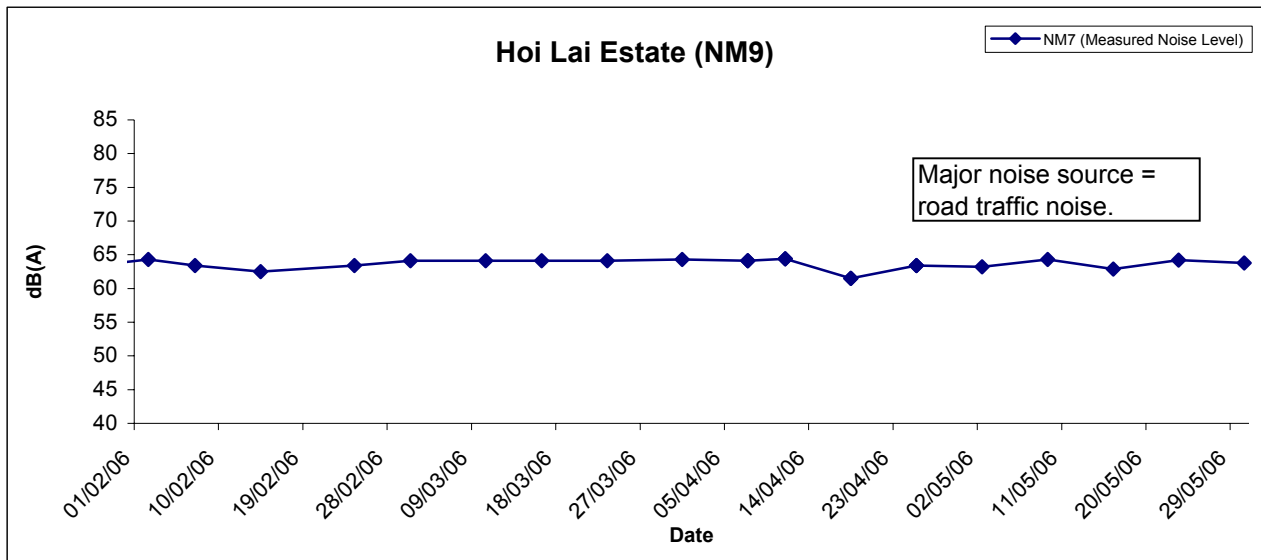
Title Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin Contract HY/2003/01 - Lai Chi Kok Viaduct  Graphical Presentation of Construction Noise Monitoring Results	Scale	Project No.	
	Date	Appendix G	
	N.T.S	MA3024	
	May 06		

## Noise Levels



Title Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin Contract HY/2003/01 - Lai Chi Kok Viaduct  Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA3024	CINOTECH
	Date May 06	Appendix G	

## Restricted Hours (19:00 to 23:00 ) - Noise Levels



Title Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin Contract HY/2003/01 - Lai Chi Kok Viaduct  Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA3024	
	Date May 06	Appendix G	

---

---

**APPENDIX H  
SUMMARY OF EXCEEDANCE**

---

---



### **Summary of Exceedances Recorded in the Reporting Month**

***a) Exceedance Report for 1-hr TSP (NIL)***

***b) Exceedance Report for 24-hr TSP (NIL)***

***c) Exceedance Report for Construction Noise***

- One Action Level exceedance was recorded due to noise complaints received on 22<sup>nd</sup> May 2006.
- No noise Limit Level exceedance was recorded in the reporting monthly.

---

---

**APPENDIX I  
SITE AUDIT SUMMARY**

---

---

*Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin  
 Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel  
 Contract No. HY/2003/01 - Lai Chi Kok Viaduct*

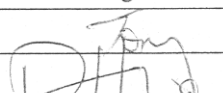
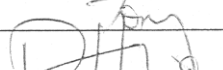
Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	60503-LCKV
Date	3 May 2006 (Wed)
Time	1340 – 1600

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>The environmental deficiency identified during last audit (ref. 60426-LCKV) 26 April 2006, was rectified / improved by the Contractor.</li> </ul>	

	Name	Signature	Date
Recorded by	Tommy Ho		3 May 2006
Checked by	Alex Ngai		3 May 2006

*Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin  
 Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel  
 Contract No. HY/2003/01 - Lai Chi Kok Viaduct*

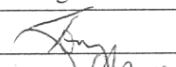

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	60510-LCKV
Date	10 May 2006 (Wed)
Time	0930 – 1130

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
60510L-1	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>Standing water was observed in drip tray at site Wan Man Tsuen. It should be cleaned up to avoid over flooding and mosquito breeding.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>The environmental deficiency identified during last audit (ref. 60503-LCKV) 3 May 2006, was rectified / improved by the Contractor.</li> </ul>	G5

	Name	Signature	Date
Recorded by	Tommy Ho		10 May 2006
Checked by	Attle Hui		10 May 2006

*Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin  
 Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel  
 Contract No. HY/2003/01 - Lai Chi Kok Viaduct*



Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	60517-LCKV
Date	17 May 2006 (Wed)
Time	13:30 – 1545

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>The environmental deficiency identified during last audit (ref. 60510-LCKV) 10 May 2006, was rectified / improved by the Contractor.</li> </ul>	

	Name	Signature	Date
Recorded by	Tommy Ho		17 May 2006
Checked by	Attle Hui		17 May 2006

*Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin  
 Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel  
 Contract No. HY/2003/01 - Lai Chi Kok Viaduct*



Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	60524-LCKV
Date	24 May 2006 (Wed)
Time	1330 – 1600

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
60524L-01	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>2 drums of diesel oil without drip tray were observed on bare ground at Mui Kong Tsuen. Drip Tray should be provided to avoid spillage.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	E3i

	Name	Signature	Date
Recorded by	Tommy Ho		24 May 2006
Checked by	Attle Hui		24 May 2006

*Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin  
 Environmental Team for Lai Chi Kok Viaduct and Eagle's Nest Tunnel  
 Contract No. HY/2003/01 - Lai Chi Kok Viaduct*



Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	60529-LCKV
Date	29 May 2006 (Mon)
Time	930 – 1145

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
60529L-01	<p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>Yellow surface runoff directly discharged to public drain was observed at site at C 14. De-silting measures should be improved before discharge.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>F. Others</b></p> <ul style="list-style-type: none"> <li>The environmental deficiency identified during last audit (ref. 60524-LCKV) 24 May 2006, was rectified / improved by the Contractor.</li> </ul>	B7i

	Name	Signature	Date
Recorded by	Tommy Ho		29 May 2006
Checked by	Attle Hui		29 May 2006

---

---

**APPENDIX J**  
**EVENT ACTION PLANS**

---

---



## Appendix J - Event Action Plans

### Event/Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	ER	Contractor
<b>ACTION LEVEL</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform ER &amp; IEC</li> <li>3. Repeat measurement to confirm finding</li> <li>4. Increase monitoring frequency to daily</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET</li> <li>2. Check Contractor's working methods</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor</li> <li>2. Check monitoring data and Contractor's working methods</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice</li> <li>2. Amend working methods if appropriate</li> </ol>
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform ER &amp; IEC</li> <li>3. Repeat measurement to confirm findings</li> <li>4. Increase monitoring frequency to daily</li> <li>5. Discuss with ER &amp; for remedial actions required</li> <li>6. If exceedance continues, arrange meeting with ER &amp; IEC</li> <li>7. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Checking monitoring data submitted by ET</li> <li>2. Check Contractor's working methods</li> <li>3. Discuss with ET and Contractor on possible remedial measure</li> <li>4. Advise the ER &amp; ET on the effectiveness of the proposed remedial measures</li> <li>5. Supervise the implementation of the 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. Check Contractor's working methods</li> <li>4. Discuss with ET, IEC and Contractor on proposed remedial actions</li> <li>5. Ensure remedial actions properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial actions to ER within 3 working days of notification</li> <li>2. Implement the agreed proposals</li> <li>3. Amend proposal if appropriate</li> </ol>
<b>LIMIT LEVEL</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source</li> <li>2. Inform ER &amp; IEC and EPD</li> <li>3. Repeat measurement to confirm finding</li> <li>4. Increase monitoring frequency to daily</li> <li>5. Assess effectiveness of Contractor's</li> </ol>	<ol style="list-style-type: none"> <li>1. Checking monitoring data submitted by ET</li> <li>2. Check Contractor's working methods</li> <li>3. Discuss with ET and Contractor on possible remedial measure</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. Check Contractor's working methods</li> <li>4. Discuss with ET, IEC and Contractor on</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 ER within 3 working days of notification</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	Contractor
	remedial actions and keep EPD and ER & IEC informed of the results	4. Advise the ER & ET on the effectiveness of the proposed remedial measures 5. Supervise the implementation of the remedial measures	proposed remedial actions 5. Ensure remedial actions properly implemented	3. Implement the agreed proposals 4. Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	1. Identify source 2. Inform ER, IEC, Contractor and EPD the cause & actions taken for the exceedances 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Investigate the causes of exceedance 6. Carry out analysis of contractor's working procedures to determine possible mitigation to be implemented. 7. Arrange meeting with EPD, IEC and ER to discuss the remedial actions to be taken 8. Assess effectiveness of Contractor's remedial actions and keep EPD and ER & IEC informed of the results 9. If exceedance stops, cease additional monitoring	1. Checking monitoring data submitted by ET 2. Discuss amongst ER, ET and Contractor on possible remedial measures 3. Review Contractor's remedial measures whenever necessary to ensure their effectiveness and advise the ER accordingly 4. Supervise the implementation of the remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 4. Discuss amongst ET, IEC and the Contractor on proposed remedial actions 5. In consultation with IEC, agree with the contractor remedial measures to be implemented 6. Ensure remedial measure are properly implemented 7. 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 IEC, 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

Event/Action Plan for Construction Noise

Exceedance	ACTION			
	ET	.IEC	ER	Contractor
Action Level	<p>1. Discuss with the IEC and ER and seek to identify potential noise source</p> <p>2. Undertake noise measurement to confirm the validity of complaint</p> <p>3. Inform ER&amp;IEC in writing Discuss remedial actions required with ER&amp;IEC if an exceedance is recorded</p> <p>4. Increase monitoring frequency to demonstrate efficacy of remedial measures</p> <p>5. If exceedance continues, meet with ER&amp;IEC to review implementation of appropriate mitigation measures.</p> <p>6. If exceedance stops, cease additional monitoring</p>	<p>1. Review the analyzed results submitted by the ET</p> <p>2. Review the proposed remedial measures by the Contractor and advise the ER &amp; ET accordingly</p> <p>3. Supervise the implementation of remedial measures</p>	<p>1. Confirm receipt of notification of complaint and notify Contractor immediately</p> <p>2. Check monitoring data trends and Contractor's working methods</p> <p>3. Remind the Contractor of his contractual obligations and discuss with ET, IEC and Contractor on proposed remedial actions</p> <p>4. Assess the efficacy of remedial actions and keep the Contractor informed</p> <p>5. Inform complainant of actions taken</p>	<p>1. Submit proposals for remedial actions to ER within three working days of notification</p> <p>2. Amend proposals if required by the Engineer</p> <p>3. Implement the remedial actions immediately upon instruction</p> <p>4. Liaise with the ER to optimize the effectiveness of the agreed mitigation</p> <p>5. Amend proposal if appropriate</p>

Exceedance	ACTION			
	ET	IEC	ER	Contractor
Limit Level	<ol style="list-style-type: none"> <li>1. Repeat measurement to confirm findings</li> <li>2. Investigate the cause of the exceedance and identify the main source(s) of impact</li> <li>3. Inform ER&amp;IEC and EPD in writing</li> <li>4. Discuss remedial actions required with ER&amp;IEC</li> <li>5. Increase monitoring frequency to demonstrate efficacy of remedial measures</li> <li>6. Assess efficacy of remedial actions and keep ER &amp; IEC informed of the results</li> <li>7. If exceedance continues, meet with ER&amp;IEC to identify appropriate mitigation measures</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET</li> <li>2. Review Contractor's remedial actions to assure their effectiveness and advise the ER &amp; ET accordingly</li> <li>3. Supervise the implementation of the remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance and notify Contractor</li> <li>2. Check monitoring data trends and Contractor's working methods</li> <li>3. Discuss with ET, IEC and Contractor on proposed remedial actions to be implemented</li> <li>4. Assess the efficacy of remedial actions and keep the Contractor informed</li> <li>5. If exceedance continuous, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is aborted</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 ER immediately not more than 3 working days of notification</li> <li>3. Amend proposals if required by the ER</li> <li>4. Implement remedial actions immediately upon instruction</li> <li>5. Liaise with the ER to optimize the effectiveness of the agreed mitigation</li> <li>6. Resubmit proposals if problem still not under control</li> <li>7. Stop the relevant portion of works as determined by the ER until the exceedance is aborted</li> </ol>

---

---

**APPENDIX K  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

---

---

## Appendix K - Summary of Environmental Mitigation Implementation Schedule

Types of Impacts	Mitigation Measures	Status
<p align="center"><b>Construction Dust</b></p>	<ul style="list-style-type: none"> <li>Any stockpile of dusty materials or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet.</li> </ul>	^
	<ul style="list-style-type: none"> <li>A stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Vehicle washing facilities should be provided at every exit point.</li> </ul>	^
	<ul style="list-style-type: none"> <li>The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Every main haul road should be sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet.</li> </ul>	^
	<ul style="list-style-type: none"> <li>The portion of any road leading only to a construction site that is within 30m of a discernible or designated vehicle entrance or exit should be kept clear of dusty materials.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Any stockpile of dusty materials should be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides or sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.</li> </ul>	^
	<ul style="list-style-type: none"> <li>All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving a construction site.</li> <li>The working area of any excavation should be sprayed with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet.</li> </ul>	^
<p align="center"><b>Construction Noise</b></p>	<ul style="list-style-type: none"> <li>Only well-maintained plant should be operated on –site and plant should be serviced regularly during the construction works.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Plant known to emit noise strongly in one direction, should where possible, be orientated to direct noise away from the NSRS.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Mobile plant should be sited as far away from NSRs as possible.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> <li>Use quiet plant and Working Method</li> </ul>	^
	<ul style="list-style-type: none"> <li>Reduce the number of plant operating in critical areas close NSRs.</li> <li>Construct temporary and movable noise barriers</li> </ul>	^

Types of Impacts	Mitigation Measures	Status
Water Quality	<i>Construction Runoff and Drainage</i>	
	<ul style="list-style-type: none"> <li>Use of sediment traps and the adequate maintenance of drainage systems to prevent flooding and overflow.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilities runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates.</li> </ul>	^
	<ul style="list-style-type: none"> <li>All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment traps should be regularly cleaned and maintained. The temporarily diverted drainage should be reinstated to its original condition when the construction works has finished or the temporary diversion is no longer required</li> </ul>	^
	<ul style="list-style-type: none"> <li>Sand silt in the wash water from the wheel washing facilities, which ensure no earth, mud and debris is deposited on roads, should be settled out the removed before discharging into storm drains. A section of the road between the wheel washing bay and the public road should be paved with backfill to prevent wash water or other site runoff form entering public road drains.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Oil interceptors should be provided in the drainage system and regularly emptied to prevent the release of oils and grease into the storm water drainage system after accidental spillage. The interceptor should have a bypass to prevent flushing during periods of heavy rain.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed at least once a week, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.</li> </ul>	^
	<ul style="list-style-type: none"> <li>Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided along the site boundary or at the locations agreed with the ET Leader. Rainwater pumped out from trenches or foundation excavations shall be discharged into silt removal facilities before discharge into storm drains.</li> </ul>	^
	<ul style="list-style-type: none"> <li>All generators, fuel and oil storage shall be within bunded areas. Drainage from the areas shall be connected to storm drains via a petrol interceptor.</li> </ul>	^
	<i>Tunnelling Work</i>	
	<ul style="list-style-type: none"> <li>Temporary open storage of excavated materials should be covered with tarpaulin or similar fabric during rainstorms. Any washout of construction or excavated materials form the drill and blast tunnelling work should be diverted to the drainage system via appropriate sediment traps.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>Ground water pumped out of tunnels should be discharged into the drainage channels which incorporated sediment traps to enhance deposition rates and to remove silt.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>Spend grouts used in diaphragm wall construction should be collected in a separate slurry collection system, reconditioned and reused wherever practicable. The disposal of used grouting materials will only be permitted if it is treated to the TM standards before discharge to the storm drains or disposal to landfill.</li> </ul>	N/A

Types of Impacts	Mitigation Measures	Status
	<i>General Construction Activities</i>	
	<ul style="list-style-type: none"> <li>• Debris and rubbish on site should be collected, handled and disposed of properly to avoid entering the water column and cause water quality impacts.</li> <li>• All fuel tanks and storage areas will be provided with locks and be located on sealed areas (within bunds of a capacity equal to 110% of the storage capacity of the largest tank or 20% by volume of the fuel stored in that areas, whichever in the greatest).</li> </ul>	<p style="text-align: center;">^</p> <p style="text-align: center;">^</p>
	<i>Sewage Effluent</i>	
	<ul style="list-style-type: none"> <li>• Construction work force sewage discharges from fixed toilet facilities on-site should be connected to the nearby existing trunk sewer wherever feasible. However, for areas where existing trunk sewer is not available, it is recommended that appropriate and adequate on site portable chemical toilets should be provided by a licensed contractor who will be responsible for appropriate disposal and maintenance of these facilities.</li> <li>• It is considered that sewage discharges could also be treated by on-site septic tanks and soakaway. Minimum clearance away from streams and catchments and other requirements for the proposed septic tank and soakaway should be referred to EPD's Practice Note for Professional Persons, Drainage Plans.</li> </ul>	<p style="text-align: center;">^</p> <p style="text-align: center;">N/A</p>
<b>Waste</b>	<i>General</i>	
	<ul style="list-style-type: none"> <li>• Training and instruction shall be given at a site to construction staff to increase awareness and draw attention to waste management issues and the need to minimise waste generation. The training requirement shall be included in the site waste management plan.</li> </ul>	<p style="text-align: center;">^</p>
	<i>Storage, Collection and Transportation of Waste</i>	
	<ul style="list-style-type: none"> <li>• Wastes shall be handled and stored in a manner to ensure that they are held securely without loss or leakage.</li> <li>• Authorised or licensed waste hauliers shall be used and they shall only collect wastes prescribed by their permits.</li> <li>• Waste shall be removed on a daily basis.</li> <li>• Waste storage area shall be maintained and cleaned on a daily basis.</li> <li>• Windblown litter and dust during transportation shall be minimised by either covering trucks or transporting wastes in enclosed containers.</li> <li>• Obtain necessary waste disposal permits from the appropriate authorities if they are required.</li> <li>• Wastes shall be disposed of at licensed waste disposal facilities.</li> <li>• Develop procedure such as ticketing system to facilitate tracking of loads, particularly for chemical waste, and to ensure that illegal disposal of wastes does not occur.</li> </ul>	<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>
	<ul style="list-style-type: none"> <li>• Maintain records of the quantities of wastes generated, recycled and disposed.</li> </ul>	<p style="text-align: center;">^</p>
	<i>Surplus Excavated Materials</i>	
	<ul style="list-style-type: none"> <li>• Due to the high risk of loose material being washed into the existing nullah, stockpile materials should be properly compacted and covered from water erosion and located at least 10m away from the nullah wall.</li> </ul>	<p style="text-align: center;">^</p>
<i>Construction and Demolition (C&amp;D) Waste</i>		



Types of Impacts	Mitigation Measures	Status
	<ul style="list-style-type: none"> <li>• Careful design, planning and good site management shall be adopted to minimise over-ordering and generation of waste materials such as concrete grouts.</li> <li>• The handling and disposal of bentonite slurries shall be undertaken in accordance with Practice Note for Professional Persons – Construction Site Drainage (ProPECC PN 1/94) on construction site drainage.</li> <li>• Construction and demolition (C&amp;D) material shall be segregated to inert and non-inert parts. The inert portion shall re-used at areas of reclamation or land formation, or to public filling area shall such allocation is deemed necessary. The non-inert portion shall be disposed of to landfill.</li> </ul>	<p style="text-align: center;">^</p> <p style="text-align: center;">N/A</p> <p style="text-align: center;">^</p>
	<p><i>Chemical Waste</i></p> <ul style="list-style-type: none"> <li>• Chemical waste that is produce during construction shall be handled in accordance with the Cod of Practice on the Packaging, Handling and Storage of Chemical Wastes.</li> <li>• Containers used for the storage of chemical wastes should: <ul style="list-style-type: none"> <li>a. Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;</li> <li>b. Have a capacity of less than 450 litres unless the specifications have been approved by the EPD;</li> <li>c. Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste Regulations.</li> </ul> </li> <li>• The storage area for chemical wastes should: <ul style="list-style-type: none"> <li>a. Be clearly labelled and used solely for the storage of chemical waste;</li> <li>b. Be enclosed on at least 3 sides;</li> <li>c. Have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is largest;</li> <li>d. Have adequate ventilation;</li> <li>e. Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary);</li> <li>f. Be arranged so that incompatible materials are adequately separated.</li> </ul> </li> <li>• Disposal of chemical waste shall be via a licensed waste collector; and to a facility licensed to receive chemical waste; or a reuser of the waste (under approval from EPD).</li> </ul>	<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>
	<p><i>General Refuse</i></p> <ul style="list-style-type: none"> <li>• General refuse generated on-site shall be stored in enclosed bins or compaction unit separate from C&amp;D and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&amp;D and chemical wastes, on a daily for every second day basis to minimise odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law.</li> <li>• Reusable rather than disposable dishware shall be used if feasible.</li> </ul>	<p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

Types of Impacts	Mitigation Measures	Status
Ecology	<ul style="list-style-type: none"> <li>• A sediment barrier shall be erected to minimize stream sedimentation at downstream of the project boundary of the Toll Plaza.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>• Conduct a tree survey before commencement of the construction work.</li> </ul>	^
	<ul style="list-style-type: none"> <li>• All measures recommended in the approved landscape proposals under Condition 2.4 in EP above shall be fully implemented in accordance with the details and time schedule set out in the submission.</li> </ul>	^
	<ul style="list-style-type: none"> <li>• Loss of the adjacent woodland due to temporary land take shall be returned to the original status immediately.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>• Wild and uncontrolled fire shall be strictly prohibited</li> <li>• Fences shall be erected along the boundary of the construction sites at the Toll Plaza before commencement of works, to prevent tipping, vehicle movements, and encroachment of personnel onto adjacent wooded areas.</li> </ul>	^ N/A
Landscape and Visual Impact	<ul style="list-style-type: none"> <li>• Landscape mitigation measure 1 (LMM1) – Construction programming and management. The periphery of the works areas at street level shall be managed so that they do not appear cluttered, untidy and unattractive and inconvenient to pedestrians. For example, all hoarding shall be colorfully designed with interesting motifs demonstrating the work of Highways Department. Hoardings with bland colours shall be avoided.</li> </ul>	^
	<ul style="list-style-type: none"> <li>• Landscape mitigation measure 2 (LMM2) – Advanced planting and erosion control works. Where possible, the transplantation of existing valuable trees, the stockpiling of topsoil, new planting and erosion control works shall be carried out as early as possible in the construction period instead of at the end. This will assist in maximizing the time for carrying out transplantation and new planting, resulting in a higher success rate for the survival of transplantation and new planting, resulting in a higher success rate for the survival of transplanted trees and the establishment of new screen trees. The stockpiling of topsoil will provide an abundant use of on-site material for growing media. During detailed design, the issue of stockpiling of topsoil in a manner that would avoid washing into the drainage scheme should be examined comprehensively.</li> </ul>	^
	<ul style="list-style-type: none"> <li>• Measurement of vibration would also be carried out on a need basis during the piling work</li> </ul>	^

Remarks:

- |     |                                   |   |  |
|-----|-----------------------------------|---|--|
| ^   | Compliance of mitigation measure; | X | Non-compliance of mitigation measure;          |
| N/A | Not Applicable;                   | • | Non-compliance but rectified by the contractor |

---

---

**APPENDIX L  
CONSTRUCTION PROGRAMME**

---

---

Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006																	
							MAR			APR			MAY			JUN								
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26		
<b>Preliminaries &amp; General Requirements</b>																								
<b>Portion Access Dates</b>																								
PD1140	Access to Portion F1	0	17APR06*		17APR06*																			
PD1150	Access to Portion F2	0	17APR06*		17APR06*																			
PD1160	Anticipated Access to Portion F3	0	20MAR06*		08DEC05*																			
<b>Design of Temporary Works</b>																								
TW1280	Design of Temp Works for Retaining Wall CCR-R4	36	20MAR06	02MAY06	13APR06	25MAY06																		
TW1370	Design of Temp Works for Feature 11NW-A/C66	36	20MAR06	02MAY06	27APR06	08JUN06																		
TW1380	Design of Temp Works for Feature 11NW-A/FR54&55	36	20MAR06	02MAY06	06JUN05	19JUL05																		
TW1440	Design of Temporary Works for Pumping Stations	36	20MAR06	02MAY06	21FEB06	04APR06																		
TW1450	Design of T/Works for Erection of Noise Encl'res	36	20MAR06	02MAY06	28SEP05	10NOV05																		
TW1460	Design of T/Works for Erection of Noise Barriers	36	20MAR06	02MAY06	09JUN06	22JUL06																		
<b>Monitoring &amp; Instrumentation - New Works</b>																								
IM3010	Install Instrumentation @ Cut Slope CCR-S1	12	20MAR06	01APR06	16MAY08	29MAY08																		
IM3015	Monitoring @ Cut Slope CCR-S1	387*	20MAR06	03JUL07	16MAY08	15MAY08																		
IM3020	Install Instrumentation @ Cut Slope CCR-S2	12	18APR06	02MAY06	16MAY08	29MAY08																		
IM3025	Monitoring @ Cut Slope CCR-S2	363*	18APR06	03JUL07	16MAY08	15MAY08																		
IM3030	Install Instrumentation @ Cut Slope CCR-S3	12	20MAR06	01APR06	16MAY08	29MAY08																		
IM3035	Monitoring @ Cut Slope CCR-S3	387*	20MAR06	03JUL07	16MAY08	15MAY08																		
IM3050	Install Instrumentation @ Cut Slope CCR-S5	12	20MAR06	01APR06	16MAY08	29MAY08																		
IM3055	Monitoring @ Cut Slope CCR-S5	387*	20MAR06	03JUL07	16MAY08	15MAY08																		
IM3060	Install Instrumentation @ Cut Slope CCR-S6	12	20MAR06	01APR06	16MAY08	29MAY08																		
IM3065	Monitoring @ Cut Slope CCR-S6	387*	20MAR06	03JUL07	16MAY08	15MAY08																		
IM3080	Install Instrumentation @ Slope 11NW-A/C26	12	20MAR06	01APR06	16MAY08	29MAY08																		
IM3085	Monitoring @ Slope 11NW-A/C26	387*	20MAR06	03JUL07	16MAY08	15MAY08																		
IM3130	Install Instrumentation @ Piers P1 to P6	12	20MAR06	01APR06	16MAY08	29MAY08																		
IM3135	Monitoring @ Piers P1 to P6	387*	20MAR06	03JUL07	16MAY08	15MAY08																		
IM3140	Install Instrumentation @ Piers P7 to P10	12	20MAR06	01APR06	16MAY08	29MAY08																		
IM3145	Monitoring @ Piers P7 to P10	387*	20MAR06	03JUL07	16MAY08	15MAY08																		
IM3150	Install Instrumentation @ Piers P11 to P15	12	20MAR06	01APR06	16MAY08	29MAY08																		
IM3155	Monitoring @ Piers P11 to P15	387*	20MAR06	03JUL07	16MAY08	15MAY08																		
IM3160	Install Instrumentation @ Piers P16 to P18	12	20MAR06	01APR06	16MAY08	29MAY08																		
IM3165	Monitoring @ Piers P16 to P18	387*	20MAR06	03JUL07	16MAY08	15MAY08																		

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 1 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006



Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006														
							MAR			APR			MAY			JUN					
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19
IM3170	Install Instrumentation @ Piers P19 to Abut. M	12	20MAR06	01APR06	16MAY08	29MAY08	IM3170														
IM3175	Monitoring @ Piers P19 to Abut. M	387*	20MAR06	03JUL07	16MAY08	15MAY08	IM3175														
IM3180	Install Instrumentation @ Piers on Slip Road A	12	20MAR06	01APR06	16MAY08	29MAY08	IM3180														
IM3185	Monitoring @ Piers on Slip Road A	387*	20MAR06	03JUL07	16MAY08	15MAY08	IM3185														
IM3190	Install Instrumentation @ Piers on Slip Road B	12	20MAR06	01APR06	16MAY08	29MAY08	IM3190														
IM3195	Monitoring @ Piers on Slip Road B	387*	20MAR06	03JUL07	16MAY08	15MAY08	IM3195														
IM3200	Install Instrumentation @ Piers on Slip Road C	12	20MAR06	01APR06	16MAY08	29MAY08	IM3200														
IM3205	Monitoring @ Piers on Slip Road C	387*	20MAR06	03JUL07	16MAY08	15MAY08	IM3205														
IM3210	Install Instrumentation @ Piers on Slip Road D	12	20MAR06	01APR06	16MAY08	29MAY08	IM3210														
IM3215	Monitoring @ Piers on Slip Road D	387*	20MAR06	03JUL07	16MAY08	15MAY08	IM3215														
<b>Temporary Traffic Management Schemes</b>																					
TT1245	30th. TMLG Meeting	1	17APR06	17APR06	05MAR05	05MAR05	TT1245														
TT1250	31st. TMLG Meeting	1	22MAY06	22MAY06	04FEB06	04FEB06	TT1250														
TT1255	32nd. TMLG Meeting	1	19JUN06	19JUN06	11MAR06	11MAR06	TT1255														
<b>Procurement</b>																					
<b>Segmental Deck Casting (Type A Units)</b>																					
SD2720	P20/L (North)-Down - Cast 13 seg Type A	22	09MAR06A	30MAR06	09MAR06A	04FEB06	SD2720														
SD2720A	P20/L (North)-Up - Cast first 6 seg Type A	9	12MAR06A	21MAR06	12MAR06A	11JAN06	SD2720A														
SD2715	P20/R (South)-Down - Cast 12 seg Type A	20	03MAR06A	23MAR06	03MAR06A	28JAN06	SD2715														
SD2710	P20/R (South)-Up - Cast 12 seg Type A	19	22MAR06	11APR06	12JAN06	04FEB06	SD2710														
SD2720B	P20/L (North)-Up - Cast last 7 seg Type A	14	24MAR06	08APR06	06FEB06	20FEB06	SD2720B														
SD2740A	P21/R (South)-Up - Cast 9 seg Type A	16	31MAR06	17APR06	06FEB06	22FEB06	SD2740A														
SD2740	P21/R (South)-Down - Cast 9 seg Type A	16	09APR06	26APR06	01MAR06	17MAR06	SD2740														
SD2730A	P21/L (North)-Up - Cast 8 seg Type A	15	12APR06	28APR06	23FEB06	11MAR06	SD2730A														
SD2730	P21/L (North)-Down - Cast 8 seg Type A	15	18APR06	05MAY06	23FEB06	11MAR06	SD2730														
SD2750	Abutment M/L (South) - Cast 5 seg Type A	12	27APR06	10MAY06	22MAR06	04APR06	SD2750														
SD2760	Abutment M/R (North) - Cast 4 seg Type A	9	29APR06	09MAY06	25MAR06	04APR06	SD2760														
<b>Segmental Deck Casting (Type B Units)</b>																					
SD3490A	P20 Slip C-Down - Cast 13 Segments Type B	20	04MAR06A	28MAR06	04MAR06A	22NOV05	SD3490A														
SD3480	P20 Slip D-Up - Cast 12 Segments Type B	19	03MAR06A	20MAR06	03MAR06A	19JAN06	SD3480														
SD3480A	P20 Slip D-Down - Cast 12 Segments Type B	19	06MAR06A	25MAR06	06MAR06A	11NOV05	SD3480A														
SD3290	PA/L (North) - Cast 8 seg Type B	16	03MAR06A	20MAR06	03MAR06A	25OCT05	SD3290														
SD3490	P20 Slip C-Up - Cast 13 Segments Type B	20	21MAR06	11APR06	20JAN06	14FEB06	SD3490														

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 2 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006



Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006														
							MAR			APR			MAY			JUN					
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19
SD3380	D7-Up - Cast 12 segments Type B	19	21MAR06	10APR06	26OCT05	16NOV05															
SD3380A	D7-Down - Cast 9 segments Type B	16	27MAR06	12APR06	12NOV05	29NOV05															
SD3370	D8-Up - Cast 12 Segments Type B	19	29MAR06	18APR06	23NOV05	14DEC05															
SD3370A	D8-Down - Cast 12 Segments Type B	19	11APR06	03MAY06	17NOV05	07DEC05															
SD3500	P21 Slip C-Down - Cast 8 Segments Type B	15	11APR06	27APR06	07MAR06	22MAR06															
SD3510	P21 Slip D-Down - Cast 8 Segments Type B	15	13APR06	29APR06	06MAR06	21MAR06															
<b>Precast Parapet Panel Casting</b>																					
PP2000	CASTING Type I & VII Parapet Units 1 - 150	55	20OCT05A	06APR06	20OCT05A	19OCT05															
PP2010	CASTING Type I & VII Parapet Units 151 - 350	35	07APR06	18MAY06	01NOV05	10DEC05															
PP2020	CASTING Type I & VII Parapet Units 351 - 550	35	19MAY06	29JUN06	23DEC05	07FEB06															
PP2110	CASTING Type II Parapet Units 266 - 515	55	11FEB06A	13APR06	11FEB06A	16NOV05															
PP2120	CASTING Type II Parapet Units 516 - 765	45	14APR06	06JUN06	17NOV05	10JAN06															
PP2130	CASTING Type II Parapet Units 766 - 1099	60	07JUN06	18AUG06	11JAN06	24MAR06															
PP2200	CASTING Type III Parapet Units 1 - 22	22	20MAR06	14APR06	23SEP05	20OCT05															
PP2300	CASTING Type IV Parapet Units 1 - 227	80	20OCT05A	10JUN06	20OCT05A	15OCT05															
PP2310	CASTING Type IV Parapet Units 228 - 455	75	12JUN06	09SEP06	17OCT05	13JAN06															
PP2400	CASTING Type V & VI Parapet Units 1 - 260	65	21OCT05A	04MAY06	21OCT05A	13OCT05															
PP2410	CASTING Type V & VI Parapet Units 2611 - 520	65	05MAY06	21JUL06	14OCT05	29DEC05															
PP2420	CASTING Type V & VI Parapet Units 521 - 780	65	19MAY06	05AUG06	28OCT05	13JAN06															
<b>Noise Barriers &amp; Enclosures</b>																					
NB1020	Noise Encl' - Slip Rd A - Eng. Review & Approval	28	20MAR06	16APR06	24OCT05	20NOV05															
NB1030	Noise Encl' - Slip Rd A - Materials Purchasing	23	28FEB06A	21MAR06	28FEB06A	28SEP05															
NB1040	Noise Encl' - Slip Rd A - Off-site Fabrication	64	22MAR06	06JUN06	29SEP05	14DEC05															
NB1050	Noise Encl' - Slip Rd A - Delivery to Site	45	26APR06	17JUN06	04NOV05	27DEC05															
NB1070	Erection of Noise barrier Mock Up Sample	18	04MAY06	24MAY06	14NOV05	03DEC05															
NB1110	Noise Encl' - Slip Rd B - Eng. Review & Approval	28	20MAR06	16APR06	26NOV05	23DEC05															
NB1120	Noise Encl' - Slip Rd B - Materials Purchasing	26	20MAR06	21MAR06	29SEP05	30SEP05															
NB1130	Noise Encl' - Slip Rd B - Off-site Fabrication	70	22MAR06	13JUN06	03OCT05	23DEC05															
NB1140	Noise Encl' - Slip Rd B - Delivery to Site	65	27APR06	14JUL06	08NOV05	24JAN06															
NB1200	Noise Encl' - P8 to P11 - Design & Shop Drawings	74	10SEP05A	19MAY06	10SEP05A	08NOV05															
NB1210	Noise Encl' - P8 to P11 - Eng. Review & Approval	28	20MAY06	16JUN06	09NOV05	06DEC05															
NB1220	Noise Encl' - P8 to P11 - Materials Purchasing	30	28FEB06A	20APR06	28FEB06A	27SEP05															
NB1230	Noise Encl' - P8 to P11 - Off-site Fabrication	78	21APR06	24JUL06	28SEP05	30DEC05															

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

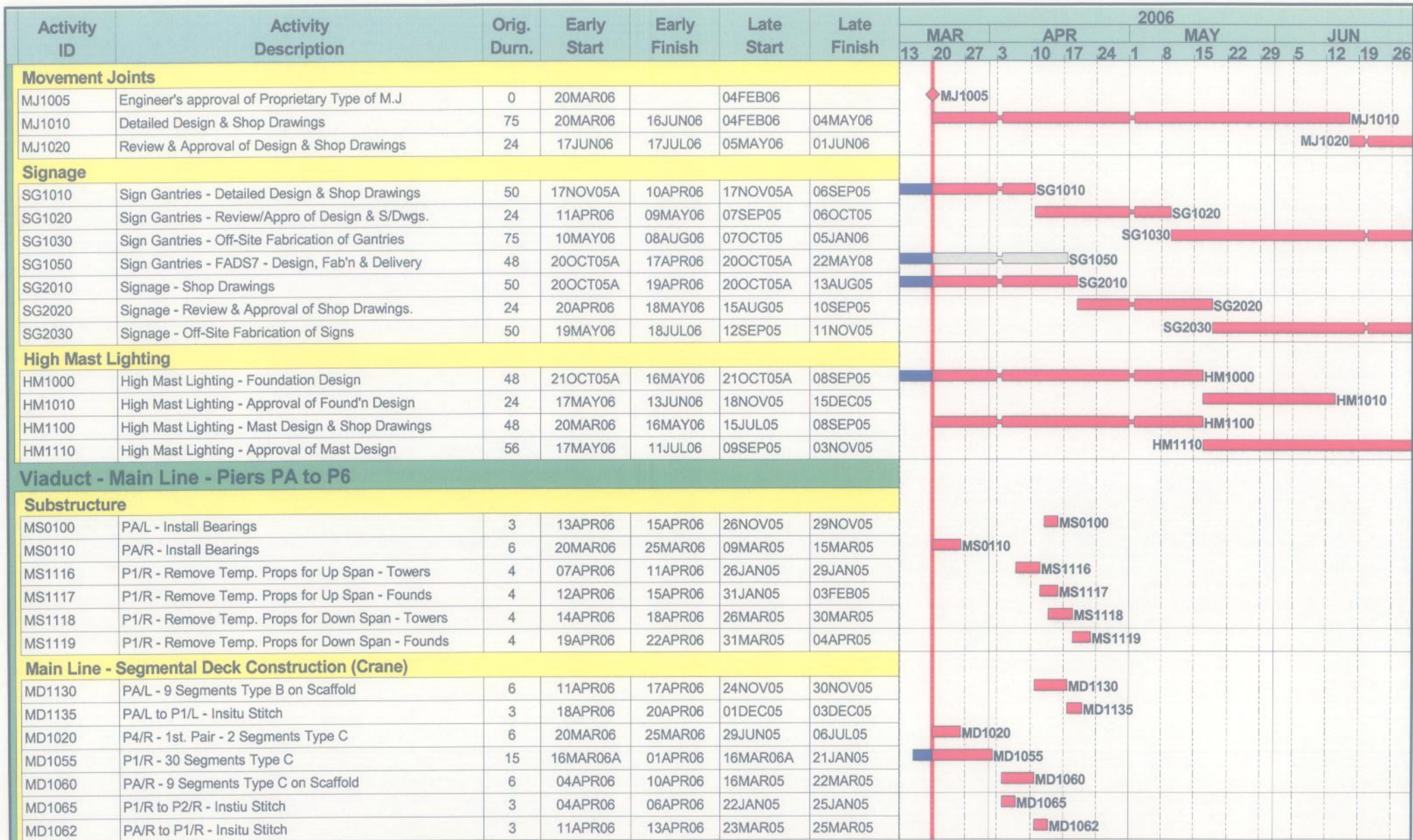
P3 File : LU30

Sheet 3 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006







Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 5 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006





Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006																		
							MAR			APR			MAY			JUN									
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26			
<b>Main Line - Segmental Deck Const'n (Lift Frames)</b>																									
MD1036	P2/R to P3/R - Insitu Stitch	3	20MAR06	22MAR06	14NOV05	16NOV05																			
MD1025	P4/R - 28 Segments Type C	13	27MAR06	11APR06	07JUL05	21JUL05																			
MD1033	P4/R to P5/R - Insitu Stitch	3	12APR06	14APR06	28NOV05	30NOV05																			
MD1034	P3/R to P4/R - Insitu Stitch	3	12APR06	14APR06	17OCT05	19OCT05																			
<b>Superstructure Finishing Works Required for TCSS</b>																									
MF1005	P3L to P6 - Parapets P3/L to P7/L (incl earthing)	48	05MAY06	30JUN06	21NOV05	17JAN06																			
MF1000	PA to P6 - Parapets PA/L to P3/L (incl earthing)	48	21APR06	16JUN06	05DEC05	03FEB06																			
MF1010	PA to P6 - Parapets PA/R to P3/R (incl earthing)	48	15APR06	10JUN06	20OCT05	14DEC05																			
MF1015	PA to P6 - Insitu Slab to Under Median Barrier	36	20MAR06	02MAY06	14NOV05	24DEC05																			
MF1017	PA to P6 - Median Barrier (incl earthing)	36	11APR06	23MAY06	05DEC05	17JAN06																			
<b>Viaduct - Slip Road A</b>																									
<b>Substructure</b>																									
AS1050	Abutment A - Install Bearings	2	20MAR06	21MAR06	09NOV06	10NOV06																			
<b>Superstructure Finishing Works Required for TCSS</b>																									
AF1010	Slip Rd.A to P7 -Parapets East Face (incl earth)	60	06JAN06A	18APR06	06JAN06A	10NOV05																			
AF1020	Slip Rd.A to P7- Parapets West Face (incl earth)	60	17JAN06A	24APR06	17JAN06A	23NOV05																			
<b>Noise Barriers &amp; Encl' (Sec.15 Excision)</b>																									
AN1000	Slip Rd. A - Full Enclosure Ch.1070 - Pier A2	48	04MAY06	29JUN06	11NOV05	07JAN06																			
AN1010	Slip Rd. A - Full Enclosure Pier A2 - 1280	48	10JUN06	08AUG06	19DEC05	17FEB06																			
<b>Viaduct - Slip Road B</b>																									
<b>Superstructure Finishing Works Required for TCSS</b>																									
BF1010	Slip Rd.B to P7 - Parapets East Face (incl earth)	60	11APR06	21JUN06	08OCT05	17DEC05																			
BF1015	Slip Rd.B to P7 - Parapets West Face (incl earth)	60	24MAY06	04AUG06	24NOV05	07FEB06																			
<b>Remaining Noise Barriers &amp; Enclosures</b>																									
BN1000	Slip Road B - Full Enclosure Ch.1038 - Pier B2	48	17MAY06	13JUL06	14NOV05	10JAN06																			
BN1005	Slip Road B - Full Enclosure Pier B2 - Ch. 1258	48	14JUN06	11AUG06	12DEC05	10FEB06																			
<b>At Grade Works - Lai Po Road</b>																									
<b>Temporary Traffic Management Schemes</b>																									
WT3140	Divert N/B & S/B Traffic to Divs'n No.1 (for B3)	1	20MAR06	20MAR06	29MAY08	29MAY08																			
WT3250	4th. TTMS Lai Po Rd (P4R,P5R,B4) -Implementation	61*	02FEB06A	14APR06	02FEB06A	30NOV05																			
WT3300	5th. TTMS Lai Po Rd (for N/B C/W)-Prepare Review	18	20MAR06	10APR06	12FEB05	04MAR05																			

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 6 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006





Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006														
							MAR			APR			MAY			JUN					
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19
MF2007	P7 to P10 - Median Barrier (incl earthing)	48	18APR06	13JUN06	08OCT05	03DEC05	MF2007														
<b>Remaining Superstructure Finishing Works</b>																					
MF2040	P7 to P10 - Deck Drainage	48	14JUN06	11AUG06	26SEP06	23NOV06	MF2040														
<b>At Grade Works - Lai Chi Kok Interchange</b>																					
<b>Temporary Traffic Management Schemes</b>																					
MT1300	2nd. TTMS Butterfly Valley Rd-Prepare for Review	12	20MAR06	01APR06	19FEB05	04MAR05	MT1300														
MT1310	2nd. TTMS Butterfly Valley Rd - CRE Endorsement	6	18APR06	24APR06	16JUN05	22JUN05	MT1310														
MT1320	2nd. TTMS Butterfly Valley Rd - Roadworks Advice	6	25APR06	02MAY06	23JUN05	29JUN05	MT1320														
MT1330	2nd. TTMS Butterfly Valley Rd - Prepare	18	03MAY06	23MAY06	30JUN05	21JUL05	MT1330														
MT1400	3rd TTMS Butterfly Valley Rd -Prepare for Review	12	20MAR06	01APR06	12FEB05	25FEB05	MT1400														
MT1410	3rd. TTMS Butterfly Valley Rd - CRE Endorsement	6	18APR06	24APR06	10SEP05	16SEP05	MT1410														
MT1420	3rd. TTMS Butterfly Valley Rd - Roadworks Advice	6	25APR06	02MAY06	17SEP05	24SEP05	MT1420														
MT1430	3rd. TTMS Butterfly Valley Rd - Prepare	24	03MAY06	30MAY06	26SEP05	25OCT05	MT1430														
MT2070	TTMS Case No.027 (P7 Piling) - Implementation	563*	03JUN04A	17APR06	03JUN04A	18JAN06	MT2070														
MT2140	TTMS for Pier P8/L - Implementation	641*	23FEB04A	08APR06	23FEB04A	11NOV05	MT2140														
MT3100	2nd. TTMS Kom Tsun Street - Prepare for Review	12	20MAR06	01APR06	19FEB05	04MAR05	MT3100														
MT3110	2nd. TTMS Kom Tsun Street - CRE Endorsement	6	04APR06	10APR06	23MAY05	28MAY05	MT3110														
MT3120	2nd. TTMS Kom Tsun Street - Roadworks Advice	6	11APR06	17APR06	30MAY05	04JUN05	MT3120														
MT3130	2nd. TTMS Kom Tsun Street - Site Preparation	20	18APR06	11MAY06	06JUN05	29JUN05	MT3130														
MT3140	2nd. TTMS Kom Tsun Street - Implementation	117*	15MAY06	03OCT06	14SEP05	18NOV05	MT3140														
MT3200	3rd. TTMS Kom Tsun Street - Prepare for Review	12	20MAR06	01APR06	12FEB05	25FEB05	MT3200														
MT3210	3rd. TTMS Kom Tsun Street - CRE Endorsement	6	04APR06	10APR06	03OCT05	08OCT05	MT3210														
MT3220	3rd. TTMS Kom Tsun Street - Roadworks Advice	6	11APR06	17APR06	10OCT05	17OCT05	MT3220														
MT3230	3rd. TTMS Kom Tsun Street - Site Preparation	28	18APR06	20MAY06	18OCT05	18NOV05	MT3230														
<b>Drainage Works</b>																					
SA5000	Butterfly Valley Rd Stage1 - Stormwater Drainage	54	15JUN05A	06MAY06	15JUN05A	23MAY05	SA5000														
SA2000	Kom Tsun St. & Bus Terminal - St/water Drainage	54	14FEB05A	13MAY06	14FEB05A	29JUN05	SA2000														
<b>Utilities &amp; Roadworks</b>																					
SR4000	Kwai Chung Road (Pier 7) - Reinstatement	24	20MAR06	17APR06	20DEC05	18JAN06	SR4000														
SR2000	Castle Peak Road - Roadworks Reinstatement	17	20MAR06	08APR06	24OCT05	11NOV05	SR2000														
SR5000	Butterfly V. Rd (LCKI) Stage1-Excav. & Formation	36	08APR06	20MAY06	25APR05	06JUN05	SR5000														
SR5010	Butterfly V. Rd (LCKI) Stage 1 - Sub-base	36	22APR06	03JUN06	10MAY05	21JUN05	SR5010														
SR5020	Butterfly V. Rd (LCKI) Stage 11 - Kerbs	24	22MAY06	17JUN06	07JUN05	06JUL05	SR5020														

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 8 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006







Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006																			
							MAR			APR			MAY			JUN										
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26				
<b>Main Line - Segmental Deck Construction (Crane)</b>																										
MD4030	P17 Slip C - 1st. Pair - 2 Segments Type B	4	20MAR06	23MAR06	01DEC05	05DEC05																				
MD4035	P17 Slip C - 16 Segments Type B	7	24MAR06	31MAR06	06DEC05	13DEC05																				
MD4040	C6 Slip C - 3 Segments Type B	2	04APR06	05APR06	14DEC05	15DEC05																				
MD4042	C6 Slip C to P17 Slip C - Insitu Stitch	2	06APR06	07APR06	16DEC05	17DEC05																				
MD4095	P18 Slip D - 22 Segments Type B	11	06APR06	18APR06	07DEC05	19DEC05																				
DD1025	D10 to P18 - Insitu Stitch	2	19APR06	20APR06	31DEC05	03JAN06																				
<b>Main Line - Segmental Deck Const'n (Lift Frames)</b>																										
MD4112	P18 Slip C - Install Lifting Frames	8	20MAR06	28MAR06	15NOV05	23NOV05																				
MD4115A	P18 Slip C - 2nd-4th. Pairs -6 Segments Type B	9	29MAR06	08APR06	24NOV05	03DEC05																				
MD4115	P18 Slip C - 5th-14th Pairs - 20 Segments Type B	7	10APR06	17APR06	05DEC05	12DEC05																				
<b>Main Line - Segmental Deck Construction (Gantry)</b>																										
MD4018	Delivery of Segments at P17 Slip C	4	20MAR06	23MAR06	26MAY08	29MAY08																				
MD4020	Launch Gantry to P16/P17/P18 UNDER CLP O/H LINES	2	14MAR06A	20MAR06	14MAR06A	21NOV05																				
<b>Superstructure Finishing Works Required for TCSS</b>																										
MF4000	P16 to P18 - Parapets at P16 - P18 incl earthing	24	15JUN06	14JUL06	27DEC05	24JAN06																				
MF4005	P16 to P18 - Insitu Slab to Under Median Barrier	24	18APR06	16MAY06	13DEC05	11JAN06																				
MF4007	P16 to P18 - Median Barrier (incl earthing)	24	12MAY06	08JUN06	07JAN06	07FEB06																				
<b>Viaduct - Main Line - Piers 19 to Abutment M</b>																										
<b>Substructure</b>																										
MS5115	P20 - Pier Head - Cure & Strip Falsework	30	02MAR06A	22MAR06	02MAR06A	25NOV05																				
MS5165	P21 - Pier Hammer Head	30	18MAR06A	21APR06	18MAR06A	01DEC05																				
MS5170	P21 - Pier Insitu Deck Segment	60	22APR06	04JUL06	02DEC05	15FEB06																				
MS5230	Abutment M - Install Bearings	6	20MAR06	25MAR06	23MAY08	29MAY08																				
MS5240	Abutment M - Insitu Deck Segment	60	14FEB06A	21APR06	14FEB06A	07DEC05																				
MS5250	Abutment M - Cure & Strip Falsework	24	22APR06	20MAY06	08DEC05	06JAN06																				
MS5260	Abutment M - End Wall and Wing Walls	36	22MAY06	04JUL06	07JAN06	21FEB06																				
<b>Main Line - Segmental Deck Construction (Gantry)</b>																										
MD4025	Launch Gantry to P17/P18/P19 UNDER CLP O/H LINES	1	21MAR06	21MAR06	22NOV05	22NOV05																				
MD5000	Launch Gantry to P18/P19/P20 UNDER CLP O/H LINES	1	22MAR06	22MAR06	23NOV05	23NOV05																				
MD4107	CLP RESUME POWER - O/HEAD LINES NORTH &	0		31MAR06		29MAY08																				
MD5015	P19 Slip C - 18 Segments Type B	8	23MAR06	31MAR06	24NOV05	02DEC05																				
MD5022	P19/L - 16 Segments Type A	8	24MAR06	01APR06	25NOV05	03DEC05																				

Start Date 23SEP03  
 Finish Date 29MAY08  
 Data Date 20MAR06

P3 File : LU30

Sheet 11 of 21

Highways Department Contract No. HY/2003/01  
 Route 8 - Lai Chi Kok Viaduct  
 3 Month Rolling Programme  
 from 20 March 2006



Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006																
							MAR			APR			MAY			JUN							
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	
MD5035	P19/R - 18 Segments Type A	8	24MAR06	01APR06	25NOV05	03DEC05																	
MD5045	P19 Slip D - 14 Segments Type B	8	23MAR06	31MAR06	25NOV05	03DEC05																	
MD5055	P19/L&R to P18/L&R - Insitu Stitches	2	04APR06	05APR06	05DEC05	06DEC05																	
MD5060	P20 Slip D - 1st. Pair - 2 Segments Type B	4	19APR06	22APR06	11FEB06	15FEB06																	
MD5070	P20/R - 1st. Pair - 2 Segments Type A	4	05APR06	08APR06	25JAN06	28JAN06																	
MD5080	P20/L - 1st. Pair - 2 Segments Type A	4	10APR06	13APR06	02FEB06	06FEB06																	
MD5090	P20 Slip C - 1st. Pair - 2 Segments Type A	4	14APR06	18APR06	07FEB06	10FEB06																	
MD5065	P20 Slip D - 22 Segments Type B	15	24APR06	11MAY06	16FEB06	04MAR06																	
MD5075	P20/R - 22 Segments Type A	15	24APR06	11MAY06	16FEB06	04MAR06																	
MD5085	P20/L - 24 Segments Type A	15	25APR06	12MAY06	17FEB06	06MAR06																	
MD5095	P20 Slip C - 24 Segments Type B	15	25APR06	12MAY06	17FEB06	06MAR06																	
MD5097	P20/L&R to P19/L&R - Insitu Stitches	3	12MAY06	15MAY06	21MAR06	23MAR06																	
MD5100	Launch Gantry to P20/P21/Abut M	2	22MAY06	23MAY06	07MAR06	08MAR06																	
<b>Viaduct - Main Line - Tunnel Approaches</b>																							
<b>Noise Barriers &amp; Encl' (Sec.10 Excision)</b>																							
MN6100	Semi Enclosure S/B Ch.2005 - 2200 - Frame	60	19JUN06	30AUG06	08DEC05	21FEB06																	
<b>At Grade Works - Butterfly Valley</b>																							
<b>Temporary Traffic Management Schemes</b>																							
QT2130	TTMS Slip Rd Deck@ CC Rd E/B - Site Preparation	2	20MAR06	21MAR06	28MAY08	29MAY08																	
QT2140	TTMS Slip Rd D Deck @ CC Rd E/B - Implementation	18*	28FEB06A	20MAR06	28FEB06A	30DEC05																	
<b>Earthworks &amp; Slope Works - 11NW-A/FR54 &amp; F55</b>																							
QE2000	Slope 11NW-A/FR54 & FR55 - Remove Temp. Platform	18	24MAR06	14APR06	21JUN05	12JUL05																	
QE2002	Slope 11NW-A/FR54 & FR55 - Retaining Wall -Bases	36	15APR06	27MAY06	13JUL05	23AUG05																	
QE2004	Slope 11NW-A/FR54 & FR55 - Retaining Wall -Walls	48	15MAY06	11JUL06	10AUG05	06OCT05																	
QE2010	Slope 11NW-A/FR54 & FR55 - Install Temp Works	48	03MAY06	28JUN06	20JUL05	13SEP05																	
<b>Utilities &amp; Roadworks</b>																							
QR2000	WSD Access Road - New CLP 11Kv Cable Laying	36	20MAR06	02MAY06	17APR08	29MAY08																	
<b>Landscape Works</b>																							
QX1020	Landscaping - Soiling & Planting on Slope CCR-S6	75	20MAR06*	16JUN06	21OCT05	18JAN06																	
QX1100	Landscape Establishment Works	301	17JUN06	18JUN07	04NOV06	03NOV07																	

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 12 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006



Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006														
							MAR			APR			MAY			JUN					
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19
<b>Viaduct - Slip Road C</b>																					
<b>Substructure</b>																					
CS1150	Abutment C - Install Bearings	6	20MAR06	18MAR06	26OCT05	25OCT05	■ CS1150														
CS1447	C5/L - C5/R Portal - Install Bearings	6	20MAR06	25MAR06	06OCT05	13OCT05	■ CS1447														
CS1555	C6/R & C6/L - Install Bearings on Portal Frame	6	27MAR06	01APR06	14OCT05	20OCT05	■ CS1555														
<b>Slip Road C - Insitu Deck Construction</b>																					
CD1032	Slip Rd. C - Deck Span C3 to C4 - Falsework	12	27JAN06A	21MAR06	27JAN06A	26AUG05	■ CD1032														
CD1034	Slip Rd. C - Deck Span C3 to C4 - Soffit	6	22MAR06	28MAR06	27AUG05	02SEP05	■ CD1034														
CD1036	Slip Rd. C - Deck Span C3 to C4 - 1st. Pour	20	29MAR06	21APR06	03SEP05	27SEP05	■ CD1036														
CD1038	Slip Rd. C - Deck Span C3 to C4 - 2nd. Pour	20	22APR06	16MAY06	28SEP05	22OCT05	■ CD1038														
CD1039	Slip Rd. C - Deck Span C3 to C4 - Stressing	4	17MAY06	20MAY06	24OCT05	27OCT05	■ CD1039														
CD1041	Slip Rd. C - Deck Span C3 to C4 - Cure & Strip	6	22MAY06	27MAY06	28OCT05	03NOV05	■ CD1041														
CD1040	Slip Rd. C - Deck Span C4 to C5 - Ground Prep.	9	20MAR06	29MAR06	16SEP05	27SEP05	■ CD1040														
CD1042	Slip Rd. C - Deck Span C4 to C5 - Falsework	10	30MAR06	11APR06	30SEP05	13OCT05	■ CD1042														
CD1044	Slip Rd. C - Deck Span C4 to C5 - Soffit	6	12APR06	18APR06	21OCT05	27OCT05	■ CD1044														
CD1046	Slip Rd. C - Deck Span C4 to C5 - 1st. Pour	20	19APR06	12MAY06	28OCT05	19NOV05	■ CD1046														
CD1048	Slip Rd. C - Deck Span C4 to C5 - 2nd. Pour	20	13MAY06	05JUN06	21NOV05	13DEC05	■ CD1048														
CD1049	Slip Rd. C - Deck Span C4 to C5 - Stressing	4	06JUN06	09JUN06	14DEC05	17DEC05	■ CD1049														
CD1051	Slip Rd. C - Deck Span C4 to C5 - Cure & Strip	6	10JUN06	16JUN06	11JAN06	17JAN06	■ CD1051														
CD1050	Slip Rd. C - Deck Span C5 to C6 - Ground Prep.	12	30MAR06	13APR06	28SEP05	13OCT05	■ CD1050														
CD1052	Slip Rd. C - Deck Span C5 to C6 - Falsework	18	14APR06	05MAY06	14OCT05	03NOV05	■ CD1052														
CD1054	Slip Rd. C - Deck Span C5 to C6 - Soffit	6	29MAY06	03JUN06	04NOV05	10NOV05	■ CD1054														
CD1056	Slip Rd. C - Deck Span C5 to C6 - 1st. Pour	20	05JUN06	28JUN06	11NOV05	03DEC05	■ CD1056														
<b>Superstructure Finishing Works Required for TCSS</b>																					
CF1010	Slip Rd. C - Parapets C2 to C4 (incl earthing)	48	15APR06	10JUN06	24OCT05	17DEC05	■ CF1010														
CF1000	Slip Rd. C - Parapets - Abut. C to C2 + earthing	24	12JUN06	11JUL06	19DEC05	17JAN06	■ CF1000														
<b>Viaduct - Slip Road D</b>																					
<b>Substructure</b>																					
DS1045	Abutment D - Install Bearings	6	20MAR06	25MAR06	26OCT05	01NOV05	■ DS1045														
DS1115	D1 - Install Bearings	6	20MAR06	25MAR06	29OCT05	04NOV05	■ DS1115														
DS1175	D2 - Install Bearings	6	20MAR06	25MAR06	05NOV05	11NOV05	■ DS1175														
DS1295	D4 - Install Bearings	6	20MAR06	25MAR06	23MAY08	29MAY08	■ DS1295														

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 13 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006





Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006															
							MAR			APR			MAY			JUN						
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26
DS1355	D5 - Install Bearings	6	20MAR06	25MAR06	23MAY08	29MAY08																
DS1530	D8 - Pier Head	24	03MAR06A	13APR06	03MAR06A	10OCT05																
DS1530A	D8 - Pier Head - Insitu Segment	36	14APR06	26MAY06	12OCT05	22NOV05																
DS1531	D8 - Pier Head - Cure & Strike Form/Falsework	12	27MAY06	09JUN06	23NOV05	06DEC05																
DS1592	D9 - Install Bearings	6	20MAR06	25MAR06	23MAY08	29MAY08																
DS1655	D10 - Install Bearings	6	20MAR06	25MAR06	23MAY08	29MAY08																
<b>Slip Road D - Segmental Deck Const'n (Crane)</b>																						
DD1035	D9 - 6 seg Type B	5	28FEB06A	20MAR06	28FEB06A	30DEC05																
DD1037	D9 to D10 - Insitu Stitch	2	21MAR06	22MAR06	31DEC05	03JAN06																
DD1050	D8 - 1st. Pair - 2 Segments Type B	6	10JUN06	16JUN06	07DEC05	13DEC05																
DD1055	D8 - 28 Segments Type B	14	17JUN06	05JUL06	14DEC05	30DEC05																
DD1115	D5 - 26 seg Type B	7	17MAR06A	24MAR06	17MAR06A	25NOV05																
DD1137	D4 to D5 - Insitu Stitch	3	25MAR06	28MAR06	08DEC05	10DEC05																
DD1172	Install Segment Sliding System Abut. D to D3	24	09MAR06A	10APR06	09MAR06A	01NOV05																
DD1200	Abut D - 3 Segments Type B on scaff	3	11APR06	13APR06	02NOV05	04NOV05																
DD1195	D1 - 21 Segments Type B (incl. Pierhead Seg)	6	14APR06	20APR06	05NOV05	11NOV05																
DD1205	D1 to Abut D - Insitu Stitch	3	21APR06	24APR06	21DEC05	23DEC05																
DD1175	D2 - 27 Segments Type B (incl. Pier Head Seg)	10	21APR06	03MAY06	12NOV05	23NOV05																
DD1197	D1 to D2 - Insitu Stitch	3	04MAY06	06MAY06	08DEC05	10DEC05																
DD1150	D3 - 1st. Pair - 2 Segments Type B	6	04MAY06	10MAY06	24NOV05	30NOV05																
DD1155	D3 - 18 Segments Type B	6	11MAY06	17MAY06	01DEC05	07DEC05																
DD1167	D3 to D4 - Insitu Stitch	3	18MAY06	20MAY06	08DEC05	10DEC05																
DD1177	D2 to D3 - Insitu Stitch	3	18MAY06	20MAY06	08DEC05	10DEC05																
DD1179	Dismantle Segment Sliding System (Abut. D to D3)	12	08MAY06	20MAY06	24JUN06	08JUL06																
<b>Slip Road D - Segmental Deck Const'n (L/Frames)</b>																						
DD1095	D6 - 16 seg Type B	7	25MAR06	01APR06	26NOV05	03DEC05																
DD1117	D5-D6 Insitu Stitch	2	04APR06	05APR06	16DEC05	17DEC05																
DD1070	D7 - 1st. pair - 2 seg Type B	6	10APR06	15APR06	28NOV05	03DEC05																
DD1075	D7 - 16 seg Type B	8	18APR06	26APR06	05DEC05	13DEC05																
DD1077	D7-D8 Insitu Stitch	2	27APR06	28APR06	16DEC05	17DEC05																
DD1097	D6-D7 Insitu Stitch	2	27APR06	28APR06	16DEC05	17DEC05																
<b>Superstructure Finishing Works Required for TCSS</b>																						
DF1005	Slip Rd. D -Parapets D4 to Abut D (incl earthing)	42	22MAY06	11JUL06	12DEC05	03FEB06																

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 14 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006





Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006																	
							MAR			APR			MAY			JUN								
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26		
<b>West Bound - Insitu Deck</b>																								
LD1040	Lai Wan O/pass W/B - Demolish F/p for Stage 3	24	20MAR06	17APR06	20AUG05	16SEP05																		
LD1050	Lai Wan O/pass W/B - Span St.3 - Ground Prep.	18	25APR06	16MAY06	17SEP05	10OCT05																		
LD1052	Lai Wan O/pass W/B - Span St.3 - Falsework	18	03MAY06	23MAY06	26SEP05	18OCT05																		
LD1054	Lai Wan O/pass W/B - Span St.3 - Soffit	24	10MAY06	06JUN06	04OCT05	01NOV05																		
LD1056	Lai Wan O/pass W/B - Span St.3 - 1st. Pour	24	31MAY06	28JUN06	26OCT05	22NOV05																		
<b>At Grade Works - Ching Cheung Road at LCK Park</b>																								
<b>Temporary Traffic Management Schemes</b>																								
NT2050	2nd. TTMS CC Rd (E/B C/Way) - Prepare for Review	12	18APR06	02MAY06	11JAN06	24JAN06																		
NT2060	2nd. TTMS CC Rd (E/B C/Way) - CRE Endorsement	6	23MAY06	28MAY06	29OCT06	03NOV06																		
NT2070	2nd. TTMS CC Rd (E/B C/Way) - Roadworks Advice	6	29MAY06	03JUN06	04NOV06	09NOV06																		
NT2080	2nd. TTMS CC Rd (E/B C/Way) - Site Preparation	6	05JUN06	10JUN06	10NOV06	16NOV06																		
<b>Retaining Wall CCR-R1 West Bound</b>																								
NW1070	W/B Ret. Wall CCR-R1A East - Parapet on Wall	24	20MAR06	17APR06	31OCT05	26NOV05																		
NW1150	W/B Ret. Wall CCR-R1B - Backfill Behind Wall	12	20MAR06	01APR06	27SEP05	12OCT05																		
NW1152	W/B Ret. Wall CCR-R1B - Parapet on Wall	18	18APR06	09MAY06	28NOV05	17DEC05																		
NW1210	W/B Ret. Wall CCR-R1A West - Bases	18	27FEB06A	01APR06	27FEB06A	10SEP05																		
NW1220	W/B Ret. Wall CCR-R1A West - Walls	24	13MAR06A	17APR06	13MAR06A	26SEP05																		
NW1230	W/B Ret. Wall CCR-R1A West - B/fill Behind Wall	12	18APR06	02MAY06	27SEP05	12OCT05																		
NW1240	W/B Ret. Wall CCR-R1A West - Parapet on Wall	18	10MAY06	30MAY06	19DEC05	10JAN06																		
<b>Retaining Wall CCR-R1 East Bound</b>																								
NW2070	W/B Ret. Wall CCR-R1C - Parapets on Wall	48	07JAN06A	29APR06	07JAN06A	22OCT05																		
NW2160	W/B Ret. Wall CCR-R1D -Parapets on Wall	60	02MAY06	12JUL06	24OCT05	03JAN06																		
NW2240	W/B Ret. Wall CCR-R1E - Parapets on Wall	24	20MAR06	17APR06	05DEC05	03JAN06																		
<b>Drainage Works</b>																								
NA2010	C.C. Rd. W/B in New C/way - S/water Drainage E3	75	20MAR06	16JUN06	13OCT05	10JAN06																		
NA2020	C.C. Rd. W/B in New C/way - S/water Drainage J2	75	03MAY06	01AUG06	13OCT05	10JAN06																		
NA3000	C.C. Rd. E/B in New C/way - Stormwater Drainage	75	20MAR06	16JUN06	05OCT05	03JAN06																		
<b>Utilities &amp; Roadworks</b>																								
NR1000	C.C. Rd. W/B in Portion E3 - Formation	18	03JUN06	24JUN06	27DEC05	17JAN06																		
NR1010	C.C. Rd. W/B in Portion E3 - Sub-base	12	17JUN06	03JUL06	11JAN06	24JAN06																		
NR2000	C.C. Rd. E/B - Foundations to Sign Gantry ADS3	18	17JUN06	10JUL06	04JAN06	24JAN06																		
NR3000	C.C. Rd. E/B - Formation	24	17JUN06	17JUL06	27APR06	25MAY06																		

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 16 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006



Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006														
							MAR			APR			MAY			JUN					
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19
<b>At Grade Work - Ching Cheung Road - Main Section</b>																					
<b>Temporary Traffic Management Schemes</b>																					
RT2240	3rd. TTMS CC Rd (Slewing) - Implementation	385*	28DEC04A	10APR06	28DEC04A	23NOV06	RT2240														
<b>Earthworks &amp; Slope Works - CCR-S1, S2 &amp; S3</b>																					
RE1700	Slope CCR-S1E - Finish Seed & Planting +62.3mPD	6	20MAR06*	25MAR06	19OCT06	26OCT06	RE1700														
RE1710	Slope CCR-S1E - Finish Seed & Planting +54.8mPD	12	27MAR06	10APR06	27OCT06	09NOV06	RE1710														
RE1720	Slope CCR-S1E - Finish Seed & Planting +47.3mPD	12	11APR06	24APR06	10NOV06	23NOV06	RE1720														
RE1710A	Slope CCR-S1C- Finish Seed & Planting +54.9mPD	12	20MAR06	01APR06	27OCT06	09NOV06	RE1710A														
RE1720A	Slope CCR-S1C - Finish Seed & Planting +47.3mPD	12	04APR06	17APR06	10NOV06	23NOV06	RE1720A														
RE1840	Slope CCR-S1E&C- Rock Stabilisation to +25.4mPD	48	24OCT05A	07APR06	24OCT05A	11SEP06	RE1840														
RE1850	Slope CCR-S1E&C - Drainage to Level +25.4mPD	48	24JAN06A	06MAY06	24JAN06A	11OCT06	RE1850														
RE1860	Slope CCR-S1E&C- Finish Seed & Planting to +25.4	36	08MAY06	17JUN06	12OCT06	23NOV06	RE1860														
RE2000	Slope CCR-S2 -Excavate Rock to Formation	24	20MAR06	17APR06	20OCT05	16NOV05	RE2000														
RE2050	Slope CCR-S2 - Rock Stabilisation	48	04APR06	30MAY06	08APR06	03JUN06	RE2050														
RE2100	Slope CCR-S2 - Drainage	42	31MAY06	20JUL06	05JUN06	25JUL06	RE2100														
RE1720B	Slope CCR-S1W - Seed & Planting to +39.95mPD	36	20MAR06	02MAY06	12OCT06	23NOV06	RE1720B														
RE1550	Slope CCR-S1W - Rock Stabilisation to 24.9mPD	54	24OCT05A	04MAY06	24OCT05A	29MAY08	RE1550														
RE1250	Slope CCR-S1W - Bulk Excavate to Level +19.0mPD	18	25NOV05A	24MAR06	25NOV05A	16AUG05	RE1250														
RE1250A	Slope CCR-S1W -Detailed Excavate to Level +19.0m	18	20MAR06	28MAR06	08NOV05	16NOV05	RE1250A														
RE1560	Slope CCR-S1W - Rock Stabilisation to 19.0mPD	48	25MAR06	22MAY06	08AUG06	04OCT06	RE1560														
RE1660	Slope CCR-S1W - Drainage to Level +19.0mPD	24	09MAY06	05JUN06	19SEP06	18OCT06	RE1660														
RE1270	Slope CCR-S1W - Excavate to Lai Wan Road O/pass	18	25MAR06	15APR06	17AUG05	06SEP05	RE1270														
RE16604	Slope CCR-S1W - Drainage to Level +16.8mPD	18	06JUN06	27JUN06	19OCT06	09NOV06	RE16604														
RE1665	Slope CCR-S1W - Seed & Planting to +32.4mPD	24	20MAR06	17APR06	22AUG06	18SEP06	RE1665														
RE1670	Slope CCR-S1W - Seed & Planting to +24.9mPD	24	18APR06	16MAY06	19SEP06	18OCT06	RE1670														
RE1675	Slope CCR-S1W - Seed & Planting to +19.0mPD	18	06JUN06	27JUN06	19OCT06	09NOV06	RE1675														
RE3200	Slope CCR-S3 - Additional Soil Nails (VO166)	24	20MAR06	17APR06	27OCT06	23NOV06	RE3200														
<b>Retaining Wall CCR-R2 (Value Engineering Design)</b>																					
RW1200	Ch 02.13 to 41.71 -Excavate & Rock Stabilisation	36	04APR05A	30MAR06	04APR05A	29MAY08	RW1200														
RW1220	Ch 02.13 to 41.71 - Mass Concrete Facing Wall	24	24OCT05A	28MAR06	24OCT05A	29MAY08	RW1220														
RW1230	Ch 02.13 to 41.71 - Retaining Wall Base Slabs	12	06FEB06A	28MAR06	06FEB06A	27AUG05	RW1230														
RW1240	Ch 02.13 to 41.71 - Retaining Wall Stem & Coping	27	29MAR06	29APR06	29AUG05	29SEP05	RW1240														
RW1300	Ch 50.71 to 78.27 -Excavate & Rock Stabilisation	24	21OCT05A	30MAR06	21OCT05A	29MAY08	RW1300														

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 17 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006





Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006														
							MAR			APR			MAY			JUN					
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19
RW5030	Ret. Wall CCR-R3C - Walls	30	05JUN06	11JUL06	24JUL06	28AUG06	RW5030														
<b>Slope Works Above Retaining Walls CCR-R3D, E &amp; F</b>																					
RE4107	Slope above CCR-R3D-Excavate Slope	12	19MAY06	01JUN06	17JUL06	31JUL06	RE4107														
RE4110	Slope above CCR-R3D- Filter - Bottom to 1st Berm	6	02JUN06	08JUN06	01AUG06	07AUG06	RE4110														
RE4111	Slope above CCR-R3D- Rockfill - Bt'm to 1st Berm	12	09JUN06	23JUN06	08AUG06	21AUG06	RE4111														
RE4205	Slope above CCR-R3E&F -Remove Piling Platform	6	24APR06	29APR06	24MAR06	30MAR06	RE4205														
RE4207	Slope above CCR-R3E&F -Excavate Slope	12	02MAY06	15MAY06	31MAR06	14APR06	RE4207														
RE4210	Slope above CCR-R3E&F- Filter - Btm. to 1st Berm	6	16MAY06	22MAY06	15APR06	21APR06	RE4210														
RE4211	Slope above CCR-R3E&F -Rockfill-Bt'm to 1st Berm	12	23MAY06	05JUN06	22APR06	06MAY06	RE4211														
RE4213	Slope above CCR-R3E&F -Filter-1st Berm to +24mPD	6	06JUN06	12JUN06	15AUG06	21AUG06	RE4213														
RE4214	Slope above CCR-R3E&F-Rockfil-1st Berm to +24mPD	12	13JUN06	27JUN06	22AUG06	04SEP06	RE4214														
<b>Earthworks &amp; Slope Works - CCR-S4</b>																					
RE4268	Slope CCR-S4 - Excavate & Bench Upper Slope	48	03JAN06A	10APR06	03JAN06A	11FEB06	RE4268														
RE4280	Slope CCR-S4 - Fill and Compact	24	23MAY06	19JUN06	13FEB06	11MAR06	RE4280														
RE4285	Slope CCR-S4 - Form New Access Road at Footpath	24	23MAY06	19JUN06	13FEB06	11MAR06	RE4285														
<b>Ching Cheung Road NTMM Retaining Wall A</b>																					
RW5990	NNTM Wall A - Excavate to Formation	36	09JAN06A	30MAR06	09JAN06A	20MAY06	RW5990														
RW6000	NNTM Wall A - Bases	12	31MAR06	14APR06	22MAY06	03JUN06	RW6000														
RW6010	NNTM Wall A - Walls	18	15APR06	06MAY06	05JUN06	26JUN06	RW6010														
RW6020	NNTM Wall A - Drainage & Fill Behind Walls	12	08MAY06	20MAY06	27JUN06	11JUL06	RW6020														
RW6030	NNTM Wall A - Excavate to +20.5mPD	12	22MAY06	03JUN06	12JUL06	25JUL06	RW6030														
RW6040	NNTM Wall A - Debris Collection Area Drainage	12	05JUN06	17JUN06	26JUL06	09AUG06	RW6040														
RW6050	NNTM Wall A - Debris Collection Area Access Ramp	12	19JUN06	04JUL06	10AUG06	23AUG06	RW6050														
<b>Drainage Works</b>																					
RR3100	Ching Cheung Rd. E/B -S/Water S300-01 to S300-07	60	13JUN06	24AUG06	22MAR06	01JUN06	RR3100														
<b>Utilities &amp; Roadworks</b>																					
RA2000	Lai Wan Road - Footpath below Slope CCR-S4	24	19MAY06	15JUN06	27OCT06	23NOV06	RA2000														
RA2100	CLP Cable Trough - CC Rd. Rest Garden to CCR-R3D	48	20MAR06	16MAY06	10MAR06	06MAY06	RA2100														
RA2110	CLP Cable Trough - Behind CCR-R3D	24	06JUN06	05JUL06	08MAY06	03JUN06	RA2110														
RA3000	Ching Cheung Rd. W/B New C/Way -N/B Founds Bases	60	16DEC05A	25MAR06	16DEC05A	05NOV05	RA3000														
RA3002	Ching Cheung Rd. W/B New C/Way -N/B Founds Walls	72	07FEB06A	05JUN06	07FEB06A	03DEC05	RA3002														
RA3003	Ching Cheung Rd. W/B New C/Way - Filling	60	11APR06	21JUN06	08OCT05	17DEC05	RA3003														
RA3005	Ching Cheung Rd. W/B - S/Gantry FADS4 Founds	18	31MAY06	21JUN06	22DEC05	13JAN06	RA3005														

Start Date  
Finish Date  
Data Date

23SEP03  
29MAY08  
20MAR06

P3 File : LU30

Sheet 19 of 21

Highways Department Contract No. HY/2003/01  
Route 8 - Lai Chi Kok Viaduct  
3 Month Rolling Programme  
from 20 March 2006



Activity ID	Activity Description	Orig. Durn.	Early Start	Early Finish	Late Start	Late Finish	2006														
							MAR			APR			MAY			JUN					
							13	20	27	3	10	17	24	1	8	15	22	29	5	12	19
RA4000	Ching Cheung Rd. New E/B Slip Road - E&M +TCSS	75	18APR06	17JUL06	17NOV05	17FEB06															
RA4030	Ching Cheung Rd. New E/B - N/B Founds Base	75	20MAR06	16JUN06	08SEP05	07DEC05															
RA4040	Ching Cheung Rd. New E/B - Fill Behind N/B Base	48	17MAY06	13JUL06	07NOV05	03JAN06															
RA7000	Lai Wan Road - Watermains & Hydrants FH4 & FH5	24	16MAY06	12JUN06	22FEB06	21MAR06															
<b>At Grade Works - Butterfly Valley Interchange</b>																					
<b>Temporary Traffic Management Schemes</b>																					
PT2200	TTMS CP Rd-KC S/B for Paving -Prepare for Review	18	18APR06	09MAY06	11JAN06	03FEB06															
PT2210	TTMS CP Rd-KC S/B for Paving - CRE Endorsement	6	23MAY06	28MAY06	05FEB06	10FEB06															
PT2220	TTMS CP Rd-KC S/B for Paving - Roadworks Advice	7	29MAY06	04JUN06	11FEB06	17FEB06															
PT2230	TTMS CP Rd-KC S/B for Paving - Site Preparation	6	05JUN06	10JUN06	18FEB06	24FEB06															
<b>Earthworks &amp; Slopeworks - 11NW-A/C26</b>																					
PE1040	Slope 11NW-A/C26 - Finishing Works	12	20MAR06	01APR06	10NOV06	23NOV06															
<b>Retaining Wall CCR-R5 (Pre-bored "H" Piles)</b>																					
PW2150	Ret. Wall CCR-R5 - R.C. Wall CCR-R5A	48	20MAR06	02MAY06	17APR08	29MAY08															
PW2040	Ret. Wall CCR-R5 - Stage 1 - Fill Behind Wall	60	20MAR06	30MAY06	19MAR08	29MAY08															
PW2130	Ret. Wall CCR-R5 - Stage 2 - Install "H" Piles	18	20MAR06	10APR06	12DEC05	03JAN06															
PW2225	Ret. Wall CCR-R5 - Complete Coping & Facing	12	11APR06	24APR06	04JAN06	17JAN06															
PW2140	Ret. Wall CCR-R5 - Complete Fill Behind Wall	12	25APR06	09MAY06	26SEP06	11OCT06															
PW2230	Ret. Wall CCR-R5 - Slope Works Behind Wall	36	10MAY06	21JUN06	12OCT06	23NOV06															
<b>Retaining Wall CCR-R6 (Value Engineering Design)</b>																					
PW3220	Ret. Wall CCR-R6 - Excavate Slope	48	06MAR06A	06MAY06	06MAR06A	29OCT05															
PW3230	Ret. Wall CCR-R6 - Reinstate Soil Nail Heads	48	08APR06*	03JUN06	30SEP05	26NOV05															
PW3240	Ret. Wall CCR-R6 - Install T40 Tie Back Anchors	48	08MAY06*	04JUL06	31OCT05	24DEC05															
PW3250	Ret. Wall CCR-R6 - Bases to R.C. Walls	48	05JUN06*	02AUG06	28NOV05	24JAN06															
<b>Utilities &amp; Roadworks</b>																					
PR1110	CLP Slew 2No.132kva No.5 Behind Wall CCR-R5	36	21DEC05A	25MAR06	21DEC05A	24DEC05															
PR1115	New CLP 11Kv Cable Laying behind CCR-R5	12	27MAR06	10APR06	28FEB06*	13MAR06															
PR5000	C.P.Rd-K.C. S/B to C.C.Rd E/B - Excavate Road	18	17JUN06	10JUL06	18JAN06	10FEB06															
PR5100	C.C. Rd. W/B - Sign Gantry FADS7 at P15-P16	6	18APR06	24APR06	23MAY08	29MAY08															
<b>Kiosk at Slip Road C</b>																					
PK1000	Kiosk at Slip Rd. C - Structure	24	18APR06	16MAY06	21NOV05	17DEC05															
PK1010	Kiosk at Slip Rd. C - Building Finishes	48	17MAY06	13JUL06	19DEC05	17FEB06															
PK1020	Kiosk at Slip Rd. C - MVAC Installation	24	17MAY06	13JUN06	19DEC05	17JAN06															

Start Date 23SEP03  
 Finish Date 29MAY08  
 Data Date 20MAR06

P3 File : LU30

Sheet 20 of 21

Highways Department Contract No. HY/2003/01  
 Route 8 - Lai Chi Kok Viaduct  
 3 Month Rolling Programme  
 from 20 March 2006







---

---

**APPENDIX M  
COMPLAINT LOG**

---

---

## Appendix M - Complaint Log

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
40318	Nob Hill	18 March 2004	<p>Kwai Tsing District Officer (KTDO) recently received a public noise complaint about construction noise generated from the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project, near Nob Hill, Lai Chi Kok. KTDO referred the complaint to the Highways Department (HyD) on the same day. HyD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 18 March 2004.</p> <p>The complaint was raised by the Citybase Property Management Ltd. (the management company of Nob Hill) and the Secretary of Nob Hill Owners Committee (Mr. Kevin Tse) about construction noise generated from the R8-LCKV Project at the work areas near Nob Hill. Mr. Kevin Tse mentioned that residents living in Nob Hill have greatly been affected by the noise impacts generating from the R8-LCKV construction works. He also requested relevant government departments to consider installing noise barrier along Ching Cheung Road and to work out possible measures to minimize the noise nuisances to the residents living in the vicinity.</p>	<p>Based on the information provided by the ER, the construction activities conducted in the vicinity of Nob Hill in the period between 2 and 18 March 2004 were:</p> <ul style="list-style-type: none"> <li>▪ Item 1 – Breaking off existing planter and excavate trial trench to expose underground utilities (using one to two backhoes)</li> <li>▪ Item 2 – Erect rock fall fence &amp; forming platform for pre-drilling (using one backhoe and occasionally one crane lorry)</li> <li>▪ Item 4 – Excavate further to expose all underground utilities (using hand tools)</li> <li>▪ Item 5 – Pre-drilling works (using one drilling rig)</li> </ul> <p>Considering the scale of work and the PMEs adopted, the ET believed that the construction noise impact at Nob Hill from the above construction activities of R8-LCKV was not significant.</p> <p>The bored piling work (Item 3) using one crawler crane and one oscillator was started on 19 March 2004, which was two days after the issue date of this complaint, so this activity was not considered in this report.</p> <p>According to the EM&amp;A Manuals, Nob Hill was not selected as Noise Monitoring Location (NML) for the Project. Therefore, no direct noise monitoring data could be provided for the complaint investigation. However, there was no noise level exceedance recorded at the nearby NML (NM4 – Mei Foo Sun Chuen, Phase 5) since the commencement of the project according to ET's inventory.</p> <p>During ET's weekly environmental site inspections on 3, 10, 17 March 2004, no serious noise nuisance induced by the Project works was observed at the sites near Nob Hill.</p> <p>Based on the joint site visit with the representative of HyD, IEC, RSS and ET to the Nob Hill on 30 March 2004, the major noise</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p>source at Nob Hill was identified as traffic noise on Ching Cheung Road, which is located very close to this building, especially at or above the Podium Floor (i.e. 5/F).</p> <p>Based on the information obtained, this noise complaint is not considered due to the construction activities of the Project. Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise, such as:</p> <ul style="list-style-type: none"> <li>• To space out noisy equipment and position it as far away as possible from the sensitive receivers;</li> <li>• To avoid concurrent uses of noisy equipment near the sensitive area;</li> <li>• To ensure the equipment are maintaining in good operation condition; and</li> <li>• To turned off any idle equipment on site.</li> </ul> <p>Adding to that, ET is proposed to install one to two noise monitoring stations at Nob Hill in order to monitor the noise impact generated from the R8-LCKV Project to the resident of Nob Hill or the nearby buildings.</p>	

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
40330	Site Areas near Nob Hill	30 March 2004	<p>Highways Department (HyD) recently received a public noise complaint about construction noise generated from the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project, near Nob Hill, Lai Chi Kok. HyD referred the complaint to the RSS and subsequently referred to the ET Leader of the Project on 30 March 2004.</p> <p>The complaint was raised by Mr. Yau, the Office of DCV Member Mr. Cheung Wing Shum, regarding the high pitch construction noise generated at the R8-LCKV site which cause serious nuisance to the residents at Mei Foo.</p>	<p>Based on the information provided by the RSS, the Contractor was not aware of any high pitched construction noise arising from plant employed for their works. The noise complaint referred to may be originated from the damage of a gas main valve on the afternoon of 29 March 2004 in the vicinity of the junction of Mai Lai Road with Lai King Hill Road. The high pitched whistle apparently resulted from the damage which was repaired by TownGas in that afternoon.</p> <p>Based on the information obtained, this noise complaint is considered not due to the construction activities of the Project. Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise, such as:</p> <ul style="list-style-type: none"> <li>• To space out noisy equipment and position it as far away as possible from the sensitive receivers;</li> <li>• To avoid concurrent uses of noisy equipment near the sensitive area;</li> <li>• To ensure the equipment are maintaining in good operation condition; and</li> <li>• To turned off any idle equipment on site.</li> </ul>	Closed
40402	Nob Hill	06 April 2004	<p>A public noise complaint was received by the Contractor (NECSO) on 02 April 2004 regarding the noise generated from the Ching Cheung Road Widening Works of the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project, near Nob Hill, Lai Chi Kok.</p> <p>NECSO referred the complaint to the RSS and subsequently referred to the ET Leader of the Project on 6 April 2004</p>	<p>The complaint was raised by Ms Wong, regarding the noise generated from the Ching Cheung Road Widening Works of the R8-LCKV Project, which cause serious nuisance to her.</p> <p>Based on the information provided by the RSS, the plants employed by the Contractor for carrying out bored piling works in front of Nob Hill should not generate excessive noise. The RSS had also checked against the site records that no piling works was in progress in front of Nob Hill on 1-3 April 2004.</p> <p>According to telephone communication between the complainant (Ms Wong) and the RSS on 8 April 2004, the RSS reported that Ms Wong was not complaining about the construction noise generated by the R8-LCKV Project. She was actually complaining about the traffic noise she anticipated to be generated after completion of widening work at Ching Cheung</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p>Road in front of Nob Hill.</p> <p>During ET's weekly environmental site inspections on 17, 24 &amp; 31 March 2004 and 7 April 2004, no serious noise nuisance induced by the Project works was observed at the construction sites near Nob Hill.</p> <p>Based on the joint site visit with the representative of HyD, IEC, RSS and ET to the Nob Hill on 30 March 2004, the major noise source at Nob Hill was identified as traffic noise on Ching Cheung Road, which is located very close to this building, especially at or above the Podium Floor (i.e. 5/F).</p> <p>Based on the information obtained, this noise complaint is considered not due to the construction activities of the Project.</p> <p>Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise, such as</p> <ul style="list-style-type: none"> <li>• To space out noisy equipment and position it as far away as possible from the sensitive receivers;</li> <li>• To avoid concurrent uses of noisy equipment near the sensitive area;</li> <li>• To ensure the equipment are maintaining in good operation condition; and</li> <li>• To turned off any idle equipment on site.</li> </ul>	
40710	Pier P7 in Portion E1	10 July 2004	<p>A public complaint was raised on 30<sup>th</sup> June 2004 regarding the washout of muddy water from the site area of the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project, at Pier P7 onto Lai Chi Kok Road.</p> <p>The complaint was referred to the RSS on 3<sup>rd</sup> July 2004 and subsequently referred to the ET Leader of the Project on 10<sup>th</sup> July 2004.</p>	<p>Based on the information provided by the RSS, the spillage of muddy water was in fact due to a burst in a temporary water pipe being utilized in the piling operations at Pier P7 in Portion E1.</p> <p>Emergency remedial works were undertaken preventing further spillage of muddy water. The remaining ponding water within the works area arising from the burst was all removed from the area on 5<sup>th</sup> July 2004.</p> <p>During ET's weekly environmental site inspection on 14<sup>th</sup> July 2004, no serious water quality nuisance induced by the Project works was observed at the construction sites near Pier P7. It was</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			<p>The complaint was raised by Mr. Chan, regarding the washout of muddy water from the works area of the R8-LCKV Project onto Lai Chi Kok Road. The washout caused nuisance to the drivers utilizing the road, and may also cause danger to the motorbikes.</p>	<p>also noted that the back of profile barriers along the site boundary had been sealed up by cement as preventive measures.</p> <p>During ET's weekly environmental site inspections on 17, 24 &amp; 31 March 2004 and 7 April 2004, no serious noise nuisance induced by the Project works was observed at the construction sites near Nob Hill.</p> <p>Based on the information obtained, the complaint is considered due to the construction activities of the Project. Emergency remedial works had been taken by the Contractor to rectify the situation and preventive measures had also been implemented.</p> <p>Nevertheless, the Contractor was recommended to adopt the following measures to avoid re-occurrence of similar incidents:</p> <ul style="list-style-type: none"> <li>• to enhance surface runoff control measures along the site boundary;</li> <li>• to provide adequate training to the frontline workers; and</li> <li>• to regularly inspect temporary water supply equipment, such as hose pipe to make sure the equipment is in good condition.</li> </ul>	
40809	Ching Cheung Road area near Nob Hill	<p>22-Jul-04 (by EPD)</p> <p>09-Aug-04 (by ET Leader)</p>	<p>EPD received a public noise complaint on 22 July 2004 about construction noise and dust generated from Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project, at the Ching Cheung Road Area near Nob Hill. EPD subsequently referred the complaint to the ET Leader of the Project on 9 August 2004.</p> <p>The complaint was about the construction noise and dust observed at the Ching Cheung Road area near Nob Hill. The locations of the works areas being concerned by the complainant include:</p> <p>1. <b>Area A:</b> Works area between Nob</p>	<p><b>Information Provided by RSS</b> Information (construction activities and equipment adopted) in a 2-week period before the date of complaint, i.e. 7 to 21 July 2004, was obtained from the Resident Site Staff.</p> <p><b>Area A:</b></p> <ul style="list-style-type: none"> <li>▪ Item 1 – Drainage works by using 1 x backhoe;</li> <li>▪ Item 2 – Bored piling works by using 1 x crawler crane, 1 x air compressor, 1 x reverse circulation drill and 1 x power pack;</li> <li>▪ Item 3 – Trial trench excavation by man power;</li> <li>▪ Item 4 – Gas main diversion by 1 x backhoe (performed by TGC's Contractor)</li> </ul> <p><b>Area B:</b> No construction activity was undertaken in the concerned period.</p> <p><b>Review of Environmental Monitoring Results</b></p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			<p>Hill and Lai Chi Kok Park Swimming Pool</p> <p>2. <b>Area B:</b> Works area between Ching Cheung Road and Mei Lai Road / Lai Wan Road opposite to Mei Foo Sun Cheung (Phase 5) and Lai Chi Kok Public Library.</p>	<p>The routine monitoring stations, which are in the vicinity of the concerned works areas, include:</p> <p><u>Noise Monitoring</u>            NM4: R/F of Mei Foo Sun Chuen (Phase 5)            NM8a: M/F of Nob Hill            NM8b: 3/F of Nob Hill</p> <p><u>Air Quality (1-hr TSP / 24-hr TSP) Monitoring</u>            AM2: R/F of Lai Chi Kok Sports Centre</p> <p>No Action / Limit level exceedance was identified in July 2004.</p> <p><b>Environmental Site Inspection</b>            During the ET site inspections on 8<sup>th</sup>, 14<sup>th</sup> and 20<sup>th</sup> July 04, no major environmental deficiency with regard to noise and air quality was identified by the auditors.</p> <p><b>Conclusions</b>            Based on the RSS's information, environmental monitoring results as well as the observations made during site inspections, this complaint is considered to be invalid and not due to the construction activities of the Project. Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise and dust impacts, such as:</p> <ul style="list-style-type: none"> <li>• To space out noisy equipment and position it as far away as possible from the sensitive receivers;</li> <li>• To avoid concurrent uses of noisy equipment near the sensitive area;</li> <li>• To ensure the equipment are maintaining in good operation condition;</li> <li>• To turn off any idle equipment on site.</li> <li>• To cover excavated dusty materials by impervious sheeting;</li> <li>• To provide water spray for haul roads, loading/unloading and concrete breaking operations;</li> <li>• To perform wheel wash for every vehicle immediately before leaving the site.</li> </ul>	

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50215	Mei Foo Sun Chuen, Phase 5 (Retaining Wall CC-R3)	15-Feb-05 (by ET Leader)	<p>A public complaint was raised on 8<sup>th</sup> Feb 2005 regarding construction noise from the site area of the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project near Mei Foo Sun Chuen. The complaint was referred to the Resident Site Staff on 14<sup>th</sup> Feb 2005 and subsequently referred to the ET Leader of the Project on 15<sup>th</sup> Feb 2005.</p> <p>The complaint was raised by a resident in Mei Foo Sun Chuen, regarding the noise generation from the piling work at Retaining Wall CC-R3, adjacent to Po Leung Kuk Tong Nai Kan College.</p>	<p><b>Construction Activities</b></p> <p>During the weekly site inspection on 17 Feb 05, piling work was being conducted at the concerned. The major powered mechanical equipment (PME) in operation included a mobile crane, an air compressor, a reverse circulation drill and a generator.</p> <p>In view of the separation of the site area and the residential building (around 40 m) and also the high traffic noise from Ching Cheung Road as well as Mei Lai Road, the noise generated from the operation of the PME was believed to be insignificant.</p> <p><b>Environmental Monitoring</b></p> <p>The noise monitoring results at Station NM4 (Mei Foo Sun Chuen, Phase 5) for the last 3 months were reviewed in order to evaluate the noise impact from the Project on the noise sensitive receiver. The measured noise levels in last three threes were ranged from 70.8 to 75.8 dB(A). It was observed that the measured noise levels were well within the range of baseline noise levels (69.2 to 75.8 dB(A)).</p> <p>The corrected construction noise levels were found to be ranged from 63.5 to 71.5 dB(A), which were well below the noise criterion of 75 dB(A).</p> <p><b>Conclusions</b></p> <p>Based on the information obtained and the noise monitoring results, this complaint is considered to be invalid and not due to the construction activities of the Project.</p> <p>Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise impacts.</p>	Closed



Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50322	Seung Lai House, Wah Lai Estate (Slope S1)	11-Mar-05 (by EPD) 22-Mar-05 (by ET Leader)	<p>Environmental Protection Department (EPD) received a public noise complaint on 11 Mar 05 about daytime construction noise generation from R8-LCKV. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 22 Mar 05.</p> <p>The complaint was raised by a resident of Seung Lai House of Wah Lai Estate, regarding the daytime (0800-1800 hrs) construction noise generated from the slope work and road work of R8-LCKV Project. As advised by EPD, the complainant is living on 20/F or above in Seung Lai House.</p>	<p><b>Construction Activities</b></p> <p>As advised by the RSS, the major construction work during 25 Feb 05 to 11 Mar 05 (2 weeks before the date of complaint) in the vicinity of Wah Lai Estate included excavation work, soil nail work and installation of u-channel and manholes. The major powered mechanical equipment included excavators, drilling machine and air compressor.</p> <p>In view of the separation of the site area (Slope S1) and the Seung Lai House (around 140 m) and also the traffic noise from Ching Cheung Road, the noise generated from the construction activities at Slope S1 was believed to be insignificant.</p> <p><b>Environmental Monitoring</b></p> <p>Ad-hoc noise measurement was conducted at Seung Lai House on 30<sup>th</sup> Mar 05 and the measured noise level (Leq-30min) was 66.9 dB(A), which was well below the criterion for daytime construction noise of 75 dB(A). The construction noise level (with reduction of background noise level) is expected to be even lower.</p> <p><b>Conclusion</b></p> <p>Based on the information obtained and the noise measurement results, this complaint is considered not justifiable. Nevertheless, the Contractor was recommended to adopt good site practice to minimize the construction noise impact.</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50330, 50331, 50404 & 50407	Wah Lai Estate	30-Mar-05, 31-Mar-05, 4-Apr-05 & 7-Apr-05 (by ET Leader via RSS)	<p>Four public complaints were lodged by the residents of Wah Lai Estate regarding the construction noise from the site area of the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project near Wah Lai Estate. The complaints were referred by the Resident Site Staff to the Environmental Team (ET) Leader on 30<sup>th</sup>, 31<sup>st</sup> March, 4<sup>th</sup> and 7<sup>th</sup> April 2005, respectively.</p>	<p><b>Construction Activities</b></p> <p>The site of concern was likely to be Slope S1, which is around 140 m away from Wah Lai Estate. The major construction work at Slope S1 included trimming of slope, soil nail work and erection of u-channels and step channels.</p> <p><b>Environmental Monitoring</b></p> <p>Ad-hoc noise measurement was conducted at Seung Lai House on 30<sup>th</sup> Mar 05 and 7<sup>th</sup> Apr 05 and the measured noise levels (Leq-30min) were ranged from 66.9 to 69.1 dB(A), which were well below the criterion for daytime construction noise of 75 dB(A). The construction noise level (with reduction of background noise level) is expected to be even lower.</p> <p><b>Conclusion</b></p> <p>Based on the results of the ad-hoc noise measurements at Wah Lai Estate, no exceedance of daytime noise criterion of 75 dB(A) was recorded. The complaints lodged are therefore considered not justifiable.</p> <p><b>Mitigation</b></p> <p>The Contractor agreed to arrange the noisy activities to commence after 8:00 am. This arrangement could effectively reduce the disturbance to the residents within the more sensitive time period (7:00 am to 8:00 am).</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50404-v2	Mei Foo Sun Chuen	4-Apr-05 (by ET Leader via RSS)	A public complaint was raised on 1 <sup>st</sup> April 2005 regarding construction noise from the site area of the Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project near Mei Foo Sun Chuen. The complaint was referred to the Resident Site Staff and the ET Leader on 4 <sup>th</sup> April 2005.	<p><b>Construction Activities</b></p> <p>The site of concern was likely to Retaining Wall CC-R3, adjacent to Po Leung Kuk Tong Nai Kan College. The major construction works at this area included bored piling works and excavation works.</p> <p><b>Environmental Monitoring</b></p> <p>According to the EM&amp;A Manual, Mei Foo Sun Chuen, Phase 5 (NM4) is designated as one of the noise monitoring stations.</p> <p>Since the commencement of the impact monitoring programme, the construction noise levels recorded at this station were all below the noise criterion.</p> <p><b>Conclusion</b></p> <p>Based on the noise monitoring results at Station NM4 (Mei Foo Sun Chuen), no exceedance of daytime noise criterion of 75 dB(A) was recorded since the commencement of the impact monitoring programme. The complaint lodged is therefore considered not justifiable.</p> <p><b>Mitigation</b></p> <p>The Contractor has agreed to arrange the noisy activities to commence after 8:00 am. This arrangement could effectively reduce the disturbance to the residents within the more sensitive time period (7:00 am to 8:00 am). The Contractor also agreed to provide some temporary noise barriers for the noisy machinery if found necessary.</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50613	Mei Foo Sun Chuen	7-Jun-05 (by EPD)  13-Jun-05 (by ET Leader)	<p>According to EPD, the complaint was raised by a resident of Mei Foo Sun Chuen (Block 7, Phase 5) on 7 June 2005. It was about construction dust emitted intermittently from the slope works undertaken on the other side of Mei Lai Road.</p> <p>The complainant was particularly concerned about the fugitive dust emission during rock / concrete breaking activities.</p>	<p><i>Site Activities</i></p> <p>The site of concern was likely to be CCR-R3. Bored piling works and demolition of existing retaining walls were undertaken at this area in the period between 1 and 7 June 2005. It was believed that the demolition of existing retaining wall, which involved concrete breaking, was the activity of concern.</p> <p><i>Observations</i></p> <p>On 1 Jun 05, one of the environmental deficiencies noted by the ET was about fugitive dust emission from breaking activities at CCR-R3. The Contractor was reminded to provide sufficient dust mitigation measures for the breaking works. Immediate action was taken by the Contractor to apply water spray for the works as observed during the audit session.</p> <p>On 9 Jun 05, the breaking works were still being taken at CCR-R3. Water spray as a dust mitigation measure was being adopted by the Contractor during the audit. No observable dust emission was noted from the breaking works or other site activities.</p> <p>On 15 Jun 05, the same area was re-inspected due to the receipt of the complaint from EPD. The demolition works had been finished and no other dust emissive activity was being taken. No other dust source from the construction site was observed during the inspection.</p> <p><i>Conclusion</i></p> <p>Based on the observations noted during our site inspections, this complaint is considered to be valid and related to the construction activities of the Project.</p> <p>However, corrective action had been taken by the Contractor and the situation was found improved during the follow-up inspections.</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50721	Hei Lai House, Wah Lai Estate	21-Jul-05 (by ET Leader)	<p>The complaint was lodged by a resident of Hei Lai House of Wah Lai Estate through a Legislative Council member. The complaint was about construction noise nuisance caused by rock breaking work, which claimed to be started from 8:30am daily, carried out at Ching Cheung Road near Wah Lai Estate.</p> <p>The complainant hoped that the rock breaking work could start later i.e. be carried out from noon to afternoon and the site could be fully enclosed.</p> <p>The Environmental Team (ET) of the Project received the complaint on 21 July 2005 and forwarded it to the Resident Site Staff (RSS) to obtain necessary information.</p>	<p><i>Site Activities</i></p> <p>The slope work at Slope S1 was likely to be the activity of concern. The work at Slope S1 recently included the operation of excavator mounted breakers, excavators and dump trucks.</p> <p>The time period of concern was within normal working hours (7am to 7pm) on a weekday not being a public holiday. The noise criterion is 75 dB(A) for domestic premises.</p> <p><i>Noise Measurement</i></p> <p>Ad-hoc measurements were carried out on the roof of Hei Lai House on 25 July 2005.</p> <p>The results show that the measured noise level is well below the noise criterion of 75 dB(A). The construction noise level (with reduction of background noise) is expected to be even lower.</p> <p><i>Conclusion</i></p> <p>Since the noise measurement results at Wah Lai Estate were below 75 dB(A), the complaint was considered not justifiable.</p> <p>Nevertheless, noise mitigation measures have been implemented by the Contractor to minimize the noise impact arising from the breaking activities:</p> <ol style="list-style-type: none"> <li>1. Employment of silenced-type breakers;</li> <li>2. Temporary noise barriers, attached with sound adsorption materials, were erected to screen the site of breaking from sensitive receivers</li> <li>3. While the permitted hours for construction works are 7am to 7pm on non-holidays, the Contractor has commenced the rock breaking activity after 8:30am.</li> </ol>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
51107	Ching Cheung Road near Mei Foo Sun Chuen	7-Nov-05 (by the ET Leader)	<p>Environmental Protection Department (EPD) received a public complaint about environmental nuisance generated from Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 7 November 2005.</p> <p>According to EPD, the complaint was raised by a resident of Mei Foo Sun Chuen. The complaint was about dark smoke, dust and noise nuisance caused by the construction work of R8-LCKV near Mei Foo Sun Chuen.</p>	<p>The site of concern was likely to be CCR-S4 and CCR-R3. According to RSS's records, bored piling works and soil nail drilling at CCR-R3, excavation works at CCR-S4 in the concerned period.</p> <p><b>Site Inspection</b></p> <p>After receipt of the complaint, an ad-hoc site inspection was carried by ET on 9 November 2005 and the following observations were made:</p> <ol style="list-style-type: none"> <li>1. Breaking activities were undertaken at CCR-R2 and R3. Continuous water spray was applied by the workers for dust suppression. Movable noise barriers were erected to alleviate the noise impact.</li> <li>2. The haul roads and exposed works areas were observed wet. A water sprinkler was installed at the CCR-S4 for water spraying.</li> <li>3. Most of the slope was shot-creted to avoid wind erosion.</li> <li>4. Bored piling work was carried out near the site exit of CCR-R3. Since bored piling mainly involves handling of wet materials, dust nuisance causing by this type of work is not anticipated. Gas exhaust from the machines was visually clear and no dark smoke was identified.</li> </ol> <p><b>Environmental Monitoring</b></p> <p>Air quality monitoring was conducted at Lai Chi Kok Sports Centre and noise monitoring is conducted at Mei Foo Sun Chuen. No exceedance was recorded for both monitoring.</p> <p><b>Conclusion</b></p> <p>Based on the ad-hoc site inspection and the environmental monitoring results, this complaint was considered not justifiable.</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
60118	Lai Po Road near Hoi Lai Estate	18-Jan-06 (by the ET Leader)	<p>Environmental Protection Department (EPD) received a public complaint about environmental nuisance generated from Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 18 January 2006.</p> <p>According to EPD, the complaint was lodged by a resident of Hoi Ming House of Hoi Lai Estate. The complaint was about construction noise nuisance caused by construction work of R8-LCKV carried out at Lai Po Road near Hoi Lai Estate. The noise nuisance was noted since 14 January 2006 during the periods from 2330 hrs to 0600 hrs.</p>	<p><b>Site Activities</b></p> <p>According to the RSS's records, night works were carried out by the Contractor between 2000 hrs on 14 January 2006 and 0530 hrs on 15 January 2006:</p> <ul style="list-style-type: none"> <li>• Delivery of segment from storage yard near Pier P5/L to Pier 15 for erection;</li> <li>• Stressing to temporary PT bars of segments at Pier B3.</li> </ul> <p>The above night works, which involved operation of tractor, mobile crane, lifting frame and generator, were undertaken under the two construction noise permits CNP no. GW-RW0739-05 and GW-RW0740-05.</p> <p><b>Environmental Monitoring</b></p> <p>In order to evaluate the noise impact onto the residents of Hoi Lai Estate, nighttime noise monitoring was carried out on 18 January 2006 at 23:00. The above monitoring results revealed that the measured noise levels were close to the reference background levels. After correction of the mean background level, all corrected noise levels were below the noise criterion of 55 dB(A).</p> <p><b>Conclusion</b></p> <p>Based on the information collected and the monitoring results, the complaint is considered not justifiable.</p> <p>Nevertheless, the Contractor was reminded to take sufficient noise mitigation measures to minimize the environmental impact on the nearby community.</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
60119	Mei Foo Sun Chuen (Phase 5)	18-Jan-06 (by the ET Leader)	<p>Environmental Protection Department (EPD) received a public complaint about environmental nuisance generated from Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 19 January 2006.</p> <p>According to EPD, the complaint was raised by a resident of Mei Foo Sun Chuen via a Sham Shui Po District Council Member’s Office. The complaint mentioned that residents of Mei Foo Sun Chuen Stage 5 were adversely affected by construction dust caused by the Route 8 work carried out at the slopes adjacent to Ching Cheung Road.</p>	<p><b>Site Activities</b></p> <p>The site of concern was likely to be CCR-S4, CCR-R2 and CCR-R3. According to RSS’s records, site activities included:</p> <ul style="list-style-type: none"> <li>• Trimming of existing rock slope at CCR-S4;</li> <li>• Excavation and rock dowel installation at CCR-R2; and</li> <li>• Construction of cable trough at CCR-R3 by CLP’s contractor.</li> </ul> <p><b>Site Inspection</b></p> <p>After receipt of the complaint, an ad-hoc site inspection was carried by ET on 19 January 2006. No environmental deficiency regarding construction dust was identified during the inspection.</p> <p><b>Environmental Monitoring</b></p> <p>All monitoring results in Jan 06 revealed that no exceedance was recorded for the air quality (1-hr and 24-hr TSP) criteria.</p> <p><b>Contractor’s Action</b></p> <p>The Contractor of R8-LCKV had implemented several dust mitigation measures:</p> <ul style="list-style-type: none"> <li>• Haul roads, exposed slope surface and soil stockpiles were watered regularly by hose pipes and sprinklers;</li> <li>• Idled exposed slope were shot-creted; and</li> <li>• Watering was applied for the dust emissive activities, such as loading and unloading of dusty materials, excavation and breaking works.</li> </ul> <p><b>Conclusion</b></p> <p>Based on the ad-hoc site inspection and the environmental monitoring results, this complaint was considered not justifiable. Nevertheless, the Contractor was reminded to keep on the dust mitigation measures being implemented and step up the measures if necessary.</p>	Closed



Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
60213 60216 60220 60222	Hoi Lai Estate (Lai Po Road)	13-Feb-06 16-Feb-06 20-Feb-06 22-Feb-06  (by the ET Leader)	<p>Four environmental complaints were received in this reporting month. Three of them were referred by EPD on 13<sup>th</sup>, 20<sup>th</sup> and 22<sup>nd</sup> Feb 06 and the other one was referred by HyD via MHJV on 16<sup>th</sup> Feb 06.</p> <p>All about construction noise due to night works at Lai Po Road near Hoi Lai Estate.</p>	<p><b>Site Activities</b></p> <p>Since around mid-January 2006, segments were transported to Piers P15 and B4, under the permission of construction noise permit (CNP).</p> <p>It was suspected that the sound of concern was generated from tractors for precast segment transportation. In view of the safety of workers, an alert sound and flashing are maintained during backing action of the tractors.</p> <p><b>Site Inspection</b></p> <p>An ad-hoc inspection was carried out by the ET on 16 Feb 06 from 00:30 to 02:30 am. Noise measurement was carried out during the inspection to evaluate the noise impact onto the residents of Hoi Lai Estate. During the monitoring, the major noise source identified was the road traffic noise from Sham Mong Road and Lai Po Road. No alarm sound or alike from the construction equipment was noted. The above monitoring results revealed that the measured noise levels were close to the reference baseline level. After correction of the mean background level, most of data were below the noise criterion of 55 dB(A).</p> <p><b>Conclusion</b></p> <p>Based on the information collected and the monitoring results, the complaints are considered not justifiable.</p> <p>It was suspected that the nuisance was caused by the alert sound of tractors during backward movement which serves as a safety measure. However, the RSS and the Contractor are considering the possibility of lowering the alert sound level or replacing by a less disturbing pitch in order to minimize the noise nuisance to residents of Hoi Lai Estate.</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
60420	Near both Hoi Lai Estate and West Kowloon Highway	20-Apr-06  (by the ET Leader)	<p>Environmental Protection Department (EPD) received a public complaint about environmental nuisance generated from Route 8 – Lai Chi Kok Viaduct (R8-LCKV) Project. EPD subsequently referred the complaint to the ET Leader on 20 April 2006.</p> <p>The complaint is about construction noise nuisance caused by construction work of night works at location near both Hoi Lai Estate and West Kowloon Highway between 14 and 17 April 2006.</p>	<p><b>Site Activities</b></p> <p>According to the Resident Site Staff (RSS)'s records, the construction works were carried out by the Contractor from daytime to 2230 hours on 14 April and from 2000 hours to 0600 hours 16 April 2006.</p> <p>The construction activities near Hoi Lai estate included: -</p> <ul style="list-style-type: none"> <li>• Erecting segments at column PA/R;</li> <li>• Stressing of top tendon wires of segments and erecting segments at column P1/R; and</li> <li>• Transporting segments to storage yard.</li> </ul> <p>The above construction activities were undertaken under a construction noise permit CNP no. GW-RW0172-06.</p> <p>Base on the RSS's preliminary investigation, it was suspected that the noise nuisance of concern was caused by loading and unloading of materials, hammering and/or dropping of materials on ground during the stressing works and transportation of precast segment by tractors.</p> <p><b>Contractor's Action</b></p> <p>The Contractor had implemented a short term mitigation measures:-</p> <ul style="list-style-type: none"> <li>• Turned off the alert sound of tractors during backward movement in order to reduce the potential for noise impact;</li> <li>• Strengthened their management on worker's working manner such as avoid dropping of material on ground, wrapping up of hammering equipment and etc.; and</li> <li>• Conducted training of worker in order to reducing noise nuisance during the night works.</li> </ul>	Close

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p><b>Conclusion</b></p> <p>Based on the information collected and the monitoring results, the complaints are considered not justified.</p> <p>It was suspected that the nuisance was caused by loading and unloading of materials, hammering and/or dropping of materials on ground during the stressing works and transportation of precast segment by tractors.</p> <p>The Contractor has strictly complied with PME allowed in the CNP No. GW-RW0172-06. Besides, night work at the concerned location was completed. No further construction work at night at this location is anticipated.</p>	
60428	Between Ching Cheung Road and Mei Lai Road (near Phase 5 of Mei Foo Sun Chuen)	28-Apr-06  (by the ET Leader)	<p>Environmental Protection Department (EPD) received a public complaint about tree cutting in the area between Ching Cheung Road and Mei Lai Road (near Phase 5 of Mei Foo Sun Chuen). EPD subsequently referred the complaint to the ET Leader on 28 April 2006.</p> <p>The complaint was about the Contractor cut trees in the area between Ching Cheung Road and Mei Lai Road (near Phase 5 of Mei Foo Sun Chuen). This had removed the traffic noise barrier effect of the trees and hence made the residents of Mei Foo Sun Chuen becoming being seriously affected by the traffic noise nuisance.</p>	<p><b>Site Activities</b></p> <p>According to the Resident Site Staff (RSS)'s records, current construction activities included segment erection works for Slip Road D, excavation works for cut slope CCR-S4 and retaining wall construction at CCR-R2 and CCR-R3.</p> <p>Since excavation for cut slopes and construction of slip road D are required at this area, tree cutting is unavoidable. Tree felling application was approved by DLO/KW.</p> <p><b>Contractor Action</b></p> <p>Under the EP condition and EIA, there is no need for this project to mitigate the traffic noise barrier effect due to the removal of trees.</p> <p>No follow up action was required for this complaint.</p> <p><b>Conclusion</b></p> <p>Under the EP conditions and EIAO, there is no need for this</p>	Close

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p>project to mitigate the traffic noise barrier effect due to the removal of trees.</p> <p>Based on the information collected, the complaint is considered not justifiable.</p> <p>Since excavation for cut slopes and construction of slip road D are required at this area, tree cutting is unavoidable. Tree felling application was approved by DLO/KW.</p> <p>Compensatory planting will be provided at the concerned area after completion of the construction works in order to improve the landscape and visual impacts.</p> <p>No follow up action will be required for this complaint.</p>	
60522	Hoi Lai Estate (Hoi Fai House)	22-May-06 (by ET Leader)	<p>Environmental Protection Department (EPD) received a public complaints about noise nuisance generated from Route 8 – Lai Chi Kok Viaduct Project. EPD subsequently referred the complaint to ET Leader on 22 May 2006.</p> <p>The complaint was concerned about the noise produced from construction work during the period between 2300 hours and 0100 hours every night since 3 weeks ago. The complaint described the noise being like sound of poring concrete.</p>	<p><b>Site Activities</b></p> <p>According to the RSS's records, only precast segment transportation works at the concerned area which was used as the segment storage yard near Pier P5L to Piers near Mui Kong Tsuen.</p> <p>No concreting activities were carried out at the abovementioned area between 2300 hours and 0100 hours every night in concerned period. In addition, the transportation works were usually carried out from 2000 hours to 0300 hours (or before 0300 hours).</p> <p><b>Contractor Action</b></p> <p>The idle and backup equipments such as tractors has turned off or throttled down in order to reduce the noise impact since the last complaint on this issue near Hoi Lai Estaet. Besides, the above night works were undertaken with three construction noise permits.</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p><i>Site Inspection</i></p> <p>An ad-hoc inspection was carried out by the ET at 2300 on 26 May 2006. During the inspection, no construction activities were carried out at the concerned area, where the tractor and mobile crane were throttled down.</p> <p>Conclusion</p> <p>According to RSS's information, no concreting activities were carried out at the concerned area. Therefore, the major noise nuisance (pouring concrete) might not be generated from the abovementioned area. Besides, the Contractor strictly complied with PME allowed in the CNP No. GW-RW0172-06. In addition, the Contractor had turned off the alert sound of tractors during backward movement.</p> <p>Based on the information collected, the complaint is considered not justifiable.</p> <p>However, the Contractor was reminded to continuously implement their practice to prevent noise nuisance generation due to the construction works. The site situation will be continuously reviewed by ET and RSS also.</p>	