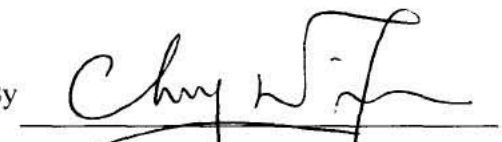
Highways Department

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 II – Eagle's Nest Tunnel & Associated Works
(Version 1.0)

December 2007

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.

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ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
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
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
TSP	Total Suspended Particulates
TDD	Territory Development Department
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan

EXECUTIVE SUMMARY

Introduction

- This is the 49th 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 December 2007 for Contract No. HY/2003/02, Eagle's Nest Tunnel and Associated Works (the Project).

- The major site activities for civil works undertaken in the reporting month included:
  - Cladding and Hand Rail Installation;
  - Tunnel Ventilation System and Lighting (T&C);
  - Plumbing & Drainage;
  - Mechanical Ventilation Air Conditioning and T&C;
  - Road and drainage works;
  - Metal curtain and mesh cladding;
  - Cat ladder for vent shaft;
  - Upper roof railing;
  - Fencing at Ventilation Building;
  - Testing on fire services and lighting;
  - Metal cladding on footbridge, painting, fire services, carpet file false and external metal ceiling and signages at Toll Plaza's structures & Administration Building; and
  - Haul road diversion, step channel, fill slope at SP-S2, irrigation pipe and system (T&C), u-channel and lighting for noise enclosure at Butterfly Valley.

- The major site activities for Traffic Control and Surveillance System (TCSS) works undertaken in the reporting month included:
  - Equipment Cabinet Installation;
  - SAT for TCSS equipment; and
  - Remedial works for TCSS equipment.

Environmental Monitoring and Audit Works

- Environmental monitoring and audit works for the Project was performed regularly as stipulated in the 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 events and actions taken in the reporting month is tabulated in **Table I**.

Table I Summary of 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	0	0	0	N/A

Environmental Licenses and Permits

- Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, Registration of Chemical Waste Producer (RCWP), Construction Noise Permits (CNPs) and Water Discharge Licenses (WDLs). No new CNP was 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	0	---	N/A	N/A	---
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 civil works in the coming months include:

- Cladding and Hand Rail Installation;
- Tunnel Ventilation System and Lighting (T&C);
- Plumbing & Drainage;
- Mechanical Ventilation Air Conditioning and T&C;
- Road works;
- Metal mesh cladding;
- Tiling and Upper roof railing;
- Fencing at Ventilation Building;
- Testing on fire services and lighting;
- False and external metal ceiling, painting, hand rail installation on roof and signages at Toll Plaza's structures & Administration Building; and
- U-channel, stepped channel, fill slope at SP-S2, irrigation pipe and system (T&C) and lighting for noise enclosure at Butterfly Valley.

Major site activities for TCSS works in the coming months include:

- Site Acceptance Tests; and
- Minor rectification works to field equipment.

The anticipated environmental issues will be mainly on dust from road works, fill slope and earth works, noise impact from road works and waste/ chemical management from finishing the construction activities.

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 acts 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 September 1999 for the R9-CSWST project (1999 R9 EIA), to cater for some changes in R9K portion as mentioned in paragraph 1 of 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 on 15th December 2003 for completion in April 2007.

1.7 "Route 9" was recently re-tiled 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 (previously known as Route 9) 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. Kenneth LUK of CH2M HILL Hong Kong Ltd. was appointed as the IEC under Condition 2.1 of the EP. This is the 49th monthly EM&A report summarizing the EM&A works for the Project in December 2007.

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 / Engineer's Representative (E/ER) – Maunsell-Hyder Joint Venture (MHJV)
- Environmental Team (ET) – Cinotech Consultants Limited
- Independent Environmental Checker (IEC) – CH2M HILL Hong Kong Ltd
- Contractor – Leighton-Kumagai Joint Venture (LKJV)
- Engineer's Representative for TCSS works – Ove Arup & Partners Hong Kong Limited
- Contractor for TCSS works – Delcan-Imtech-Gtech Joint Venture

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

The major site activities for civil works undertaken in the reporting month included Cladding & Hand Rail Installation, Road Works, Drainage Works, Fencing Installation, T&C on Tunnel Ventilation System, Lighting Testing, Installation of Hand Rail, Plumping & Drainage and its T&C, Carpet File, Painting, Mechanical Ventilation Air Conditioning and T&C, Road Works, Metal Curtain & Mesh Cladding, Earth Works, Cat Ladder for Vent Shaft, Upper roof Railing, Fill Slope at SP-S2, Metal Cladding on Footbridge, False and External Metal Ceiling, Signages at Toll Plaza's structures & Administration Building, Haul Road Diversion, Step Channel, Irrigation Pipe and System and the works on U-channel at Butterfly Valley.

1.11 The major site activities for TCSS works undertaken in the reporting month included:

- Equipment Cabinet Installation;
- SAT for TCSS equipment; and
- Remedial works for TCSS equipment.

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. George Law	E4/R8K	2762 3675	
MHJV	Engineer	Mr. Conrad Ng	Project Manager	2605 6262	2691 2649
	Engineer's Representative	Mr. Peter Poon	CRE	3552 2500	2743 9200
		Mr. Eric Wong	RE (S & EP)	3552 2551	
		Ms. Sammie Chan	TO (EN)	3552 2605	
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089	3107 1388
		Mr. Grace Wong	Audit Team Leader	2151 2095	
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
CH2M	Independent Environmental Checker	Mr. Kenneth Luk	Independent Environmental Checker	2507 2209	2507 2293
		Mr. Roy Leung	Assistant Independent Environmental Checker	2872 2931	
LKJV	Contractor	Mr. Ray Brewster	Project Director	9092 6128	2743 1600
		Mr. Danny Cheng	QA/E Manager	3552 2113	
ARUP	Engineer's Representative (TCSS)	Mr. Donald Leung	RE	2436 7489	2436 1803
		Mr. Daniel So	ARE	2436 7435	
DIGJV	Contractor (TCSS)	Ms. Joyce Chan	Quality Manager	2123 0845	2123 0889
Enquiries Hotline				3552 2226	-
Complaint Hotline				3552 2380	-

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 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 were conducted to monitor the air quality. The established Action/Limit Levels for the environmental monitoring works were shown in **Appendix A**.

Monitoring Locations

2.2 Three designated monitoring stations, AM1, AM3 and AM4 were selected for impact dust monitoring for the Project. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 1a** and **1b**.

Table 2.1 Locations for Air Quality Monitoring

Station	Description	Location
AM1[(1)]	Yew Chung International School / PLK Choi Kai Yau School	Rooftop
AM3	Slope no. 07SW-D/FR4 near Garden Villa	On Ground
AM4	Government Quarters	Ground Floor[(2)]

Note: [(1)] Yew Chung International School / PLK Choi Kai Yau School had ceased operated and been demolished since February 2007. The air monitoring at AM1 has been suspended since February 2007, as approved by EPD on 26th April 2007.
[(2)] The HVS was installed on the ground floor, which is close to the refuse collection station of the Government Quarters.

Monitoring Equipment

2.3 **Table 2.2** summarizes the equipment used in the impact air monitoring programme. 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	3

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 – 2.4 of the Updated 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^3/min. and 1.4 m^3/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. For TSP sampling, fiberglass filters (G810) were used.

2.8 The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.

2.9 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.

2.10 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.

2.11 The shelter lid was closed and secured with the aluminum strip. 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). After sampling, the filter was removed and sent to the laboratory for weighing. The elapsed time was also recorded.

2.12 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 ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

2.13 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

2.14 All TSP monitoring was conducted as scheduled in the reporting month.

2.15 No Action/Limit Level exceedance for both 1-hour TSP and 24-hour TSP was recorded in the reporting month.

2.16 Wind data monitoring equipment has been installed in Shatin Heights for logging wind speed and wind direction. These wind data are summarized in Appendix D.

2.17 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 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 (L_{eq}). L_{eq} (30min) shall be used as the monitoring parameter for the time period between 0700-1900 hours on normal weekdays. For all other time periods, L_{eq} (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 Three designated noise monitoring stations, namely NM1, NM5 & NM6 were selected for impact monitoring in accordance to the EM&A manual (1999) and the subsequent EPD approval of the relocations.

3.4 Noise monitoring is also required to be conducted at station NM7 in accordance with the EM&A Manual (1998). The noise monitoring at the station is required to be conducted under CEDD's construction Contract No. ST 89/02 "Sha Tin Heights Tunnel and Approaches" in accordance with the requirement of Environmental Permit No. EP104/2001/A. The impact noise monitoring results at station NM7 are also presented in this report.

3.5 **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

3.6 Noise monitoring was conducted at three designated monitoring stations as summarized in Table 3.1. Figures 1a & 1b show the locations of these stations.

Table 3.1 Noise Monitoring Stations

Monitoring Station	Description	Location
NM1[(1)]	Yew Chung International School / PKL Choi Kai Yau School	Rooftop
NM5	Villa Carlton	Ground Floor[(2)]
NM6	Government Quarters	Rooftop of Refuse Collection Station
NM7	Garden Villa	Rooftop

Note: [(1)] Yew Chung International School / PLK Choi Kai Yau School had ceased operated and been demolished since February 2007. The noise monitoring at NM1 has been suspended since February 2007, as approved by EPD on 26th April 2007.

[(2)] The noise measurement was taken at 2.3m above the ground floor of Villa Carlton, where has a line of sight of the construction site in the opposite.

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

Station	Parameter	Period[1]	Frequency	Measurement
NM1	L_{10}(30 min.)dB(A) L_{90}(30 min.)dB(A) L_{eq}(30 min.)dB(A)	(a) 0700-1900 hrs. on weekdays (b) 1900-2300 hrs. on weekdays (c) 0700-2300 hrs. on holidays (d) 2300-0700 hrs on any days	Once per week	Façade
NM5				Façade
NM6				Free Field
NM7				Façade

Note: [1](b), (c) and (d) will only be conducted if construction works are undertaken during these periods.

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.
- For free field measurement (if any), the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
- 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. The meters were sent to the supplier to check and calibrate on a yearly interval.

Results and Observations

3.10 Noise monitoring was performed at the three designated locations as scheduled for the daytime period (0700-1900 hours) in this reporting month. Restricted-hour monitoring was also conducted at NM5, NM6 and NM7.

3.11 All the Construction Noise Levels (CNLs), except the monitoring (0700-1900 on weekdays) at NM6, reported in this report were adjusted with the corresponding baseline level (i.e. Measured Leq – Baseline Leq = Measured CNL), in order to facilitate the interpretation of the noise exceedance.

3.12 Noise monitoring results and graphical presentations are shown in **Appendix G**.

3.13 No Action/Limit Level exceedance for noise monitoring was recorded in the reporting month.

4. ENVIRONMENTAL AUDIT

Site Audits

4.1 Site audits were carried out on a 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 provided in **Appendix I**.

4.2 Site audits for Civil contract were conducted on 5th, 12th, 19th and 28th December 2007 by ET. A joint site audit for Civil works was conducted on 5th December 2007 with representatives from IEC, ER, the Contractor and ET while the joint site audit for TCSS works was conducted on 5th December 2007 with the representatives from IEC, ER, the Contractor and ET. No environmental deficiency was recorded for TCSS contract during site inspections.

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 valid permits/licenses obtained for the Project are summarized in **Table 4.1**. No new CNP was issued to the Project by EPD 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		
Environmental Permit (EP)				
EP-103/2001/C	22/07/05	N/A	Construction and operation of (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; (b) All E&M works (including ventilation, Traffic Control & Surveillance System (TCSS), toll collection system and lighting) for the whole Route 9 between Cheung Sha Wan and Sha Tin; I The permanent slope works above the northern portal of the Eagle's Nest Tunnel; (d) The architectural works (including fitting out and furnishings) of the portal buildings of the Sha Tin Heights Tunnel.	Valid
Registration of Chemical Waste Producer				
WPN 5213-761-L2595-01	26/01/04	N/A	Regulation for disposal of spent oil and waste batteries arising from construction activities in all project areas.	Valid
Water Discharge Licence				
EP482/261/0327/I	03/05/04	31/05/09	Discharge of industrial trade effluent and effluent arising from construction activities at the construction site at Ventilation Adit on Tai Po Road (behind Shell Filling Station) opposite Pinehill Development Highways.	Valid
EP482/261/0326/I	01/04/04	30/04/09	Discharge of industrial trade effluent and effluent arising from construction activities at the construction site at Mui Kong Tsuen, Butterfly Valley, Lai Chi Kok, Kowloon.	Valid
No. 3156	23/02/04	22/02/09	Discharge of industrial trade effluent and all other wastewater arising from the works areas at North Portal of Route 9 – Eagle's Nest Tunnel and Associated Works (Contract HY/2003/02).	Valid
Construction Noise Permit (CNP)				
GW-RN0230-07	06/06/07	05/12/07	*Location:* SHT-South Portal near Garden Villa *Time Period:* Any day between 2300-0700 on next day	Expired
GW-RN0231-07	06/06/07	05/12/07	*Location:* SHT-North Portal near Tai Po Road and Keng Hau Road *Time Period:* Any day between 2300-0700 on next day	Expired
GW-RN0252-07	18/06/07	17/12/07	*Location:* SHT-South Portal near Garden Villa *Time Period:* 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Expired
GW-RN0380-07	27/07/07	26/01/08	*Location:* Butterfly Valley, Lai Chi Kok *Time Period:* 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid

Permit No.	Valid Period		Details	Status
	From	To		
GW-RN0514-07	30/11/07	29/05/08	*Location:* SHT-North Portal near Tai Po Road and Keng Hau Road *Time Period:* 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid
GW-RN0515-07	30/11/07	29/05/08	*Location:* Tunnel North Portal Site near Garden Villa *Time Period:* 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid
GW-RN0513-07	30/11/07	29/05/08	*Location: Tunnel South Portal Site at Butterfly Valley* *Time Period: 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).*	Valid

4.6 Spot checks on truck overloading were also conducted during the site inspections since June 2006. No overloading incident was observed during the site inspections in the reporting month.

4.7 No non-conformance was identified during the site inspections in the reporting month. The observations and recommendations are summarized in **Table 4.2**.

Table 4.2 Observations and Recommendations of Site Audit for Civil Works

Parameters	Date	Observations / Recommendations	Remedial Actions / Remarks
NIL	**---**	**---**	**---**

4.8 The observations and recommendations arising from pervious month and followed up in the reporting month are summarized in **Table 4.3**.

Table 4.3 Observations and Recommendations of Site Audits Followed up for Pervious Month for Civil Works

Parameters	Date	Observations / Recommendations	Remedial Actions
NIL	**---**	**---**	**---**

Summary of Exceedances

1-hr and 24-hr TSP Monitoring

4.9 No Action/Limit Level exceedance for both 1-hour TSP and 24-hour TSP was recorded in the reporting month.

Construction noise

4.10 No Action/Limit Level exceedance for noise monitoring was recorded in the reporting month.

Implementation Status of Event Action Plans

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

Summary of Complaints and Prosecutions

4.12 No environmental related complaint or prosecution was received in the reporting month.

4.13 There were 22 environmental complaints and no prosecution received since the commencement of the Project. The updated Complaint Log is shown in **Appendix M**.

5. FUTURE KEY ISSUES

Key Issues for the Coming Month

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

- Potential dust emission from slope works and road works.
- Noise generation from stepped channel.

Monitoring Schedule for the Next Month

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

Construction Program for the Next Month

5.3 The tentative construction program for civil works is provided in **Appendix L**. The major construction activities for civil works in the coming months include:

ENT Tunnel
- T&C for Tunnel ventilation lighting.

Butterfly Valley
- Road works, stepped channel works, fill slope at SP-S2, u-channel and T&C on irrigation pipe & system.

South Portal Building
- Metal meshing cladding, upper roof railing, plumbing & drainage (T&C), tunnel ventilation system (T&C), T&C for mechanical ventilation air condition.

North Portal Building
- Metal meshing cladding, upper roof railing, plumbing & drainage, tunnel ventilation system (T&C) and T&C for mechanical ventilation air condition.

Toll Plaza's Structures and Administration Building
- Road works, roof tiling, metal curtain mesh cladding, T&C for mechanical ventilation air condition, false & external metal ceiling, T&C for plumbing and drainage, roof hand rail installation, signage, T&C for fire services and wall painting.

Ventilation Building
- Cladding & hand rail installation, fencing, T&C for mechanical ventilation air conditioning, T&C for plumbing & drainage and T&C for Tunnel Ventilation System.

SHT – South Portal Building
- Mesh cladding, plumbing & drainage (T&C), upper roof railing, mechanical ventilation air conditioning (T&C) and tunnel ventilation system (T&C).

SHT – North Portal Building

- Mesh cladding, upper roof railing, plumbing & drainage, mechanical ventilation air conditioning (T&C) and tunnel ventilation system (T&C).

SHT Tunnel & Remaining SHT/T3 Area

- T&C for Tunnel ventilation system (T&C).

5.4 The tentative construction program for TCSS works is provided in **Appendix L**. The major site activities for TCSS works in the coming months include:

- Site Acceptance Tests; and
- Minor rectification works to field equipment.

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 No Action/Limit Level exceedance for 1-hour TSP and 24-hours TSP was recorded in the reporting month.

6.3 No Action/Limit Level exceedance for noise monitoring was recorded in the reporting month.

6.4 No environmental complaint or prosecution was received in the reporting month.

Recommendations

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

Water Impact

- To closely monitor the capacity of existing de-silting facility on site, especially for the discharge at the site in Butterfly Valley.
- To keep the sedimentation facilities well maintained and perform de-silting regularly.
- To avoid accumulation of stagnant water on site.

Dust Impact

- To ensure that adequate water spray or other dust suppression measures are applied for slope cutting and the haul roads and stockpile on site.
- To cover idle soil slope surface and stockpile of dusty materials to prevent wind erosion.
- To ensure that all vehicles carrying dusty materials are properly covered before leaving the site.

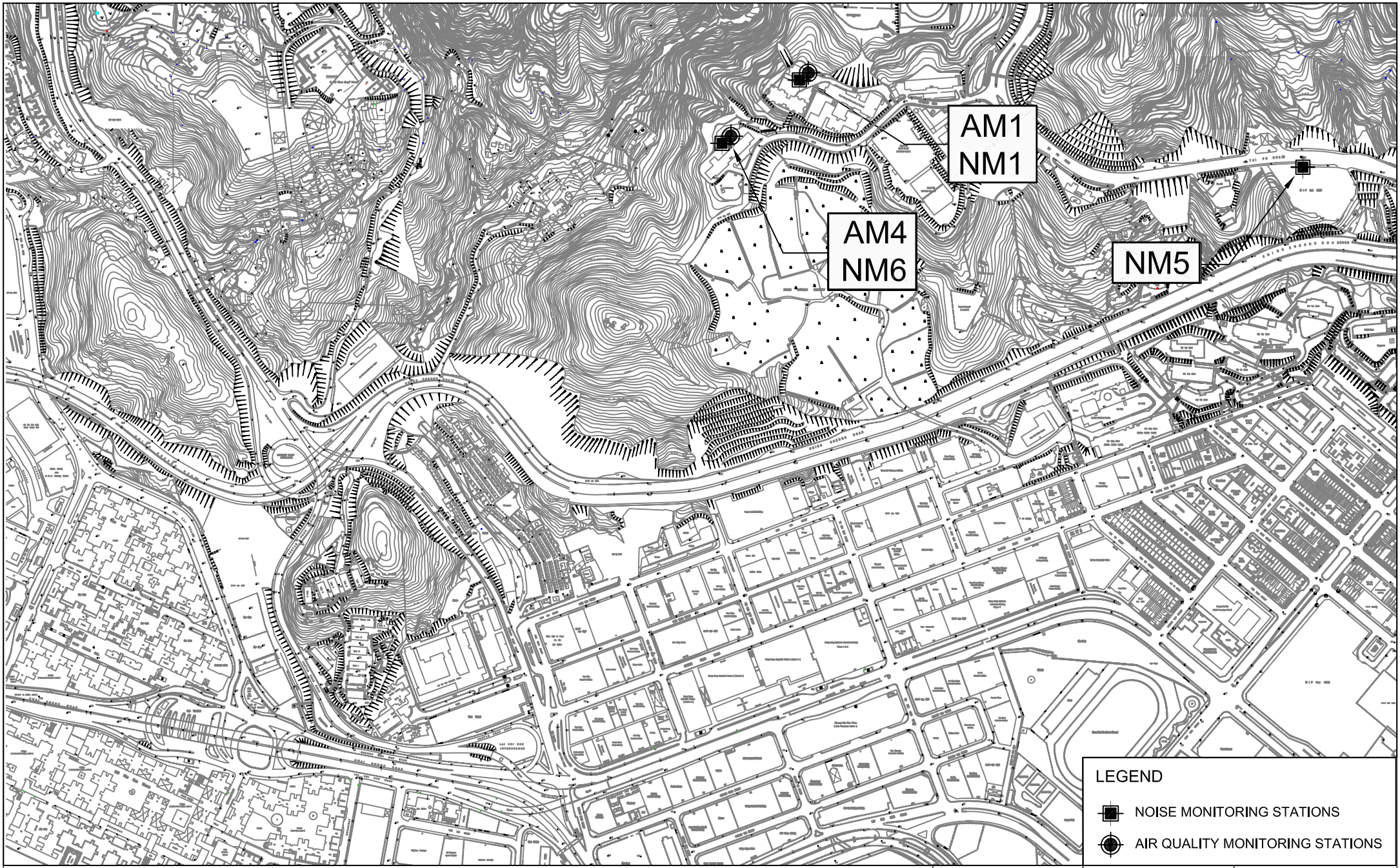
Noise Impact

- To provide temporary noise barriers for noisy activities (such as breaking works).
- To reduce the number of noisy equipment in concurrent operation.

Waste/Chemical Management

- To ensure proper storage of chemical and chemical waste on site.
- To check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly.

FIGURES



Title

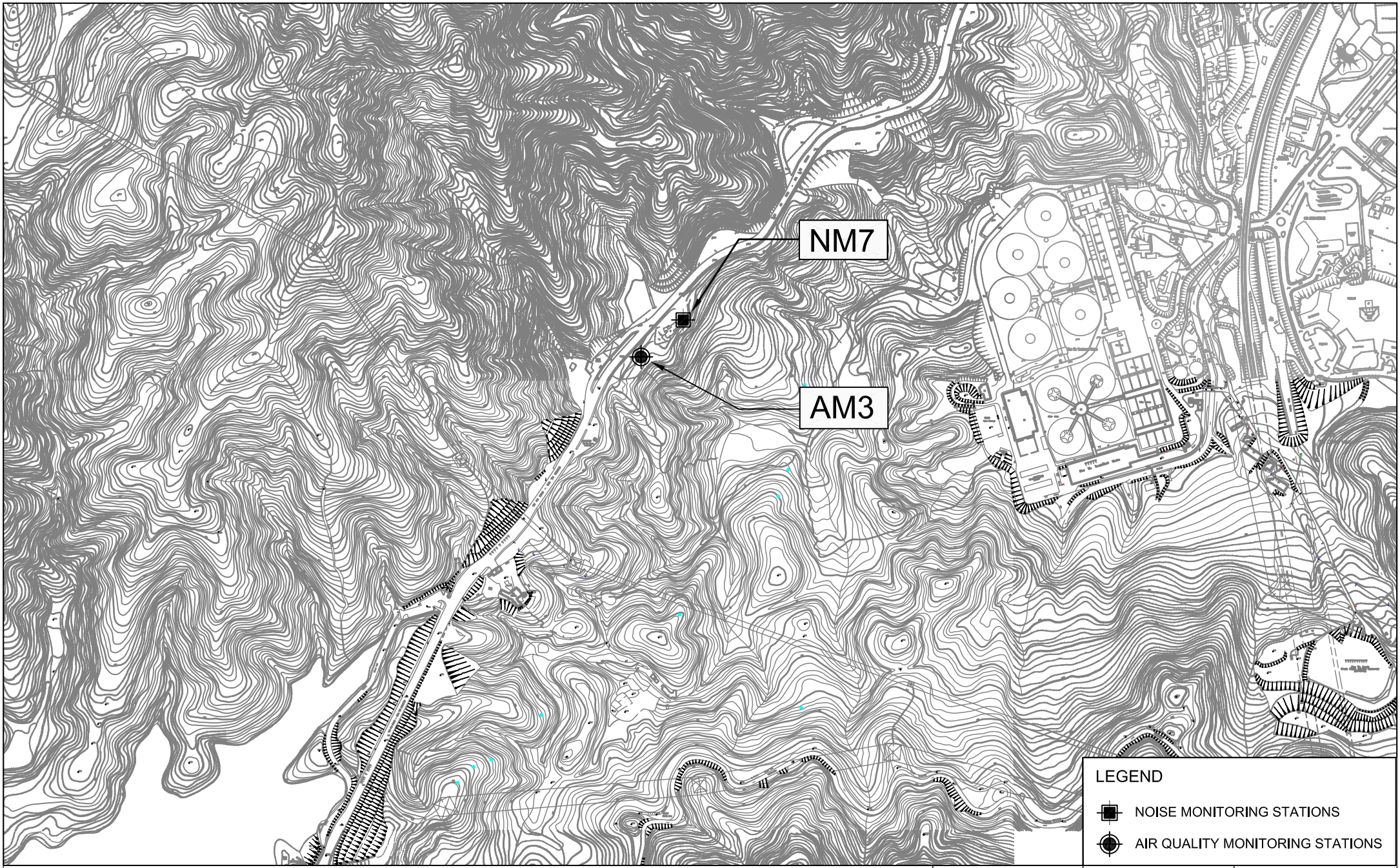
ROUTE 8 (PREVIOUSLY KNOWN AS ROUTE 9) BETWEEN CHEUNG SHA WAN AND SHA TIN
CONTRACT NO. HY/2003/02 - EAGLE'S NEST TUNNEL AND ASSOCIATED WORKS

LOCATIONS OF MONITORING STATIONS

Scale	Project No.
1 : 6500 (A4)	MA3024
Date	Figure No.
2006	1a

CINOTECH consultants limited

F:\PEOJECTS\MA3024\DRAWING\IMPACT\ENT\FIGURE 1a.DWG



Title

ROUTE 8 (PREVIOUSLY KNOWN AS ROUTE 9) BETWEEN CHEUNG SHA WAN AND SHA TIN
CONTRACT NO. HY/2003/02 - EAGLE'S NEST TUNNEL AND ASSOCIATED WORKS

LOCATIONS OF MONITORING STATIONS

Scale	Project No.
1 : 6500 (A4)	MA3024
Date	Figure No.
2006	1b

CINOTECH consultants limited

F:\PEOJECTS\MA3024\DRAWING\IMPACT\ENT\FIGURE 1b.DWG

APPENDIX A
ACTION AND LIMIT LEVELS

Appendix A - Action and Limit Levels (ENT)

1-Hour TSP

Location	Action Level, µg/m^3	Limit Level, µg/m^3
AM1	296	500
AM3	350	
AM4	294	

24-Hour TSP

Location	Action Level, µg/m^3	Limit Level, µg/m^3
AM1	168	260
AM3	200	
AM4	170	

Construction Noise

Period	Action Level	Limit Level, dB(A)			
	for all stations	NM1	NM5	NM6	NM7
0700-1900 hrs on normal weekdays	When one documented complaint is received	70/65*	75	75	75
0700-2300 hrs on holidays & 1900-2300 hrs on all other days		-	70	65	60
2300-0700 hrs of next day		-	55	50	45

(*) Since NM1 is an educational institution, the noise Limit Level (0700-1900 hrs on normal days) is taken as 70 dB(A). The Limit Level will be reduced to 65 dB(A) during school examination periods.

APPENDIX B
COPIES OF CALIBRATION CERTIFCATES

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA2027/A14/0026

Station: Garden Vilia — Operator: WK

Date: 26-Nov-07 — Next Due Date: 25-Jan-08

Equipment No.: A-01-14 — Serial No. 1354

Ambient Condition			
Temperature, Ta (K)	294.7	Pressure, Pa (mmHg)	764.3

Orifice Transfer Standard Information					
Equipment No.:	A-04-05	Slope, mc	0.0575	Intercept, bc	0.0395
Last Calibration Date:	12-Mar-07	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	11-Mar-08	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	12.3	3.54	60.82	7.9	2.83
2	10.1	3.20	55.05	6.5	2.57
3	7.5	2.76	47.34	5.0	2.25
4	5.4	2.34	40.07	3.2	1.80
5	3.2	1.80	30.69	1.7	1.31

By Linear Regression of Y on X

Slope , mw = 0.0507 — **Intercept, bw :** -0.2181

Correlation coefficient* = 0.9977

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **3.79**

Remarks:

Conducted by: WK, Tang — Signature: — Date: 26/11/07

Checked by: — Signature: — Date: 26 NOV 07

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA3024/17/0028

Station: Government Quarter
Operator: WK
Date: 12-Nov-07
Next Due Date: 11-Jan-08
Equipment No.: A-01-17
Serial No. 3460

Ambient Condition			
Temperature, Ta (K)	293.6	Pressure, Pa (mmHg)	766.6

Orifice Transfer Standard Information					
Equipment No.:	A-04-05	Slope, mc	0.0575	Intercept, bc	0.0395
Last Calibration Date:	12-Mar-07	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	11-Mar-08	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	11.0	3.36	57.68	7.7	2.81
2	8.6	2.97	50.92	6.3	2.54
3	6.3	2.54	43.48	4.4	2.12
4	5.0	2.26	38.66	3.2	1.81
5	3.2	1.81	30.79	1.8	1.36

By Linear Regression of Y on X

Slope , mw = **0.0549** **Intercept, bw :** **-0.3044**

Correlation coefficient* = **0.9971**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.13**

Remarks:

Conducted by: Wk. Tang Signature: Date: 12 Nov 07
Checked by: Signature: Date: 12 Nov 07

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TEST REPORT

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

ATTN: **Mr. Henry Leung**

Test Report No.:	C/07/70502
Date of Issue:	2007-05-02
Date Received:	2007-05-01
Date Tested:	2007-05-01
Date Completed:	2007-05-02
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	: 65%
Pressure	: 101.3 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
Senior Chemist

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WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 12, 2007 Rootsmeter S/N 9833640 Ta (K) - 294
Operator Tisch Orifice I.D. - 0999 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}

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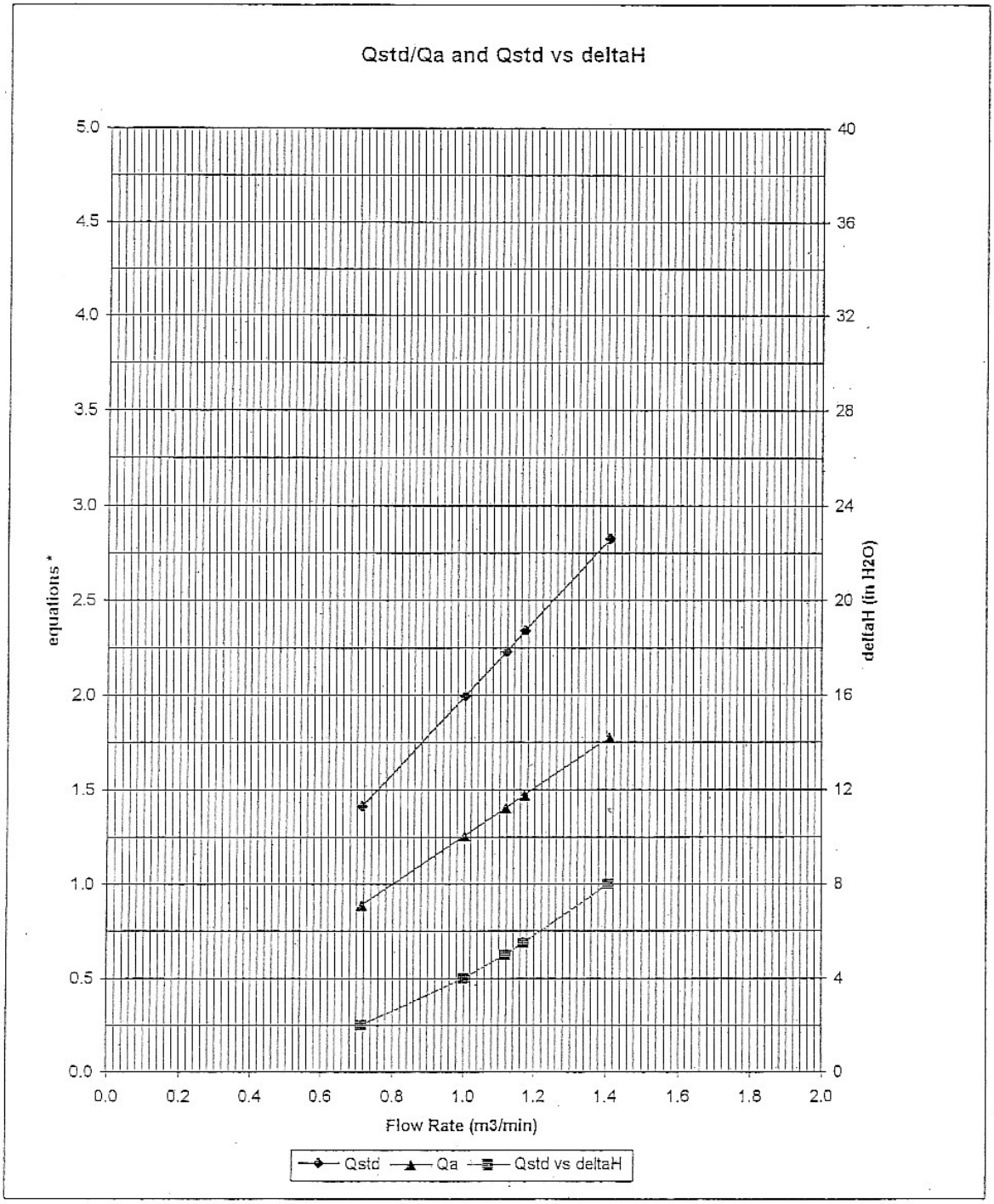
877.263.7610 TOLL FREE
513.467.9009 FAX
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT



* y-axis equations:

Qstd series: $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$

Qa series: $\sqrt{(\Delta H\ (Ta\ /\ Pa))}$

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
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ATTN: **Mr. Henry Leung**

Test Report No.:	C/N/61215/1
Date of Issue:	2006-12-15
Date Received:	2006-12-14
Date Tested:	2006-12-15
Date Completed:	2006-12-15
Next Due Date:	2007-12-14
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 Temperatre	: 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

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Testing and Research

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Website: www.wellab.com.hk

TEST REPORT

APPLICANT:	**Cinotech Consultants Limited** **Room 1710, Technology Park,** **18 On Lai Street,** **Shatin, NT, Hong Kong**	Test Report No.: Date of Issue: Date Received: Date Tested: Date Completed: Next Due Date:	C/N/71213/1 2007-12-14 2007-12-13 2007-12-14 2007-12-14 2008-12-13
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 Temperatre	: 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 TSE
Senior Chemist

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Website: www.wellab.com.hk

TEST REPORT

APPLICANT:	**Cinotech Consultants Limited** **Room 1710, Technology Park,** **18 On Lai Street,** **Shatin, NT, Hong Kong**	Test Report No.: Date of Issue: Date Received: Date Tested: Date Completed: Next Due Date:	C/N/71116/1 2007-11-16 2007-11-15 2007-11-15 2007-11-16 2008-11-15
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 Temperatre	: 20 degree Celsius
Relative Humidity	: 59%

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
Senior Chemist

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
1601-1610 Delta House,
3 On Yiu Street,
Shatin, N.T.

ATTN: **Mr. Henry Leung**

Test Report No.:	C/N/70903-1
Date of Issue:	2007-09-03
Date Received:	2007-09-01
Date Tested:	2007-09-03
Date Completed:	2007-09-03
Next Due Date:	2008-09-02
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 Temperatre	: 22 degree Celsius
Relative Humidity	: 62%

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

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
1602-1610 Delta House,
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ATTN: **Mr. Henry Leung**

Test Report No.:	C/N/70903-2
Date of Issue:	2007-09-03
Date Received:	2007-09-01
Date Tested:	2007-09-03
Date Completed:	2007-09-03
Next Due Date:	2008-09-02
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 Temperatre	: 22 degree Celsius
Relative Humidity	: 62%

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.**

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. Henry Leung**

Test Report No.:	C/N/71015/1
Date of Issue:	2007-10-15
Date Received:	2007-10-13
Date Tested:	2007-10-13
Date Completed:	2007-10-15
Next Due Date:	2008-10-14
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 Temperatre	: 21 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 Tse

PATRICK TSE
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Website: www.wellab.com.hk

TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/71116/2
Date of Issue:	2007-11-16
Date Received:	2007-11-15
Date Tested:	2007-11-15
Date Completed:	2007-11-16
Next Due Date:	2008-11-15
Page:	1 of 1

ATTN: **Mr. Henry Leung**

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 Temperatre	: 20 degree Celsius
Relative Humidity	: 59%
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 TSE
Senior Chemist

WELLAB LTD.

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Shatin, Hong Kong.
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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/06/70305
Date of Issue:	2007-03-05
Date Received:	2007-03-03
Date Tested:	2007-03-03
Date Completed:	2007-03-05
Next Due Date:	2008-03-04

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 Temperatre	: 20 degree Celsius
Relative Humidity	: 65%
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 匯力
Testing and Research

Unit C, 1/F., Goldlion Holdings Center,
13-15 Yuen Shun Circuit, Shatin, NT, HK.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

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

Test Report No.:	C/N/70903-3
Date of Issue:	2007-09-03
Date Received:	2007-09-01
Date Tested:	2007-09-03
Date Completed:	2007-09-03
Next Due Date:	2008-09-02
Page:	1 of 1

ATTN: **Mr. Henry Leung**

Item for calibration:

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

Test conditions:

Room Temperatre	: 22 degree Celsius
Relative Humidity	: 62%

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 TSE
Senior Chemist

APPENDIX C
ENVIRONMENTAL MONITORING AND AUDIT SCHEDULE

Environmental Monitoring for Eagle's Nest Tunnel
Air Quality and Noise Monitoring Schedule for December 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2-Dec	3-Dec	4-Dec	5-Dec	6-Dec	7-Dec	8-Dec
	24 hr TSP	1 hr TSP		1 hr TSP Noise	1 hr TSP	24 hr TSP
9-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec
	1 hr TSP	1 hr TSP		1 hr TSP Noise	24 hr TSP	
16-Dec	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec
	1 hr TSP	1 hr TSP	24 hr TSP	1 hr TSP Noise		
23-Dec	24-Dec	**25-Dec**	**26-Dec**	27-Dec	28-Dec	29-Dec
	1 hr TSP		24 hr TSP	1 hr TSP	1 hr TSP Noise	
30-Dec	31-Dec	1-Jan	2-Jan	3-Jan	4-Jan	5-Jan

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

AM3	Garden Villa
AM4	Government Quarters

NM5	Villa Carlton
NM6	Government Quarters
NM7	Garden Villa

Environmental Monitoring for Eagle's Nest Tunnel
Tentative Air Quality and Noise Monitoring Schedule for January 2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30-Dec	31-Dec	**1-Jan**	2-Jan	3-Jan	4-Jan	5-Jan
	24 hr TSP		1 hr TSP	1 hr TSP Noise	1 hr TSP	24 hr TSP
6-Jan	7-Jan	8-Jan	9-Jan	10-Jan	11-Jan	12-Jan
	1 hr TSP	1 hr TSP		1 hr TSP Noise	24 hr TSP	
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
	1 hr TSP	1 hr TSP		24 hr TSP	1 hr TSP Noise	
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
		1 hr TSP	24 hr TSP	1 hr TSP	1 hr TSP Noise	
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan	1-Feb	2-Feb
		1 hr TSP 24 hr TSP	1 hr TSP	1 hr TSP Noise		

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

AM3	Garden Villa
AM4	Government Quarters

NM5	Villa Carlton
NM6	Government Quarters
NM7	Garden Villa

APPENDIX D
WIND DATA

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
1-Dec-2007	0:00	0.0	---
1-Dec-2007	1:00	0.0	WNW
1-Dec-2007	2:00	0.0	WSW
1-Dec-2007	3:00	0.0	SW
1-Dec-2007	4:00	0.0	SW
1-Dec-2007	5:00	2.0	SW
1-Dec-2007	6:00	4.0	WSW
1-Dec-2007	7:00	1.0	WSW
1-Dec-2007	8:00	0.0	SW
1-Dec-2007	9:00	3.0	WNW
1-Dec-2007	10:00	5.0	WNW
1-Dec-2007	11:00	5.0	W
1-Dec-2007	12:00	6.0	WNW
1-Dec-2007	13:00	4.0	W
1-Dec-2007	14:00	4.0	W
1-Dec-2007	15:00	2.0	W
1-Dec-2007	16:00	5.0	N
1-Dec-2007	17:00	2.0	WSW
1-Dec-2007	18:00	2.0	WSW
1-Dec-2007	19:00	3.0	W
1-Dec-2007	20:00	1.0	WSW
1-Dec-2007	21:00	4.0	W
1-Dec-2007	22:00	1.0	SW
1-Dec-2007	23:00	3.0	WSW
2-Dec-2007	0:00	3.0	SW
2-Dec-2007	1:00	2.0	SW
2-Dec-2007	2:00	0.0	SSW
2-Dec-2007	3:00	2.0	SW
2-Dec-2007	4:00	2.0	SW
2-Dec-2007	5:00	1.0	SW
2-Dec-2007	6:00	1.0	SW
2-Dec-2007	7:00	0.0	---
2-Dec-2007	8:00	0.0	SW
2-Dec-2007	9:00	0.0	W
2-Dec-2007	10:00	0.0	SW
2-Dec-2007	11:00	1.0	WNW
2-Dec-2007	12:00	4.0	WNW
2-Dec-2007	13:00	4.0	W
2-Dec-2007	14:00	2.0	W
2-Dec-2007	15:00	3.0	N
2-Dec-2007	16:00	3.0	N
2-Dec-2007	17:00	1.0	NE
2-Dec-2007	18:00	0.0	---
2-Dec-2007	19:00	0.0	---
2-Dec-2007	20:00	0.0	---
2-Dec-2007	21:00	0.0	---
2-Dec-2007	22:00	0.0	---
2-Dec-2007	23:00	0.0	---
3-Dec-2007	0:00	0.0	---
3-Dec-2007	1:00	0.0	---
3-Dec-2007	2:00	0.0	---
3-Dec-2007	3:00	0.0	---
3-Dec-2007	4:00	0.0	---
3-Dec-2007	5:00	1.0	WSW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
3-Dec-2007	6:00	3.0	W
3-Dec-2007	7:00	2.0	WNW
3-Dec-2007	8:00	4.0	W
3-Dec-2007	9:00	5.0	SW
3-Dec-2007	10:00	9.0	W
3-Dec-2007	11:00	10.0	W
3-Dec-2007	12:00	7.0	W
3-Dec-2007	13:00	6.0	W
3-Dec-2007	14:00	4.0	W
3-Dec-2007	15:00	4.0	W
3-Dec-2007	16:00	3.0	WNW
3-Dec-2007	17:00	2.0	NW
3-Dec-2007	18:00	0.0	---
3-Dec-2007	19:00	0.0	---
3-Dec-2007	20:00	0.0	---
3-Dec-2007	21:00	0.0	NW
3-Dec-2007	22:00	0.0	---
3-Dec-2007	23:00	0.0	---
4-Dec-2007	0:00	0.0	NW
4-Dec-2007	1:00	0.0	SW
4-Dec-2007	2:00	2.0	SW
4-Dec-2007	3:00	2.0	SW
4-Dec-2007	4:00	0.0	WSW
4-Dec-2007	5:00	1.0	SW
4-Dec-2007	6:00	4.0	WSW
4-Dec-2007	7:00	2.0	SW
4-Dec-2007	8:00	2.0	SW
4-Dec-2007	9:00	5.0	W
4-Dec-2007	10:00	7.0	WNW
4-Dec-2007	11:00	5.0	WNW
4-Dec-2007	12:00	4.0	WNW
4-Dec-2007	13:00	2.0	WNW
4-Dec-2007	14:00	3.0	WNW
4-Dec-2007	15:00	5.0	WNW
4-Dec-2007	16:00	3.0	WNW
4-Dec-2007	17:00	2.0	W
4-Dec-2007	18:00	3.0	W
4-Dec-2007	19:00	3.0	W
4-Dec-2007	20:00	3.0	W
4-Dec-2007	21:00	0.0	SSW
4-Dec-2007	22:00	1.0	SSW
4-Dec-2007	23:00	0.0	SSW
5-Dec-2007	0:00	2.0	WNW
5-Dec-2007	1:00	2.0	WNW
5-Dec-2007	2:00	4.0	WNW
5-Dec-2007	3:00	2.0	SW
5-Dec-2007	4:00	5.0	WSW
5-Dec-2007	5:00	3.0	WSW
5-Dec-2007	6:00	4.0	SW
5-Dec-2007	7:00	2.0	W
5-Dec-2007	8:00	6.0	W
5-Dec-2007	9:00	5.0	W
5-Dec-2007	10:00	3.0	WNW
5-Dec-2007	11:00	3.0	W

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
5-Dec-2007	12:00	3.0	W
5-Dec-2007	13:00	5.0	SW
5-Dec-2007	14:00	5.0	W
5-Dec-2007	15:00	4.0	W
5-Dec-2007	16:00	6.0	WNW
5-Dec-2007	17:00	5.0	WNW
5-Dec-2007	18:00	4.0	WNW
5-Dec-2007	19:00	5.0	W
5-Dec-2007	20:00	3.0	W
5-Dec-2007	21:00	2.0	SW
5-Dec-2007	22:00	1.0	SW
5-Dec-2007	23:00	1.0	SSW
6-Dec-2007	0:00	2.0	WSW
6-Dec-2007	1:00	0.0	WSW
6-Dec-2007	2:00	0.0	WSW
6-Dec-2007	3:00	0.0	WSW
6-Dec-2007	4:00	1.0	WSW
6-Dec-2007	5:00	2.0	W
6-Dec-2007	6:00	0.0	SW
6-Dec-2007	7:00	0.0	SW
6-Dec-2007	8:00	1.0	SW
6-Dec-2007	9:00	3.0	W
6-Dec-2007	10:00	5.0	W
6-Dec-2007	11:00	7.0	W
6-Dec-2007	12:00	5.0	WNW
6-Dec-2007	13:00	2.0	WNW
6-Dec-2007	14:00	3.0	WNW
6-Dec-2007	15:00	2.0	WNW
6-Dec-2007	16:00	1.0	S
6-Dec-2007	17:00	1.0	WSW
6-Dec-2007	18:00	1.0	W
6-Dec-2007	19:00	0.0	---
6-Dec-2007	20:00	0.0	---
6-Dec-2007	21:00	0.0	---
6-Dec-2007	22:00	0.0	---
6-Dec-2007	23:00	0.0	---
7-Dec-2007	0:00	0.0	---
7-Dec-2007	1:00	0.0	---
7-Dec-2007	2:00	0.0	---
7-Dec-2007	3:00	0.0	---
7-Dec-2007	4:00	0.0	---
7-Dec-2007	5:00	0.0	---
7-Dec-2007	6:00	1.0	W
7-Dec-2007	7:00	2.0	W
7-Dec-2007	8:00	1.0	SW
7-Dec-2007	9:00	5.0	SW
7-Dec-2007	10:00	8.0	W
7-Dec-2007	11:00	7.0	W
7-Dec-2007	12:00	6.0	W
7-Dec-2007	13:00	5.0	WNW
7-Dec-2007	14:00	6.0	W
7-Dec-2007	15:00	6.0	W
7-Dec-2007	16:00	3.0	W
7-Dec-2007	17:00	2.0	NW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
7-Dec-2007	18:00	0.0	---
7-Dec-2007	19:00	0.0	---
7-Dec-2007	20:00	0.0	---
7-Dec-2007	21:00	0.0	---
7-Dec-2007	22:00	0.0	---
7-Dec-2007	23:00	0.0	---
8-Dec-2007	0:00	0.0	---
8-Dec-2007	1:00	0.0	---
8-Dec-2007	2:00	0.0	SW
8-Dec-2007	3:00	2.0	SW
8-Dec-2007	4:00	2.0	SW
8-Dec-2007	5:00	2.0	SW
8-Dec-2007	6:00	2.0	SW
8-Dec-2007	7:00	2.0	SW
8-Dec-2007	8:00	3.0	WSW
8-Dec-2007	9:00	4.0	SW
8-Dec-2007	10:00	5.0	WSW
8-Dec-2007	11:00	6.0	W
8-Dec-2007	12:00	6.0	W
8-Dec-2007	13:00	5.0	WNW
8-Dec-2007	14:00	5.0	WNW
8-Dec-2007	15:00	5.0	WNW
8-Dec-2007	16:00	7.0	WNW
8-Dec-2007	17:00	4.0	W
8-Dec-2007	18:00	4.0	WNW
8-Dec-2007	19:00	4.0	W
8-Dec-2007	20:00	1.0	WNW
8-Dec-2007	21:00	3.0	W
8-Dec-2007	22:00	5.0	WNW
8-Dec-2007	23:00	5.0	WNW
9-Dec-2007	0:00	4.0	W
9-Dec-2007	1:00	4.0	WSW
9-Dec-2007	2:00	4.0	W
9-Dec-2007	3:00	6.0	W
9-Dec-2007	4:00	7.0	W
9-Dec-2007	5:00	4.0	W
9-Dec-2007	6:00	2.0	W
9-Dec-2007	7:00	4.0	WNW
9-Dec-2007	8:00	3.0	W
9-Dec-2007	9:00	3.0	W
9-Dec-2007	10:00	4.0	W
9-Dec-2007	11:00	4.0	W
9-Dec-2007	12:00	4.0	W
9-Dec-2007	13:00	3.0	WNW
9-Dec-2007	14:00	2.0	WNW
9-Dec-2007	15:00	3.0	WNW
9-Dec-2007	16:00	3.0	WNW
9-Dec-2007	17:00	2.0	W
9-Dec-2007	18:00	0.0	SW
9-Dec-2007	19:00	1.0	WSW
9-Dec-2007	20:00	1.0	WSW
9-Dec-2007	21:00	2.0	WSW
9-Dec-2007	22:00	1.0	W
9-Dec-2007	23:00	0.0	SW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
10-Dec-2007	0:00	0.0	---
10-Dec-2007	1:00	1.0	WSW
10-Dec-2007	2:00	1.0	W
10-Dec-2007	3:00	1.0	WSW
10-Dec-2007	4:00	4.0	WNW
10-Dec-2007	5:00	3.0	W
10-Dec-2007	6:00	1.0	WSW
10-Dec-2007	7:00	4.0	WSW
10-Dec-2007	8:00	6.0	W
10-Dec-2007	9:00	7.0	W
10-Dec-2007	10:00	6.0	W
10-Dec-2007	11:00	7.0	WNW
10-Dec-2007	12:00	4.0	WNW
10-Dec-2007	13:00	6.0	WNW
10-Dec-2007	14:00	5.0	W
10-Dec-2007	15:00	5.0	W
10-Dec-2007	16:00	4.0	W
10-Dec-2007	17:00	3.0	WNW
10-Dec-2007	18:00	3.0	WSW
10-Dec-2007	19:00	4.0	W
10-Dec-2007	20:00	0.0	---
10-Dec-2007	21:00	0.0	---
10-Dec-2007	22:00	0.0	---
10-Dec-2007	23:00	0.0	SSW
11-Dec-2007	0:00	0.0	---
11-Dec-2007	1:00	0.0	---
11-Dec-2007	2:00	0.0	---
11-Dec-2007	3:00	0.0	---
11-Dec-2007	4:00	0.0	---
11-Dec-2007	5:00	0.0	---
11-Dec-2007	6:00	0.0	---
11-Dec-2007	7:00	0.0	---
11-Dec-2007	8:00	0.0	---
11-Dec-2007	9:00	0.0	SSW
11-Dec-2007	10:00	0.0	SSW
11-Dec-2007	11:00	0.0	SSW
11-Dec-2007	12:00	4.0	W
11-Dec-2007	13:00	5.0	WSW
11-Dec-2007	14:00	3.0	W
11-Dec-2007	15:00	6.0	W
11-Dec-2007	16:00	5.0	WNW
11-Dec-2007	17:00	7.0	W
11-Dec-2007	18:00	4.0	W
11-Dec-2007	19:00	3.0	W
11-Dec-2007	20:00	5.0	WSW
11-Dec-2007	21:00	7.0	W
11-Dec-2007	22:00	3.0	W
11-Dec-2007	23:00	0.0	WSW
12-Dec-2007	0:00	0.0	---
12-Dec-2007	1:00	0.0	---
12-Dec-2007	2:00	0.0	---
12-Dec-2007	3:00	0.0	---
12-Dec-2007	4:00	0.0	---
12-Dec-2007	5:00	0.0	---

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
12-Dec-2007	6:00	0.0	WSW
12-Dec-2007	7:00	0.0	---
12-Dec-2007	8:00	0.0	---
12-Dec-2007	9:00	0.0	---
12-Dec-2007	10:00	0.0	WSW
12-Dec-2007	11:00	1.0	W
12-Dec-2007	12:00	4.0	W
12-Dec-2007	13:00	1.0	W
12-Dec-2007	14:00	3.0	N
12-Dec-2007	15:00	3.0	NE
12-Dec-2007	16:00	3.0	NE
12-Dec-2007	17:00	2.0	NE
12-Dec-2007	18:00	0.0	NNE
12-Dec-2007	19:00	0.0	NNE
12-Dec-2007	20:00	0.0	---
12-Dec-2007	21:00	0.0	---
12-Dec-2007	22:00	0.0	---
12-Dec-2007	23:00	0.0	---
13-Dec-2007	0:00	0.0	---
13-Dec-2007	1:00	0.0	---
13-Dec-2007	2:00	0.0	---
13-Dec-2007	3:00	0.0	---
13-Dec-2007	4:00	0.0	ENE
13-Dec-2007	5:00	0.0	---
13-Dec-2007	6:00	0.0	---
13-Dec-2007	7:00	0.0	---
13-Dec-2007	8:00	0.0	---
13-Dec-2007	9:00	0.0	ESE
13-Dec-2007	10:00	8.0	W
13-Dec-2007	11:00	8.0	WNW
13-Dec-2007	12:00	5.0	WNW
13-Dec-2007	13:00	5.0	WNW
13-Dec-2007	14:00	5.0	NW
13-Dec-2007	15:00	8.0	WNW
13-Dec-2007	16:00	8.0	W
13-Dec-2007	17:00	5.0	WSW
13-Dec-2007	18:00	3.0	SW
13-Dec-2007	19:00	3.0	SSW
13-Dec-2007	20:00	2.0	SSW
13-Dec-2007	21:00	0.0	---
13-Dec-2007	22:00	1.0	WSW
13-Dec-2007	23:00	1.0	SW
14-Dec-2007	0:00	3.0	W
14-Dec-2007	1:00	2.0	SSW
14-Dec-2007	2:00	7.0	WNW
14-Dec-2007	3:00	4.0	W
14-Dec-2007	4:00	4.0	WSW
14-Dec-2007	5:00	5.0	WSW
14-Dec-2007	6:00	5.0	WSW
14-Dec-2007	7:00	4.0	W
14-Dec-2007	8:00	5.0	WSW
14-Dec-2007	9:00	7.0	W
14-Dec-2007	10:00	7.0	W
14-Dec-2007	11:00	5.0	W

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
14-Dec-2007	12:00	4.0	W
14-Dec-2007	13:00	4.0	W
14-Dec-2007	14:00	4.0	WNW
14-Dec-2007	15:00	3.0	W
14-Dec-2007	16:00	2.0	W
14-Dec-2007	17:00	3.0	W
14-Dec-2007	18:00	3.0	SW
14-Dec-2007	19:00	3.0	SW
14-Dec-2007	20:00	3.0	W
14-Dec-2007	21:00	4.0	W
14-Dec-2007	22:00	6.0	WNW
14-Dec-2007	23:00	6.0	W
15-Dec-2007	0:00	6.0	W
15-Dec-2007	1:00	6.0	W
15-Dec-2007	2:00	4.0	W
15-Dec-2007	3:00	5.0	W
15-Dec-2007	4:00	4.0	W
15-Dec-2007	5:00	5.0	WNW
15-Dec-2007	6:00	3.0	W
15-Dec-2007	7:00	2.0	SSW
15-Dec-2007	8:00	2.0	SSW
15-Dec-2007	9:00	4.0	W
15-Dec-2007	10:00	3.0	WNW
15-Dec-2007	11:00	2.0	W
15-Dec-2007	12:00	3.0	WNW
15-Dec-2007	13:00	3.0	W
15-Dec-2007	14:00	3.0	W
15-Dec-2007	15:00	4.0	W
15-Dec-2007	16:00	3.0	W
15-Dec-2007	17:00	3.0	SW
15-Dec-2007	18:00	1.0	SW
15-Dec-2007	19:00	5.0	W
15-Dec-2007	20:00	7.0	SW
15-Dec-2007	21:00	4.0	SW
15-Dec-2007	22:00	4.0	SW
15-Dec-2007	23:00	7.0	WSW
16-Dec-2007	0:00	7.0	W
16-Dec-2007	1:00	5.0	W
16-Dec-2007	2:00	4.0	SW
16-Dec-2007	3:00	3.0	SW
16-Dec-2007	4:00	2.0	WNW
16-Dec-2007	5:00	3.0	WSW
16-Dec-2007	6:00	7.0	W
16-Dec-2007	7:00	4.0	WNW
16-Dec-2007	8:00	7.0	WNW
16-Dec-2007	9:00	6.0	WNW
16-Dec-2007	10:00	9.0	W
16-Dec-2007	11:00	7.0	WNW
16-Dec-2007	12:00	7.0	WNW
16-Dec-2007	13:00	7.0	WNW
16-Dec-2007	14:00	4.0	WNW
16-Dec-2007	15:00	5.0	W
16-Dec-2007	16:00	4.0	W
16-Dec-2007	17:00	5.0	W

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
16-Dec-2007	18:00	4.0	W
16-Dec-2007	19:00	5.0	WSW
16-Dec-2007	20:00	7.0	W
16-Dec-2007	21:00	7.0	WSW
16-Dec-2007	22:00	5.0	W
16-Dec-2007	23:00	3.0	WNW
17-Dec-2007	0:00	2.0	WNW
17-Dec-2007	1:00	1.0	WNW
17-Dec-2007	2:00	0.0	WNW
17-Dec-2007	3:00	0.0	---
17-Dec-2007	4:00	0.0	WNW
17-Dec-2007	5:00	0.0	WNW
17-Dec-2007	6:00	0.0	---
17-Dec-2007	7:00	0.0	---
17-Dec-2007	8:00	0.0	---
17-Dec-2007	9:00	1.0	N
17-Dec-2007	10:00	0.0	---
17-Dec-2007	11:00	1.0	W
17-Dec-2007	12:00	4.0	WNW
17-Dec-2007	13:00	7.0	W
17-Dec-2007	14:00	6.0	W
17-Dec-2007	15:00	6.0	W
17-Dec-2007	16:00	4.0	WNW
17-Dec-2007	17:00	1.0	WSW
17-Dec-2007	18:00	0.0	WSW
17-Dec-2007	19:00	0.0	---
17-Dec-2007	20:00	0.0	---
17-Dec-2007	21:00	0.0	---
17-Dec-2007	22:00	0.0	---
17-Dec-2007	23:00	0.0	---
18-Dec-2007	0:00	0.0	---
18-Dec-2007	1:00	0.0	---
18-Dec-2007	2:00	0.0	---
18-Dec-2007	3:00	0.0	---
18-Dec-2007	4:00	0.0	---
18-Dec-2007	5:00	0.0	---
18-Dec-2007	6:00	0.0	---
18-Dec-2007	7:00	0.0	---
18-Dec-2007	8:00	0.0	---
18-Dec-2007	9:00	0.0	---
18-Dec-2007	10:00	0.0	---
18-Dec-2007	11:00	4.0	W
18-Dec-2007	12:00	5.0	WSW
18-Dec-2007	13:00	5.0	WSW
18-Dec-2007	14:00	5.0	WNW
18-Dec-2007	15:00	5.0	W
18-Dec-2007	16:00	4.0	W
18-Dec-2007	17:00	4.0	WSW
18-Dec-2007	18:00	3.0	WSW
18-Dec-2007	19:00	5.0	WSW
18-Dec-2007	20:00	6.0	W
18-Dec-2007	21:00	4.0	W
18-Dec-2007	22:00	4.0	W
18-Dec-2007	23:00	4.0	WSW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
19-Dec-2007	0:00	2.0	W
19-Dec-2007	1:00	4.0	W
19-Dec-2007	2:00	3.0	W
19-Dec-2007	3:00	1.0	WSW
19-Dec-2007	4:00	0.0	W
19-Dec-2007	5:00	0.0	---
19-Dec-2007	6:00	0.0	---
19-Dec-2007	7:00	0.0	---
19-Dec-2007	8:00	0.0	---
19-Dec-2007	9:00	0.0	---
19-Dec-2007	10:00	4.0	W
19-Dec-2007	11:00	5.0	W
19-Dec-2007	12:00	4.0	W
19-Dec-2007	13:00	6.0	WNW
19-Dec-2007	14:00	3.0	W
19-Dec-2007	15:00	3.0	WSW
19-Dec-2007	16:00	0.0	SW
19-Dec-2007	17:00	0.0	SW
19-Dec-2007	18:00	2.0	WNW
19-Dec-2007	19:00	1.0	WSW
19-Dec-2007	20:00	1.0	SW
19-Dec-2007	21:00	0.0	---
19-Dec-2007	22:00	0.0	---
19-Dec-2007	23:00	0.0	---
20-Dec-2007	0:00	0.0	---
20-Dec-2007	1:00	0.0	---
20-Dec-2007	2:00	0.0	---
20-Dec-2007	3:00	0.0	---
20-Dec-2007	4:00	0.0	---
20-Dec-2007	5:00	0.0	SW
20-Dec-2007	6:00	3.0	WNW
20-Dec-2007	7:00	5.0	WSW
20-Dec-2007	8:00	6.0	W
20-Dec-2007	9:00	6.0	WNW
20-Dec-2007	10:00	8.0	W
20-Dec-2007	11:00	8.0	WNW
20-Dec-2007	12:00	8.0	WNW
20-Dec-2007	13:00	4.0	WSW
20-Dec-2007	14:00	5.0	W
20-Dec-2007	15:00	7.0	W
20-Dec-2007	16:00	10.0	W
20-Dec-2007	17:00	10.0	WNW
20-Dec-2007	18:00	7.0	W
20-Dec-2007	19:00	4.0	W
20-Dec-2007	20:00	1.0	W
20-Dec-2007	21:00	4.0	W
20-Dec-2007	22:00	6.0	WSW
20-Dec-2007	23:00	5.0	WSW
21-Dec-2007	0:00	6.0	SW
21-Dec-2007	1:00	6.0	SW
21-Dec-2007	2:00	7.0	SW
21-Dec-2007	3:00	9.0	W
21-Dec-2007	4:00	8.0	WSW
21-Dec-2007	5:00	5.0	W

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
21-Dec-2007	6:00	4.0	SW
21-Dec-2007	7:00	2.0	WSW
21-Dec-2007	8:00	1.0	W
21-Dec-2007	9:00	0.0	SW
21-Dec-2007	10:00	3.0	SW
21-Dec-2007	11:00	4.0	WNW
21-Dec-2007	12:00	2.0	WNW
21-Dec-2007	13:00	2.0	WNW
21-Dec-2007	14:00	3.0	N
21-Dec-2007	15:00	5.0	N
21-Dec-2007	16:00	3.0	NNE
21-Dec-2007	17:00	3.0	NE
21-Dec-2007	18:00	2.0	NNE
21-Dec-2007	19:00	1.0	NE
21-Dec-2007	20:00	0.0	---
21-Dec-2007	21:00	0.0	---
21-Dec-2007	22:00	0.0	NE
21-Dec-2007	23:00	0.0	---
22-Dec-2007	0:00	0.0	---
22-Dec-2007	1:00	0.0	---
22-Dec-2007	2:00	0.0	---
22-Dec-2007	3:00	0.0	---
22-Dec-2007	4:00	0.0	---
22-Dec-2007	5:00	0.0	---
22-Dec-2007	6:00	0.0	---
22-Dec-2007	7:00	0.0	---
22-Dec-2007	8:00	0.0	---
22-Dec-2007	9:00	0.0	---
22-Dec-2007	10:00	2.0	W
22-Dec-2007	11:00	2.0	W
22-Dec-2007	12:00	0.0	W
22-Dec-2007	13:00	0.0	W
22-Dec-2007	14:00	1.0	W
22-Dec-2007	15:00	2.0	WNW
22-Dec-2007	16:00	2.0	NNE
22-Dec-2007	17:00	1.0	NNE
22-Dec-2007	18:00	0.0	N
22-Dec-2007	19:00	3.0	WNW
22-Dec-2007	20:00	4.0	W
22-Dec-2007	21:00	4.0	WSW
22-Dec-2007	22:00	4.0	W
22-Dec-2007	23:00	6.0	WNW
23-Dec-2007	0:00	4.0	WNW
23-Dec-2007	1:00	3.0	WSW
23-Dec-2007	2:00	2.0	WSW
23-Dec-2007	3:00	1.0	W
23-Dec-2007	4:00	3.0	WSW
23-Dec-2007	5:00	3.0	W
23-Dec-2007	6:00	4.0	W
23-Dec-2007	7:00	5.0	SW
23-Dec-2007	8:00	4.0	W
23-Dec-2007	9:00	5.0	NW
23-Dec-2007	10:00	5.0	W
23-Dec-2007	11:00	3.0	SW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
23-Dec-2007	12:00	4.0	W
23-Dec-2007	13:00	6.0	W
23-Dec-2007	14:00	7.0	W
23-Dec-2007	15:00	6.0	W
23-Dec-2007	16:00	7.0	W
23-Dec-2007	17:00	6.0	W
23-Dec-2007	18:00	3.0	WNW
23-Dec-2007	19:00	5.0	W
23-Dec-2007	20:00	4.0	WNW
23-Dec-2007	21:00	3.0	W
23-Dec-2007	22:00	4.0	W
23-Dec-2007	23:00	4.0	WSW
24-Dec-2007	0:00	0.0	W
24-Dec-2007	1:00	2.0	WNW
24-Dec-2007	2:00	7.0	W
24-Dec-2007	3:00	5.0	W
24-Dec-2007	4:00	1.0	W
24-Dec-2007	5:00	1.0	W
24-Dec-2007	6:00	0.0	---
24-Dec-2007	7:00	2.0	W
24-Dec-2007	8:00	4.0	WNW
24-Dec-2007	9:00	6.0	W
24-Dec-2007	10:00	6.0	W
24-Dec-2007	11:00	7.0	W
24-Dec-2007	12:00	6.0	W
24-Dec-2007	13:00	6.0	W
24-Dec-2007	14:00	6.0	WSW
24-Dec-2007	15:00	3.0	WSW
24-Dec-2007	16:00	2.0	WSW
24-Dec-2007	17:00	4.0	WSW
24-Dec-2007	18:00	4.0	WSW
24-Dec-2007	19:00	4.0	SW
24-Dec-2007	20:00	4.0	SW
24-Dec-2007	21:00	5.0	SW
24-Dec-2007	22:00	4.0	SW
24-Dec-2007	23:00	2.0	SW
25-Dec-2007	0:00	3.0	W
25-Dec-2007	1:00	4.0	SW
25-Dec-2007	2:00	5.0	SW
25-Dec-2007	3:00	4.0	SW
25-Dec-2007	4:00	4.0	SW
25-Dec-2007	5:00	2.0	WSW
25-Dec-2007	6:00	2.0	SW
25-Dec-2007	7:00	3.0	SW
25-Dec-2007	8:00	2.0	WSW
25-Dec-2007	9:00	1.0	WSW
25-Dec-2007	10:00	7.0	W
25-Dec-2007	11:00	6.0	W
25-Dec-2007	12:00	4.0	W
25-Dec-2007	13:00	4.0	W
25-Dec-2007	14:00	5.0	W
25-Dec-2007	15:00	6.0	W
25-Dec-2007	16:00	6.0	WNW
25-Dec-2007	17:00	4.0	SW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
25-Dec-2007	18:00	2.0	SW
25-Dec-2007	19:00	3.0	SSW
25-Dec-2007	20:00	4.0	SW
25-Dec-2007	21:00	1.0	SW
25-Dec-2007	22:00	1.0	WNW
25-Dec-2007	23:00	1.0	WNW
26-Dec-2007	0:00	0.0	---
26-Dec-2007	1:00	0.0	---
26-Dec-2007	2:00	0.0	---
26-Dec-2007	3:00	0.0	---
26-Dec-2007	4:00	0.0	WNW
26-Dec-2007	5:00	3.0	SW
26-Dec-2007	6:00	3.0	W
26-Dec-2007	7:00	0.0	W
26-Dec-2007	8:00	2.0	W
26-Dec-2007	9:00	7.0	WNW
26-Dec-2007	10:00	7.0	W
26-Dec-2007	11:00	3.0	NW
26-Dec-2007	12:00	6.0	WNW
26-Dec-2007	13:00	9.0	WNW
26-Dec-2007	14:00	7.0	WNW
26-Dec-2007	15:00	6.0	WNW
26-Dec-2007	16:00	7.0	WNW
26-Dec-2007	17:00	4.0	WNW
26-Dec-2007	18:00	6.0	W
26-Dec-2007	19:00	1.0	WNW
26-Dec-2007	20:00	1.0	WSW
26-Dec-2007	21:00	3.0	WNW
26-Dec-2007	22:00	5.0	WNW
26-Dec-2007	23:00	7.0	WNW
27-Dec-2007	0:00	8.0	WNW
27-Dec-2007	1:00	8.0	WNW
27-Dec-2007	2:00	7.0	WSW
27-Dec-2007	3:00	5.0	SW
27-Dec-2007	4:00	5.0	SW
27-Dec-2007	5:00	1.0	SW
27-Dec-2007	6:00	0.0	SW
27-Dec-2007	7:00	0.0	SW
27-Dec-2007	8:00	0.0	---
27-Dec-2007	9:00	0.0	SW
27-Dec-2007	10:00	4.0	W
27-Dec-2007	11:00	4.0	WNW
27-Dec-2007	12:00	3.0	W
27-Dec-2007	13:00	3.0	WNW
27-Dec-2007	14:00	2.0	WNW
27-Dec-2007	15:00	4.0	N
27-Dec-2007	16:00	3.0	NNE
27-Dec-2007	17:00	2.0	NE
27-Dec-2007	18:00	0.0	NE
27-Dec-2007	19:00	0.0	---
27-Dec-2007	20:00	0.0	---
27-Dec-2007	21:00	0.0	---
27-Dec-2007	22:00	0.0	---
27-Dec-2007	23:00	0.0	---

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
28-Dec-2007	0:00	0.0	NE
28-Dec-2007	1:00	0.0	---
28-Dec-2007	2:00	0.0	---
28-Dec-2007	3:00	0.0	---
28-Dec-2007	4:00	0.0	---
28-Dec-2007	5:00	0.0	---
28-Dec-2007	6:00	0.0	---
28-Dec-2007	7:00	0.0	---
28-Dec-2007	8:00	0.0	---
28-Dec-2007	9:00	0.0	NE
28-Dec-2007	10:00	2.0	W
28-Dec-2007	11:00	4.0	WNW
28-Dec-2007	12:00	2.0	W
28-Dec-2007	13:00	3.0	W
28-Dec-2007	14:00	4.0	WNW
28-Dec-2007	15:00	3.0	N
28-Dec-2007	16:00	4.0	N
28-Dec-2007	17:00	3.0	NE
28-Dec-2007	18:00	0.0	NE
28-Dec-2007	19:00	0.0	NE
28-Dec-2007	20:00	0.0	---
28-Dec-2007	21:00	0.0	---
28-Dec-2007	22:00	0.0	---
28-Dec-2007	23:00	0.0	---
29-Dec-2007	0:00	0.0	---
29-Dec-2007	1:00	0.0	---
29-Dec-2007	2:00	3.0	SW
29-Dec-2007	3:00	3.0	W
29-Dec-2007	4:00	1.0	W
29-Dec-2007	5:00	1.0	SSW
29-Dec-2007	6:00	0.0	SW
29-Dec-2007	7:00	1.0	SSW
29-Dec-2007	8:00	5.0	WNW
29-Dec-2007	9:00	6.0	SW
29-Dec-2007	10:00	9.0	WNW
29-Dec-2007	11:00	6.0	W
29-Dec-2007	12:00	3.0	W
29-Dec-2007	13:00	3.0	W
29-Dec-2007	14:00	4.0	S
29-Dec-2007	15:00	3.0	S
29-Dec-2007	16:00	1.0	S
29-Dec-2007	17:00	0.0	SSW
29-Dec-2007	18:00	1.0	SW
29-Dec-2007	19:00	2.0	WSW
29-Dec-2007	20:00	2.0	W
29-Dec-2007	21:00	4.0	SW
29-Dec-2007	22:00	5.0	SW
29-Dec-2007	23:00	5.0	SW
30-Dec-2007	0:00	4.0	SW
30-Dec-2007	1:00	4.0	WSW
30-Dec-2007	2:00	3.0	SW
30-Dec-2007	3:00	3.0	SW
30-Dec-2007	4:00	3.0	SW
30-Dec-2007	5:00	4.0	WSW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
30-Dec-2007	6:00	6.0	WSW
30-Dec-2007	7:00	6.0	SW
30-Dec-2007	8:00	5.0	WSW
30-Dec-2007	9:00	6.0	SW
30-Dec-2007	10:00	8.0	WNW
30-Dec-2007	11:00	12.0	WNW
30-Dec-2007	12:00	13.0	WNW
30-Dec-2007	13:00	13.0	WNW
30-Dec-2007	14:00	11.0	WNW
30-Dec-2007	15:00	7.0	W
30-Dec-2007	16:00	4.0	WSW
30-Dec-2007	17:00	4.0	WSW
30-Dec-2007	18:00	4.0	SW
30-Dec-2007	19:00	3.0	SW
30-Dec-2007	20:00	2.0	SW
30-Dec-2007	21:00	4.0	SW
30-Dec-2007	22:00	3.0	SW
30-Dec-2007	23:00	4.0	SW
31-Dec-2007	0:00	3.0	SW
31-Dec-2007	1:00	4.0	SW
31-Dec-2007	2:00	4.0	WSW
31-Dec-2007	3:00	4.0	SW
31-Dec-2007	4:00	5.0	SW
31-Dec-2007	5:00	5.0	SW
31-Dec-2007	6:00	5.0	SW
31-Dec-2007	7:00	4.0	SW
31-Dec-2007	8:00	5.0	SW
31-Dec-2007	9:00	6.0	SW
31-Dec-2007	10:00	7.0	W
31-Dec-2007	11:00	11.0	WNW
31-Dec-2007	12:00	12.0	WNW
31-Dec-2007	13:00	9.0	WNW
31-Dec-2007	14:00	7.0	WNW
31-Dec-2007	15:00	7.0	WSW
31-Dec-2007	16:00	7.0	W
31-Dec-2007	17:00	5.0	SW
31-Dec-2007	18:00	5.0	SW
31-Dec-2007	19:00	4.0	SW
31-Dec-2007	20:00	4.0	SSW
31-Dec-2007	21:00	3.0	SW
31-Dec-2007	22:00	3.0	SW
31-Dec-2007	23:00	3.0	SW

APPENDIX E
1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix E - 1-hour TSP Monitoring Results

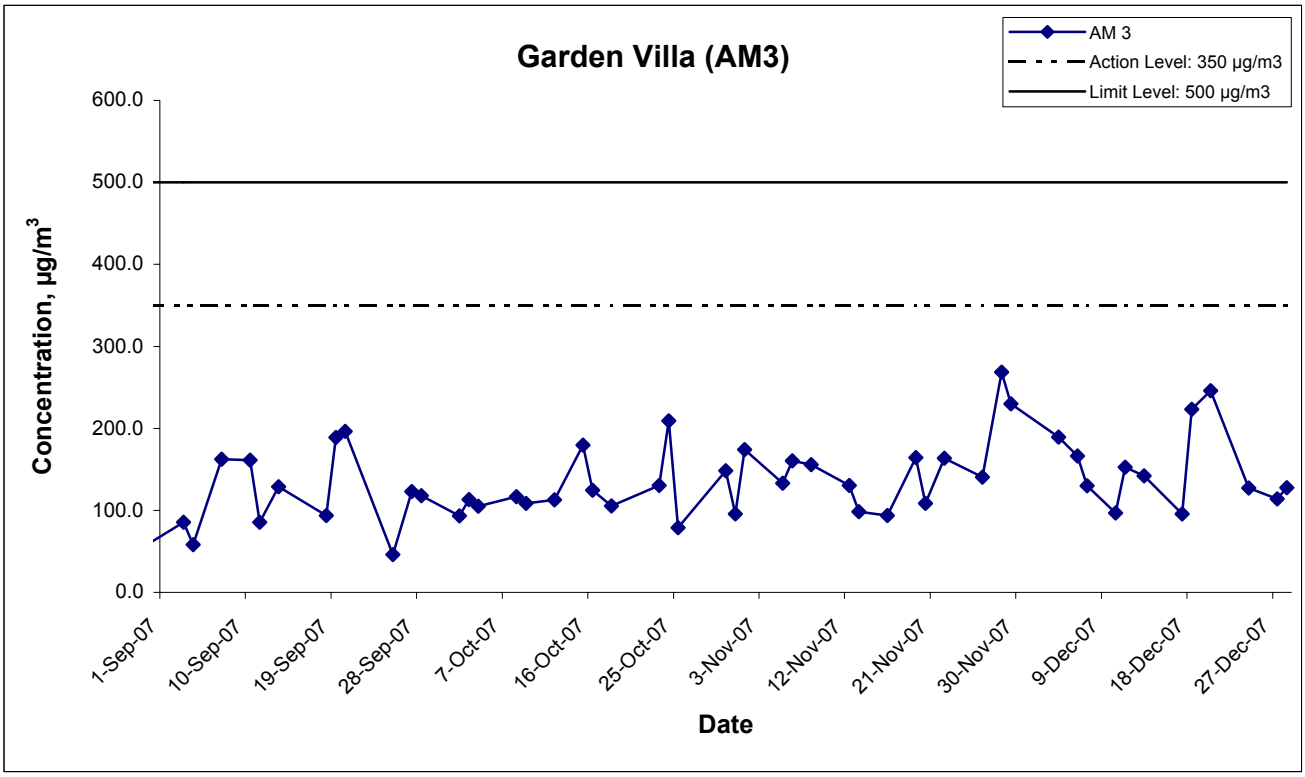
Location AM 3 - Garden Villa

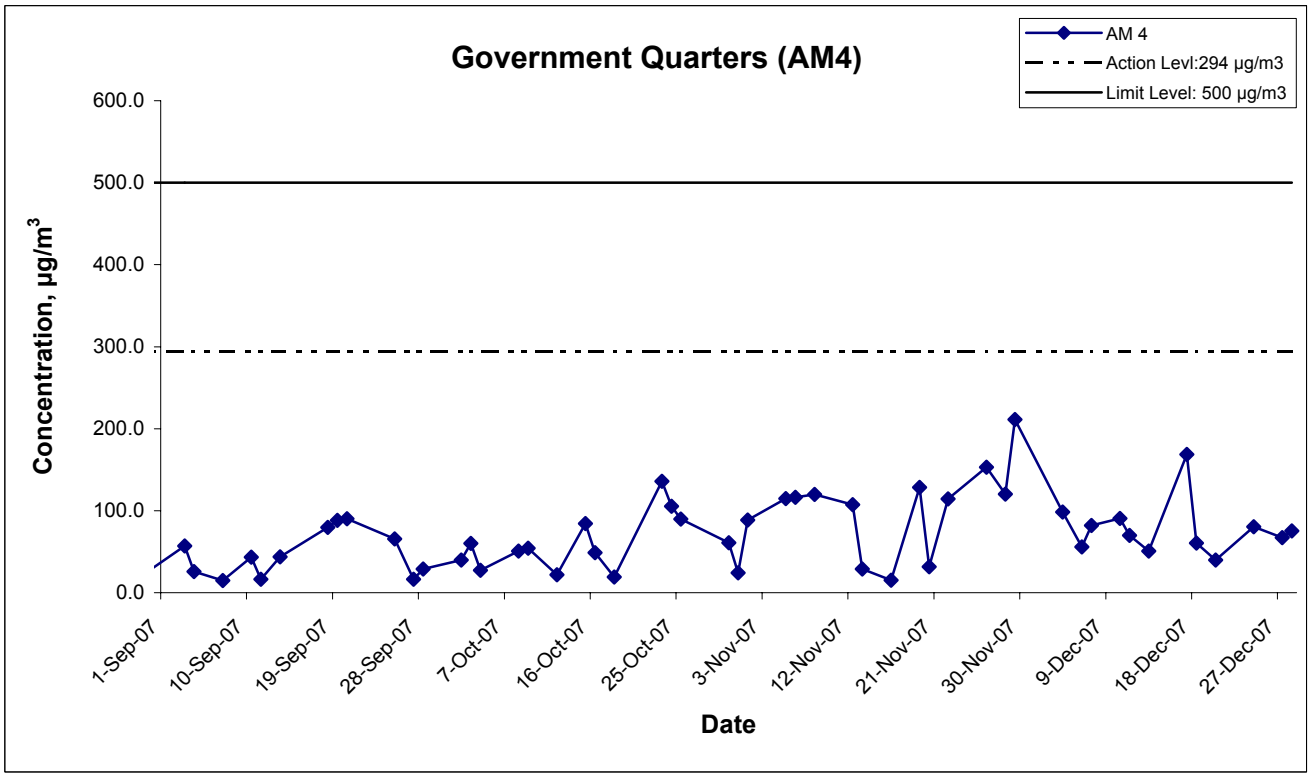
Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)
		Initial	Final	Initial	Final	Initial	Final							
4-Dec-07	Sunny	2.8222	2.8361	1.22	1.22	6762.0	6763.0	294.5	769.3	0.0139	1.22	73.4	1.0	189.4
6-Dec-07	Cloudy	2.8278	2.8401	1.23	1.23	6763.0	6764.0	290.2	772.2	0.0123	1.23	74.0	1.0	166.2
7-Dec-07	Sunny	2.8115	2.8211	1.23	1.23	6764.0	6765.0	291.0	769.1	0.0096	1.23	73.8	1.0	130.1
10-Dec-07	Sunny	2.7867	2.7938	1.22	1.22	6789.0	6790.0	293.8	766.5	0.0071	1.22	73.3	1.0	96.8
11-Dec-07	Sunny	2.7841	2.7953	1.22	1.22	6790.0	6791.0	292.9	765.4	0.0112	1.22	73.4	1.0	152.6
13-Dec-07	Sunny	2.7851	2.7955	1.22	1.22	6791.0	6792.0	293.3	764.1	0.0104	1.22	73.3	1.0	141.9
17-Dec-07	Sunny	2.7952	2.8022	1.22	1.22	6816.0	6817.0	296.0	765.5	0.0070	1.22	73.1	1.0	95.8
18-Dec-07	Sunny	2.8706	2.8870	1.22	1.22	6817.0	6818.0	293.1	767.0	0.0164	1.22	73.4	1.0	223.3
20-Dec-07	Sunny	2.7509	2.7690	1.23	1.23	6842.0	6843.0	292.4	767.5	0.0181	1.23	73.5	1.0	246.1
24-Dec-07	Sunny	2.7878	2.7972	1.23	1.23	6843.0	6844.0	288.3	765.6	0.0094	1.23	73.9	1.0	127.2
27-Dec-07	Sunny	2.7771	2.7855	1.23	1.23	6868.0	6869.0	290.5	766.4	0.0084	1.23	73.7	1.0	114.0
28-Dec-07	Sunny	2.8890	2.8984	1.23	1.23	6869.0	6870.0	291.2	764.8	0.0094	1.23	73.6	1.0	127.8
													Min	95.8
													Max	246.1
													Average	150.9

Location AM 4 - Government Quarters

Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)
		Initial	Final	Initial	Final	Initial	Final							
4-Dec-07	Sunny	2.8205	2.8277	1.22	1.22	6797.5	6798.5	290.7	771.9	0.0072	1.22	73.3	1.0	98.2
6-Dec-07	Cloudy	2.8259	2.8300	1.22	1.22	6798.5	6799.5	290.2	772.2	0.0041	1.22	73.4	1.0	55.9
7-Dec-07	Sunny	2.8043	2.8103	1.22	1.22	6799.5	6800.5	291.0	769.1	0.0060	1.22	73.2	1.0	82.0
10-Dec-07	Sunny	2.7822	2.7888	1.21	1.21	6824.5	6825.5	293.6	766.7	0.0066	1.21	72.8	1.0	90.7
11-Dec-07	Sunny	2.7861	2.7912	1.22	1.22	6825.5	6826.5	292.9	765.4	0.0051	1.22	72.9	1.0	70.0
13-Dec-07	Sunny	2.7828	2.7865	1.21	1.21	6826.5	6827.5	293.3	764.1	0.0037	1.21	72.7	1.0	50.9
17-Dec-07	Sunny	2.8716	2.8839	1.22	1.22	6851.5	6852.5	292.7	768.0	0.0123	1.22	72.9	1.0	168.6
18-Dec-07	Sunny	2.8294	2.8338	1.21	1.21	6852.5	6853.5	293.1	767.0	0.0044	1.21	72.9	1.0	60.4
20-Dec-07	Sunny	2.8277	2.8306	1.22	1.22	6877.5	6878.5	292.4	767.5	0.0029	1.22	73.0	1.0	39.8
24-Dec-07	Sunny	2.8940	2.8999	1.22	1.22	6878.5	6879.5	288.3	765.6	0.0059	1.22	73.3	1.0	80.5
27-Dec-07	Sunny	2.8097	2.8146	1.22	1.22	6813.5	6814.5	290.3	766.3	0.0049	1.22	73.1	1.0	67.0
28-Dec-07	Sunny	2.7861	2.7916	1.22	1.22	6814.5	6815.5	291.2	764.8	0.0055	1.22	73.1	1.0	75.2
													Min	39.8
													Max	168.6
													Average	78.3

1-hr TSP Levels





Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 1-hour TSP Impact Monitoring Results	Scale N.T.S	Project No. MA3024	CINOTECH
	Date Dec 07	Appendix E	

APPENDIX F
24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix F - 24-hour TSP Monitoring Results

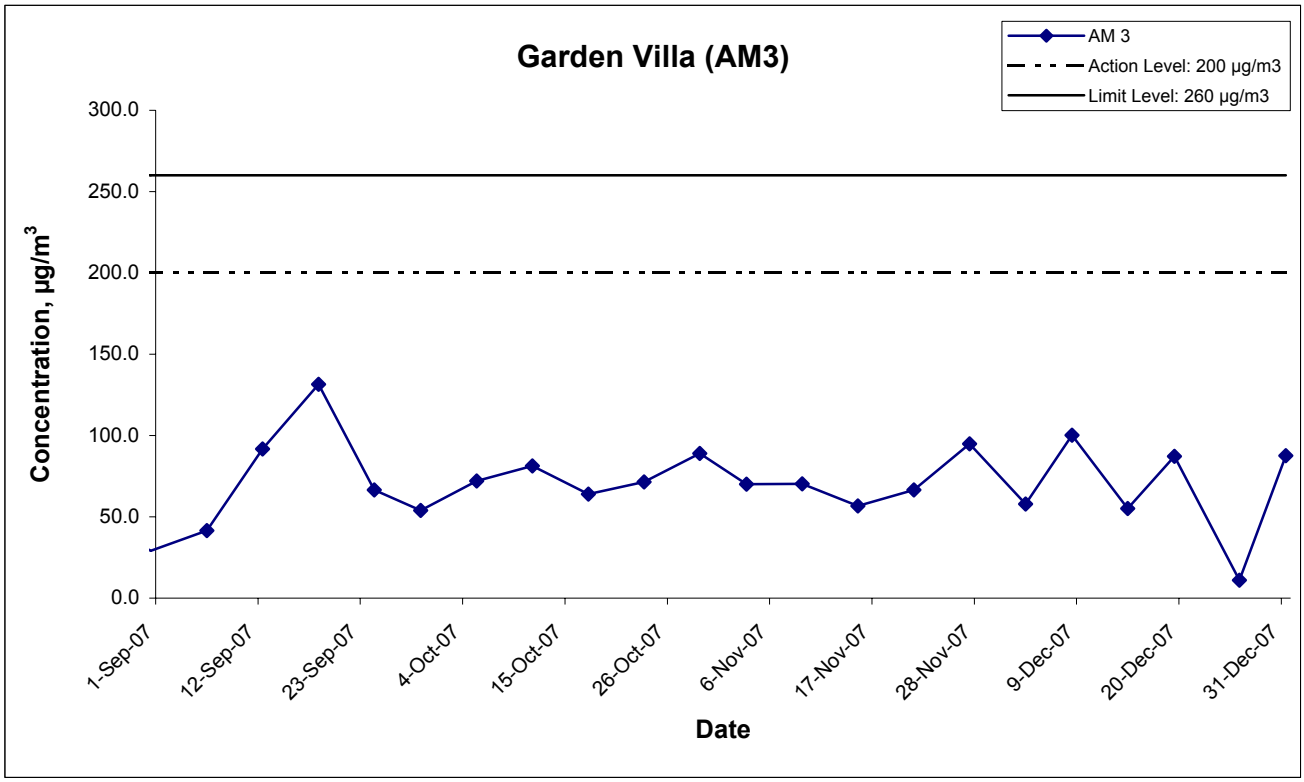
Location AM 3 - Garden Villa

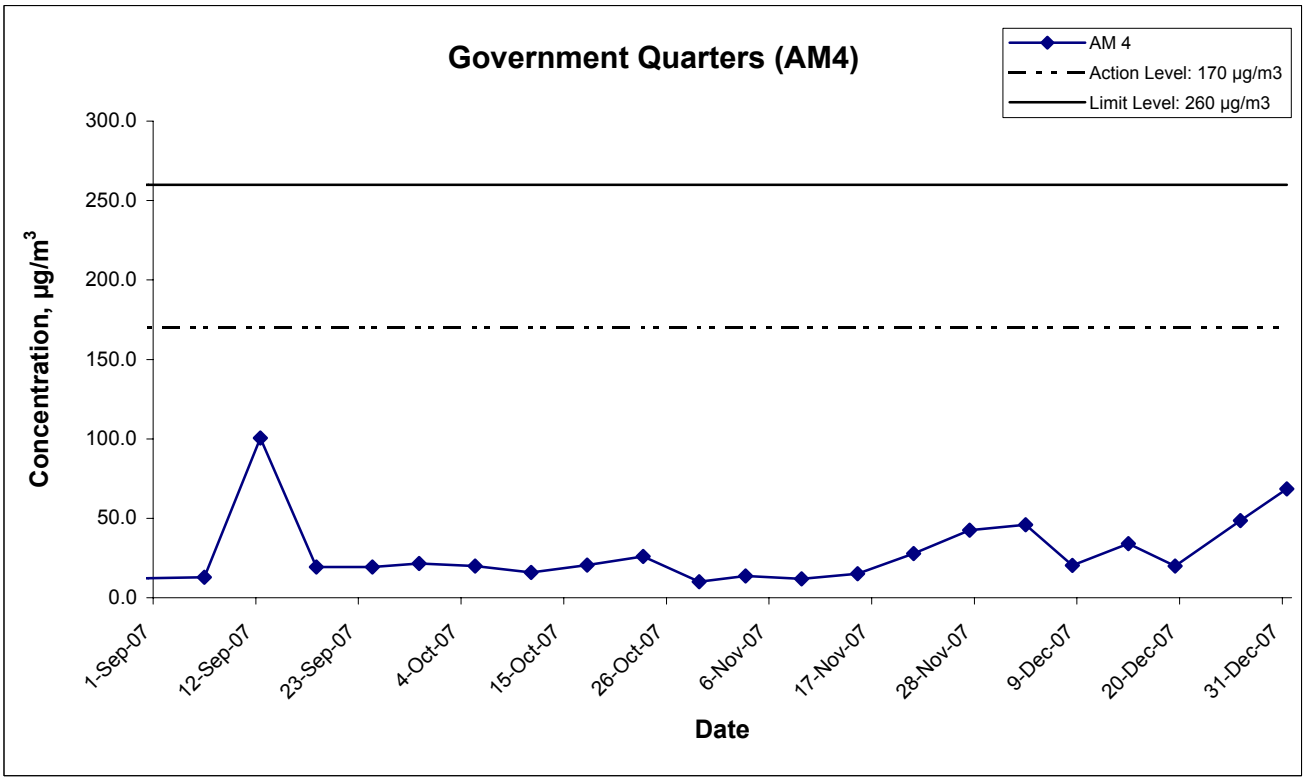
Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. (μg/m^3)
		Initial	Final	Initial	Final	Initial	Final							
3-Dec-07	Sunny	2.8172	2.9199	1.23	1.23	6738.0	6762.0	290.9	770.3	0.1027	1.23	1771.9	24.0	58.0
8-Dec-07	Sunny	2.8080	2.9855	1.23	1.23	6765.0	6789.0	290.4	770.1	0.1775	1.23	1773.1	24.0	100.1
14-Dec-07	Sunny	2.8096	2.9066	1.22	1.22	6792.0	6816.0	291.2	759.9	0.0970	1.22	1760.3	24.0	55.1
19-Dec-07	Sunny	2.7928	2.9468	1.23	1.23	6818.0	6842.0	291.7	767.1	0.1540	1.23	1766.3	24.0	87.2
26-Dec-07	Sunny	2.8736	2.8929	1.22	1.22	6789.5	6813.5	288.1	768.2	0.0193	1.22	1762.8	24.0	10.9
31-Dec-07	Sunny	2.8194	2.9762	1.24	1.24	6870.0	6894.0	284.2	770.8	0.1568	1.24	1791.1	24.0	87.5
													Min	10.9
													Max	100.1
													Average	66.5

Location AM 4 - Government Quarters

Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. (μg/m^3)
		Initial	Final	Initial	Final	Initial	Final							
3-Dec-07	Sunny	2.7830	2.8638	1.22	1.22	6773.5	6797.5	290.9	770.3	0.0808	1.22	1757.5	24.0	46.0
8-Dec-07	Sunny	2.7799	2.8158	1.22	1.22	6800.5	6824.5	290.4	770.1	0.0359	1.22	1758.6	24.0	20.4
14-Dec-07	Sunny	2.8492	2.9008	1.21	1.21	6827.5	6851.5	291.2	759.9	0.0516	1.21	1746.3	24.0	34.1
19-Dec-07	Sunny	2.9158	2.9506	1.22	1.22	6853.5	6877.5	291.7	767.1	0.0348	1.22	1752.2	24.0	19.9
26-Dec-07	Sunny	2.8316	2.9178	1.23	1.23	6844.0	6868.0	288.1	768.2	0.0862	1.23	1777.4	24.0	48.5
31-Dec-07	Sunny	2.8546	2.9764	1.23	1.23	6815.5	6839.5	284.2	770.8	0.1218	1.23	1775.9	24.0	68.6
													Min	19.9
													Max	68.6
													Average	39.6

24-hr TSP Levels





Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 24-hour TSP Impact Monitoring Results	Scale: N.T.S	Project No.: MA3024	CINOTECH
	Date: Dec 07	Appendix: F	

APPENDIX G
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix G - Noise Monitoring Results

Location NM5 - Villa Carlton								
Date	Time	Weather	Unit: dB (A) (30-min)					Remarks
			Measured Noise Level			Baseline Level	Construction Noise Level	
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	
6-Dec-07	09:45	Cloudy	76.5	78.5	74.5	77.1	76.5, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
13-Dec-07	15:20	Sunny	74.6	79.5	71.5		74.6, Measured ≤ Baseline	
20-Dec-07	09:00	Sunny	68.3	71.0	64.5		68.3, Measured ≤ Baseline	
28-Dec-07	10:38	Sunny	71.3	73.5	66.0		71.3, Measured ≤ Baseline	

Location NM6 - Government Quarters						
Date	Time	Weather	Unit: dB (A) (30-min)			Remarks
			Measured Noise Level			
			L_{eq}	L_{10}	L_{90}	
6-Dec-07	10:25	Cloudy	61.2	63.5	58.0	-
13-Dec-07	08:30	Sunny	65.2	69.0	62.5	
20-Dec-07	13:00	Sunny	65.9	69.5	62.0	
28-Dec-07	09:57	Sunny	62.3	64.5	56.0	

Location NM7 - Garden Vilia								
Date	Time	Weather	Unit: dB (A) (30-min)					Remarks
			Measured Noise Level			Baseline Level	Construction Noise Level	
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	
6-Dec-07	09:00	Cloudy	66.3	68.5	64.0	59.0	65.4	-
13-Dec-07	09:15	Sunny	64.1	68.0	62.0		62.5	
20-Dec-07	16:10	Sunny	64.9	69.0	62.0		63.6	
28-Dec-07	09:00	Sunny	66.7	68.5	62.0		65.9	

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

*Bolded value indicated limit level exceedance

Appendix G - Noise Monitoring Results

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

Location NM5 - Villa Carlton									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
6-Dec-07	20:20	Cloudy	72.6	76.5	69.5	72.7	75.8	72.7, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	20:25		72.7	76.5	69.5				
	20:30		72.7	76.5	69.5				
13-Dec-07	20:15	Cloudy	71.9	74.0	68.0	71.7		71.7, Measured ≤ Baseline	
	20:20		71.8	74.0	68.0				
	20:25		71.4	73.0	67.5				
20-Dec-07	20:20	Cloudy	73.6	76.0	70.0	73.5		73.5, Measured ≤ Baseline	
	20:25		73.0	76.0	70.0				
	20:30		73.8	76.5	70.5				
28-Dec-07	20:20	Cloudy	72.9	76.0	68.0	72.7		72.7, Measured ≤ Baseline	
	20:25		72.6	75.5	68.0				
	20:30		72.6	75.5	68.0				

Location NM6 - Government Quarters									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
6-Dec-07	19:45	Cloudy	53.2	56.0	50.0	53.3	56.1	53.3, Measured ≤ Baseline	-
	19:50		53.0	56.0	50.0				
	19:55		53.8	56.5	51.0				
13-Dec-07	19:45	Cloudy	51.6	54.5	47.5	51.7		51.7, Measured ≤ Baseline	
	19:50		51.5	54.5	47.5				
	19:55		51.9	55.0	48.0				
20-Dec-07	19:45	Cloudy	53.6	56.5	51.0	53.6		53.6, Measured ≤ Baseline	
	19:50		53.7	56.5	51.0				
	19:55		53.6	56.5	51.0				
28-Dec-07	19:45	Cloudy	54.5	59.0	52.5	54.6		54.6, Measured ≤ Baseline	
	19:50		54.8	59.5	52.5				
	19:55		54.4	59.0	52.5				

Location NM7 - Garden Villa									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
6-Dec-07	19:00	Cloudy	54.3	59.0	51.0	54.5	58.3	54.5, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	19:05		54.7	59.0	51.0				
	19:10		54.6	59.0	51.0				
13-Dec-07	19:00	Cloudy	55.9	59.0	51.5	55.6		55.6, Measured ≤ Baseline	
	19:05		55.3	58.5	51.0				
	19:10		55.7	59.0	51.5				
20-Dec-07	19:00	Cloudy	54.6	57.5	51.5	54.8		54.8, Measured ≤ Baseline	
	19:05		54.9	58.0	52.0				
	19:10		55.0	58.0	52.0				
28-Dec-07	19:00	Cloudy	54.8	59.0	51.5	55.0		55.0, Measured ≤ Baseline	
	19:05		55.2	59.5	52.0				
	19:10		55.0	59.5	52.0				

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

*Bolded value indicated limit level exceedance

Appendix G - Noise Monitoring Results

Restricted Hours - 23:00 to 07:00 on normal weekdays

Location NM5 - Villa Carlton									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
6-Dec-07	23:00	Cloudy	71.5	74.0	68.0	71.9	74.3	71.9, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	23:05		71.9	74.5	68.5				
	23:10		72.2	75.0	69.0				
13-Dec-07	23:00	Cloudy	72.6	76.0	68.5	72.3		72.3, Measured ≤ Baseline	
	23:05		72.0	75.0	68.0				
	23:10		72.2	75.0	68.0				
20-Dec-07	23:00	Cloudy	71.6	75.0	68.5	71.8		71.8, Measured ≤ Baseline	
	23:05		71.8	75.0	68.5				
	23:10		71.9	75.0	68.5				
28-Dec-07	23:00	Cloudy	71.7	74.5	68.5	71.7		71.7, Measured ≤ Baseline	
	23:05		71.6	74.5	68.5				
	23:10		71.8	74.5	68.5				

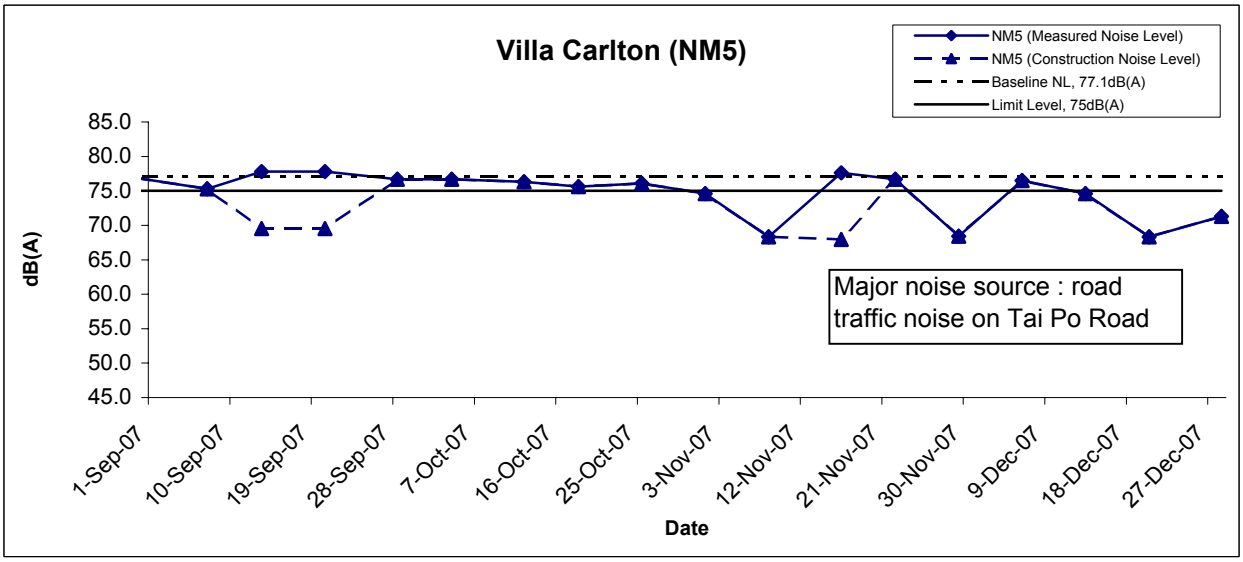
Location NM6 - Government Quarters									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
6-Dec-07	23:25	Cloudy	50.6	54.0	47.5	50.4	52.8	50.4, Measured ≤ Baseline	The noise monitoring results are well within the range of Baseline Monitoring Level and there is no evidence showing that the dominant noise was generated from the construction activities.
	23:30		50.5	54.0	47.5				
	23:35		50.1	54.0	47.0				
13-Dec-07	23:25	Cloudy	50.0	54.0	47.0	50.4		50.4, Measured ≤ Baseline	
	23:30		50.5	54.0	47.0				
	23:35		50.7	54.0	47.0				
20-Dec-07	23:25	Cloudy	51.3	54.5	47.5	51.4		51.4, Measured ≤ Baseline	
	23:30		51.0	54.0	47.0				
	23:35		51.8	55.0	48.0				
28-Dec-07	23:25	Cloudy	50.7	53.5	47.5	50.3		50.3, Measured ≤ Baseline	
	23:30		50.1	53.0	47.0				
	23:35		50.2	53.0	47.0				

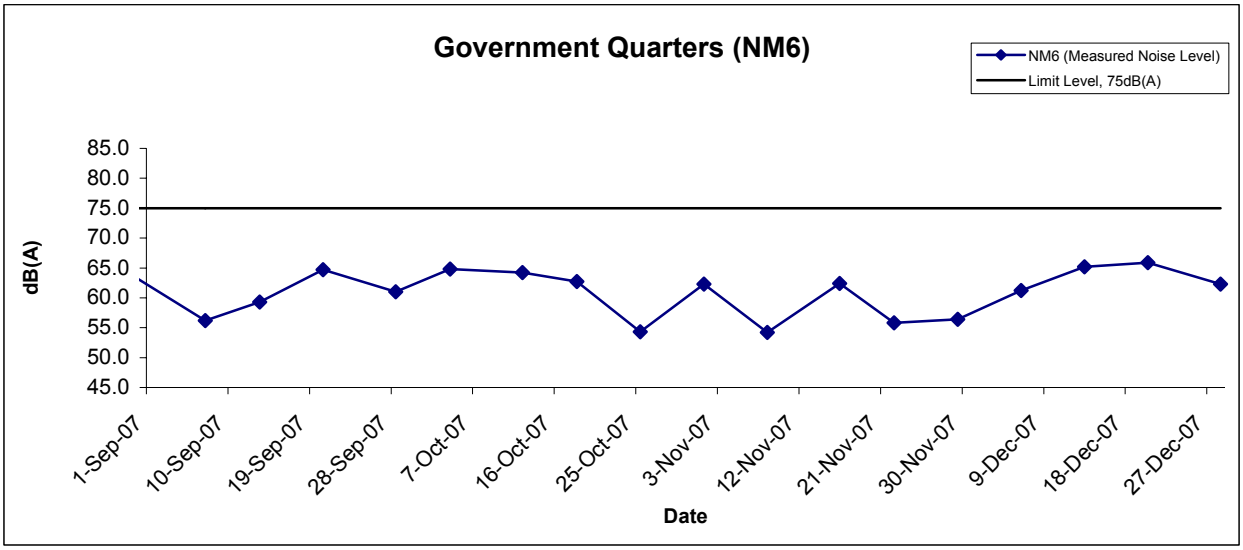
Location NM7 - Garden Villa									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
6-Dec-07	23:50	Cloudy	53.7	58.0	50.0	53.6	56.5	53.6, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	23:55		53.6	58.0	50.0				
	00:00		53.4	57.5	50.0				
13-Dec-07	23:50	Cloudy	53.7	56.5	51.5	53.9		53.9, Measured ≤ Baseline	
	23:55		53.6	56.5	51.5				
	00:00		54.3	56.5	52.0				
20-Dec-07	23:50	Cloudy	52.3	56.5	48.5	52.5		52.5, Measured ≤ Baseline	
	23:55		52.6	56.5	48.5				
	00:00		52.5	56.5	48.5				
28-Dec-07	23:50	Cloudy	53.4	58.0	50.0	53.5		53.5, Measured ≤ Baseline	
	23:55		53.9	58.5	50.5				
	00:00		53.2	58.0	50.0				

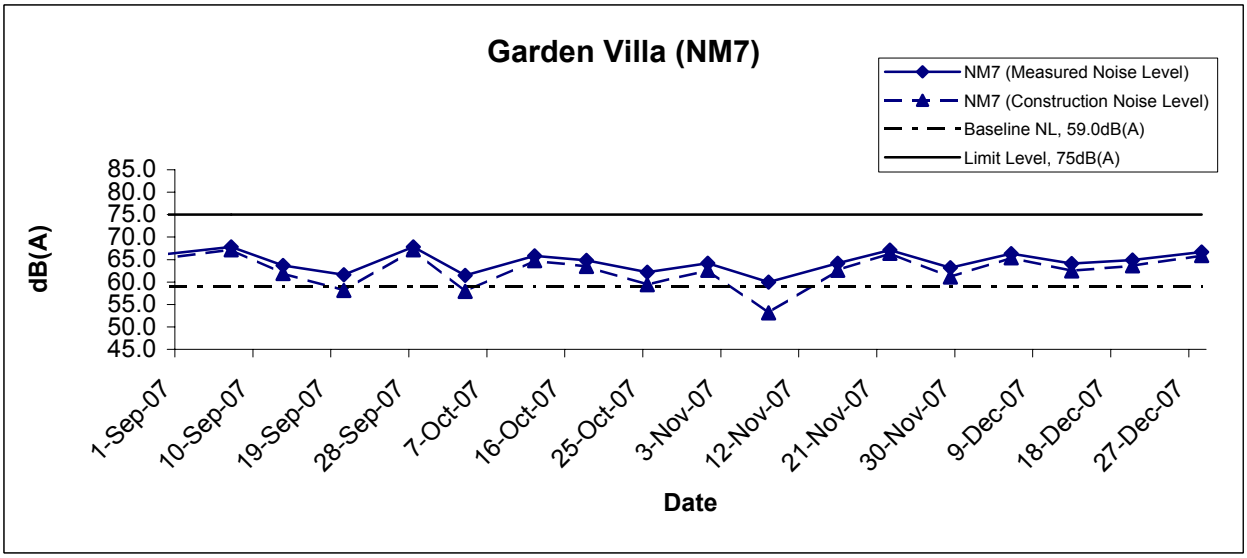
Construction Noise Level (Leq) = Measured Noise Level (Leq) - Baseline Noise Level (Leq)

*Bolded value indicated limit level exceedance

Noise Levels



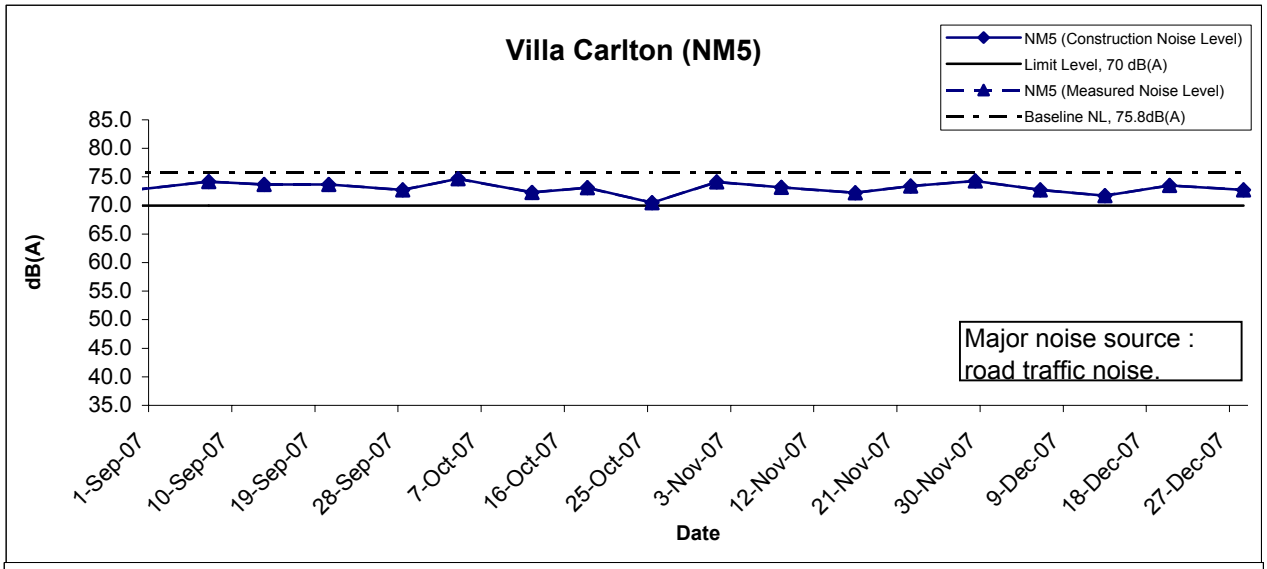


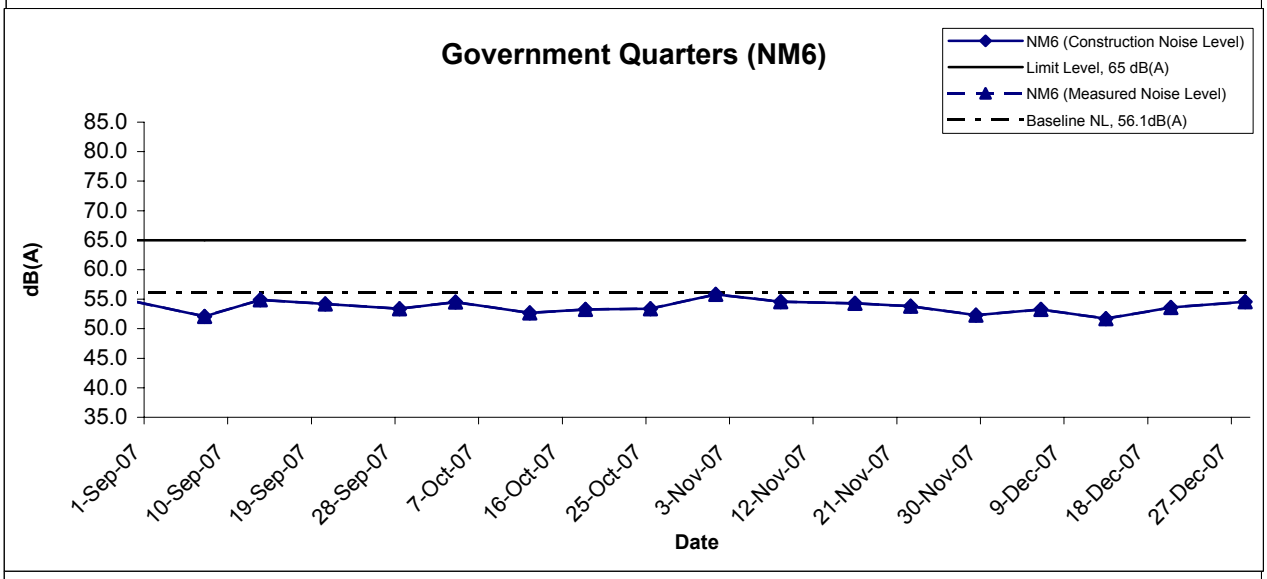


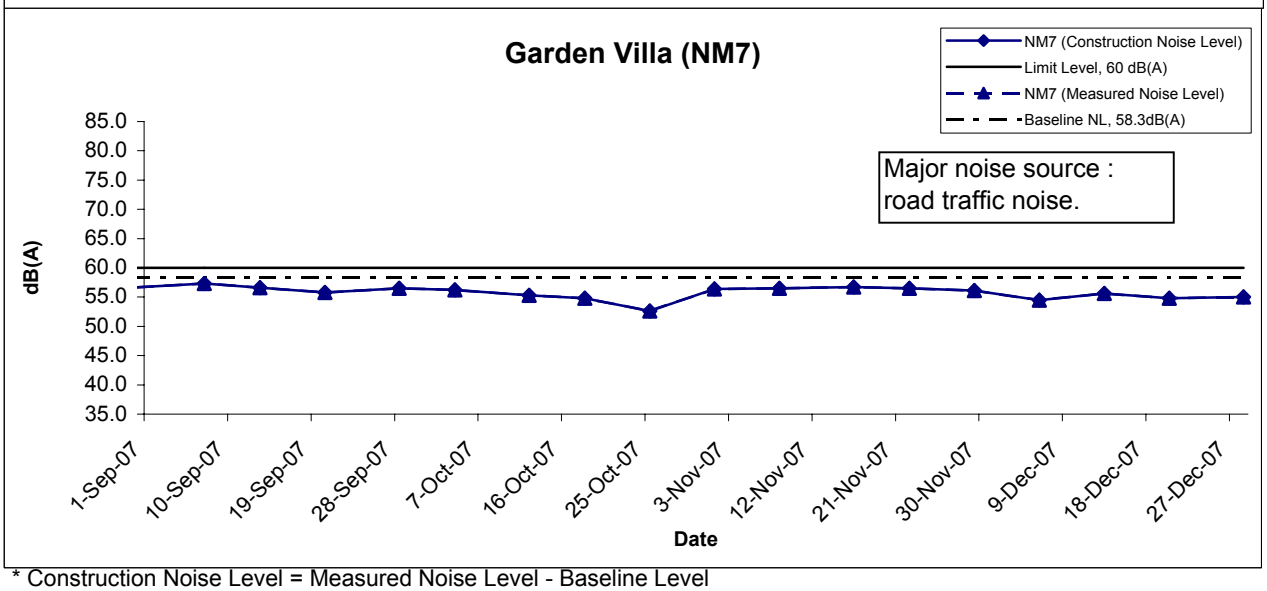
* Construction Noise Level = Measured Noise Level - Baseline Level
(If the measured noise level is lower than the baseline level, the construction noise level will be taken as the meaured one)

Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S	Project No.: MA3024	CINOTECH
	Date: Dec 07	Appendix: G	

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



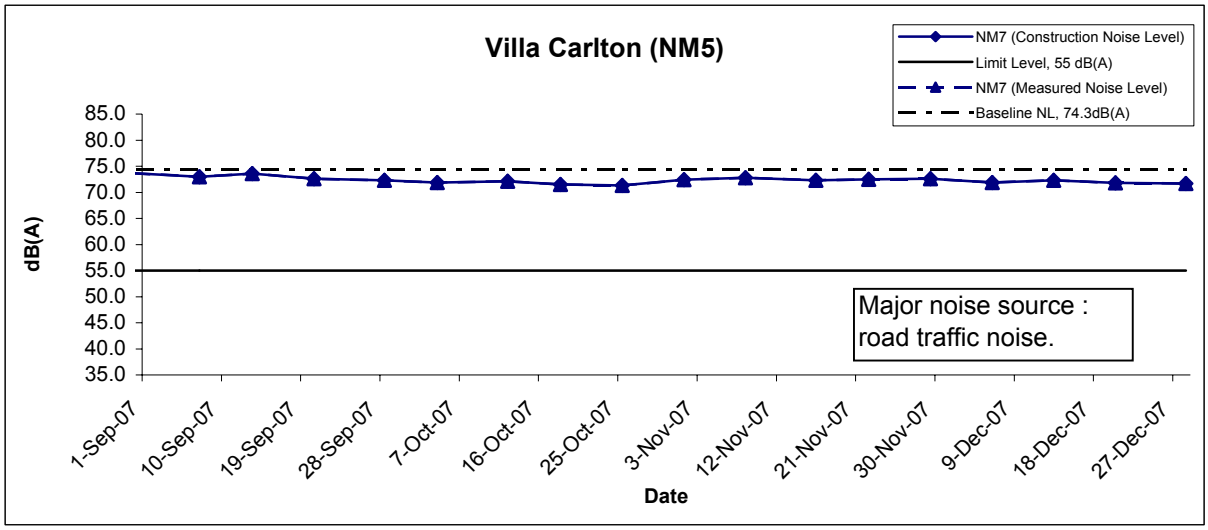


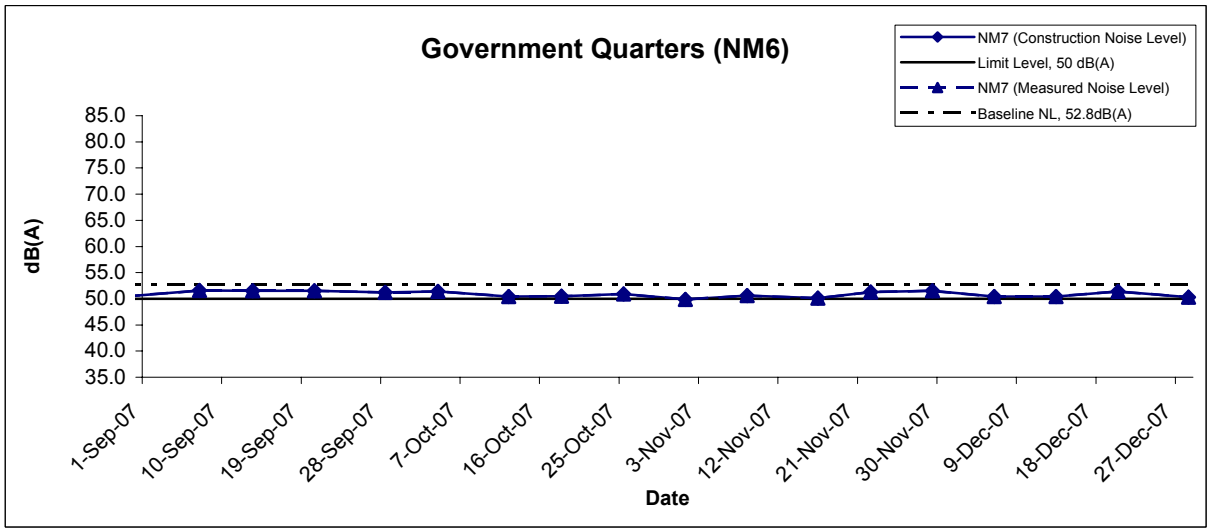


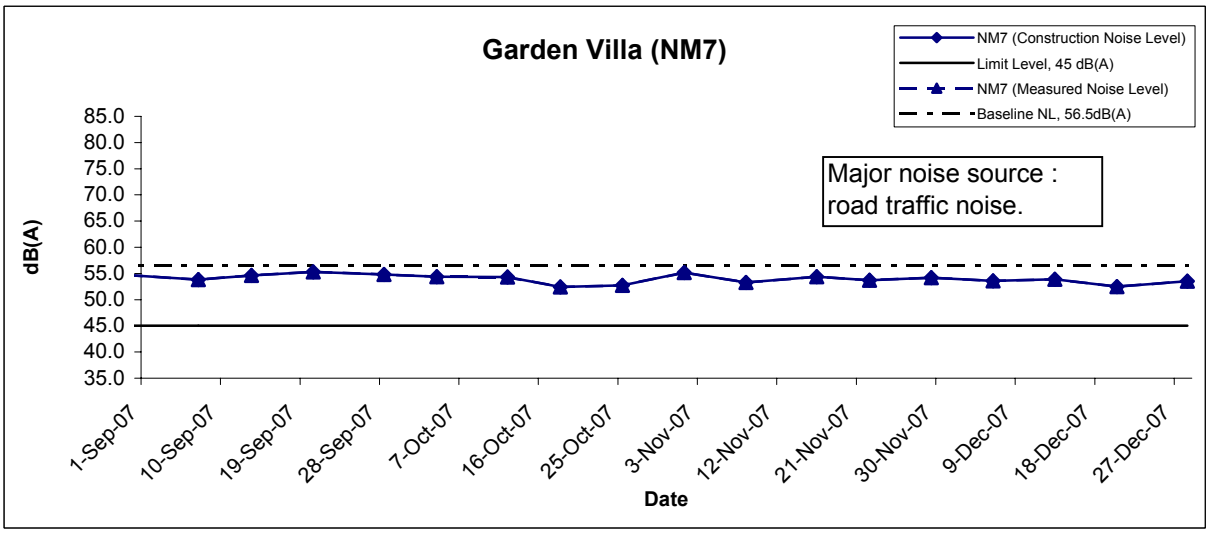
* Construction Noise Level = Measured Noise Level - Baseline Level
(If the measured noise level is lower than the baseline level, the construction noise level will be taken as the meaured one)

Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S Date: Dec 07	Project No.: MA3024 Appendix: G	CINOTECH

Restricted Hours (23:00 to 07:00) - 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 meaured one)

Title	Scale	Project No.
Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works	N.T.S	MA3024
Graphical Presentation of Construction Noise Monitoring Results	Date: Dec 07	Appendix: G

CINOTECH

APPENDIX H
SUMMARY OF EXCEEDANCE

Summary of Exceedances Recorded in the Reporting Month

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

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

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

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

c) Exceedance Report for Construction Noise: (NIL)

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

APPENDIX I
SITE AUDIT SUMMARY

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	71205C-ENT
Date	5 December 2007 (Wed)
Time	14:20 – 15:55

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

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • No environmental deficiency was identified during the site inspection. ***B. Air Quality*** • No environmental deficiency was identified during the site inspection. ***C. Noise*** • No environmental deficiency was identified during the site inspection. ***D. Waste / Chemical Management*** • No environmental deficiency was identified during the site inspection. ***E. Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***F. Others*** • Follow-up on previous audit (Ref. No.: 71128C-ENT), no environmental deficiency was observed. • Covering of loaded truck leaving the site was checked during the site inspection. No uncovered truck leaving the construction site was observed during the site inspection.	

	Name	Signature	Date
Recorded by	Grace Wong	Grace	5 December 2007
Checked by	Dr. Priscilla Choy		5 December 2007

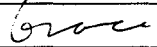
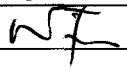
Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	71205-ENT-TCSS
Date	5 December 2007 (Wednesday)
Time	10:30-10:50

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

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • No environmental deficiency was identified during the site inspection. ***B. Air Quality*** • No environmental deficiency was identified during the site inspection. ***C. Noise*** • No environmental deficiency was identified during the site inspection. ***D. Waste / Chemical Management*** • No environmental deficiency was identified during the site inspection. ***E. Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***F. Others*** • Follow-up for previous audit session (Ref. No.: 71107-ENT-TCSS), no environmental deficiency was identified during the site inspection.	

	Name	Signature	Date
Recorded by	Grace Wong		5 December 2007
Checked by	Dr. Priscilla Choy		5 December 2007

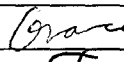
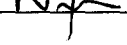
Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	71212C-ENT
Date	12 December 2007 (Wed)
Time	09:30 – 10:10

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

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • No environmental deficiency was identified during the site inspection. ***B. Air Quality*** • No environmental deficiency was identified during the site inspection. ***C. Noise*** • No environmental deficiency was identified during the site inspection. ***D. Waste / Chemical Management*** • No environmental deficiency was identified during the site inspection. ***E. Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***F. Others*** • Follow-up on previous audit (Ref. No.: 71205C-ENT), no environmental deficiency was observed. • Covering of loaded truck leaving the site was checked during the site inspection. No uncovered truck leaving the construction site was observed during the site inspection.	

	Name	Signature	Date
Recorded by	Grace Wong		12 December 2007
Checked by	Dr. Priscilla Choy		12 December 2007

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	71219C-ENT
Date	19 December 2007 (Wed)
Time	09:30 – 10:50

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

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • No environmental deficiency was identified during the site inspection. ***B. Air Quality*** • No environmental deficiency was identified during the site inspection. ***C. Noise*** • No environmental deficiency was identified during the site inspection. ***D. Waste / Chemical Management*** • No environmental deficiency was identified during the site inspection. ***E. Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***F. Others*** • Follow-up on previous audit (Ref. No.: 71212C-ENT), no environmental deficiency was observed. • Covering of loaded truck leaving the site was checked during the site inspection. No uncovered truck leaving the construction site was observed during the site inspection.	

	Name	Signature	Date
Recorded by	Grace Wong	Grace	19 December 2007
Checked by	Dr. Priscilla Choy		19 December 2007

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	71228C-ENT
Date	28 December 2007 (Fri)
Time	09:30 – 11:10

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

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • No environmental deficiency was identified during the site inspection. ***B. Air Quality*** • No environmental deficiency was identified during the site inspection. ***C. Noise*** • No environmental deficiency was identified during the site inspection. ***D. Waste / Chemical Management*** • No environmental deficiency was identified during the site inspection. ***E. Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***F. Others*** • Follow-up on previous audit (Ref. No.: 71219C-ENT), no environmental deficiency was observed. • Covering of loaded truck leaving the site was checked during the site inspection. No uncovered truck leaving the construction site was observed during the site inspection.	

	Name	Signature	Date
Recorded by	Grace Wong	Grace.	28 December 2007
Checked by	Dr. Priscilla Choy		28 December 2007

APPENDIX J
EVENT ACTION PLANS

Appendix J - Event Action Plans

Event/Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	ER	Contractor
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source 2. Inform ER & IEC 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily	1. Check monitoring data submitted by ET 2. Check Contractor's working methods	1. Notify Contractor 2. Check monitoring data and Contractor's working methods	1. Rectify any unacceptable practice 2. Amend working methods if appropriate
2. Exceedance for two or more consecutive samples	1. Identify source 2. Inform ER & IEC 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Discuss with ER & for remedial actions required 6. If exceedance continues, arrange meeting with ER & IEC 7. If exceedance stops, cease additional monitoring	1. Checking monitoring data submitted by ET 2. Check Contractor's working methods 3. Discuss with ET and Contractor on possible remedial measure 4. Advise the ER & ET on the effectiveness of the proposed remedial measures 5. Supervise the implementation of the remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Check Contractor's working methods 4. Discuss with ET, IEC and Contractor on proposed remedial actions 5. Ensure remedial actions properly implemented	1. Submit proposals for remedial actions to ER within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source 2. Inform ER & IEC and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess effectiveness of Contractor's	1. Checking monitoring data submitted by ET 2. Check Contractor's working methods 3. Discuss with ET and Contractor on possible remedial measure	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Check Contractor's working methods 4. Discuss with ET, IEC and Contractor on	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to ER within 3 working days of notification

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

Exceedance	ACTION			
	ET	IEC	ER	Contractor
Limit Level	1. Repeat measurement to confirm findings 2. Investigate the cause of the exceedance and identify the main source(s) of impact 3. Inform ER&IEC and EPD in writing 4. Discuss remedial actions required with ER&IEC 5. Increase monitoring frequency to demonstrate efficacy of remedial measures 6. Assess efficacy of remedial actions and keep ER & IEC informed of the results 7. If exceedance continues, meet with ER&IEC to identify appropriate mitigation measures 8. If exceedance stops, cease additional monitoring	1. Check monitoring data submitted by ET 2. Review Contractor's remedial actions to assure their effectiveness and advise the ER &ET accordingly 3. Supervise the implementation of the remedial measures	1. Confirm receipt of notification of exceedance and notify Contractor 2. Check monitoring data trends and Contractor's working methods 3. Discuss with ET, IEC and Contractor on proposed remedial actions to be implemented 4. Assess the efficacy of remedial actions and keep the Contractor informed 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	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to ER immediately not more than 3 working days of notification 3. Amend proposals if required by the ER 4. Implement remedial actions immediately upon instruction 5. Liaise with the ER to optimize the effectiveness of the agreed mitigation 6. Resubmit proposals if problem still not under control 7. Stop the relevant portion of works as determined by the ER until the exceedance is aborted

APPENDIX K
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)

Appendix K - Summary of Environmental Mitigation Implementation Schedule

Types of Impacts	Mitigation Measures	Status
Construction Dust	• 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.	^
	• A stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones.	^
	• Vehicle washing facilities should be provided at every exit point.	^
	• 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.	^
	• 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.	^
	• Every main haul road should be sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet.	^
	• 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.	^
	• Any stockpile of dusty materials should be either covered entirely be 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.	^
	• 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.	^
	• Every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving a construction site.	^
	• 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.	^
Construction Noise	• Only well-maintained plant should be operated on –site and plant should be serviced regularly during the construction works.	^
	• Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	^
	• Plant know to emit noise strongly in one direction, should where possible, be orientated to direct noise away from the NSRS.	^
	• Mobile plant should be sited as far away from NSRs as possible.	^
	• Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	^
	• Use quite plant and Working Method	^
	• Reduce the number of plant operating in critical areas close NSRs.	^

Types of Impacts	Mitigation Measures	Status
	• Construct temporary and movable noise barriers	^
Water Quality	*Construction Runoff and Drainage*	
	• Use of sediment traps and the adequate maintenance of drainage systems to prevent flooding and overflow.	^
	• 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.	^
	• 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	^
	• 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.	^
	• 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.	^
	• Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.	^
	• 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.	^
	• 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.	^
	• 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.	^
	Tunnelling Work	
	• 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.	^
	• 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.	^

Types of Impacts	Mitigation Measures	Status
	• 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.	N/A
	General Construction Activities	
	• Debris and rubbish on site should be collected, handled and disposed of properly to avoid entering the water column and cause water quality impacts. • 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).	^ ^
	Sewage Effluent	
	• Construction work force sewage discharges form 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. • It is considered that sewage discharges could also be treated by on-site septic tanks and soakaway. Minimum clearance away form 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.	^ N/A
Waste	*General*	
	• 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.	^
	Storage, Collection and Transportation of Waste	
	• Wastes shall be handled and stored in a manner to ensure that they are held securely without loss or leakage. • Authorised or licensed waste hauliers shall be used and they shall only collect wastes prescribed by their permits. • Waste shall be removed on a daily basis. • Waste storage area shall be maintained and cleaned on a daily basis. • Windblown litter and dust during transportation shall be minimised by either covering trucks or transporting wastes in enclosed containers. • Obtain necessary waste disposal permits from the appropriate authorities if they are required. • Wastes shall be disposed of at licensed waste disposal facilities. • 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. • Maintain records of the quantities of wastes generated, recycled and disposed.	^ ^ ^ ^ ^ ^ ^ ^ ^

Types of Impacts	Mitigation Measures	Status
	Surplus Excavated Materials	
	• 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.	^
	Construction and Demolition (C&D) Waste	
	• Careful design, planning and good site management shall be adopted to minimise over-ordering and generation of waste materials such as concrete grouts.	^
	• 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.	N/A
	• Construction and demolition (C&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.	^
	Chemical Waste	
	• Chemical waste that is produce during construction shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.	^
	• Containers used for the storage of chemical wastes should: a. Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; b. Have a capacity of less than 450 litres unless the specifications have been approved by the EPD; c. Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste Regulations.	^
	• The storage area for chemical wastes should: a. Be clearly labelled and used solely for the storage of chemical waste; b. Be enclosed on at least 3 sides; c. Have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is largest; d. Have adequate ventilation; e. Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); f. Be arranged so that incompatible materials are adequately separated.	^
	• 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).	^

Types of Impacts	Mitigation Measures	Status
	General Refuse	
	• General refuse generated on-site shall be stored in enclosed bins or compaction unit separate from C&D and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&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.	^
	• Reusable rather than disposable dishware shall be used if feasible.	^
Ecology	• A sediment barrier shall be erected to minimize stream sedimentation at downstream of the project boundary of the Toll Plaza.	N/A
	• Conduct a tree survey before commencement of the construction work.	^
	• 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.	N/A
	• Loss of the adjacent woodland due to temporary land take shall be returned to the original status immediately.	N/A
	• Wild and uncontrolled fire shall be strictly prohibited	^
	• 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.	N/A
Landscape and Visual Impact	• 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.	^
	• 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.	^
	• Measurement of vibration would also be carried out on a need basis during the piling work	^

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

Data Date 20DEC07
Run Date 24DEC07 10:19

3 MONTH ROLLING PROGRAMME

Monthly Update
Detailed Works Progr.(DWP) rev C
Progress Bar
Critical Activity

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish
GENERAL									
Contract defined dates, stages and sections									
+ Area Access & Vacation Dates									
		0		31DEC07	0	0	0	-36	-374
BUTTERFLY VALLEY									
Contract Key Dates & Milestones									
+ Area Access & Vacation Dates									
		0	01JAN08	31DEC07	0	0	0	15	-374
Construction Works									
EARTHWORKS & SLOPEWORKS									
SLOPE SP-S2 & SP-S3									
S2370	Remaining Works to Slopes SP-S3 & SP-S2	24	19JUL06A	03JAN08	80	0	10	10	-455
ROADWORKS - North End of BV									
Road Pavement & Associated Work									
S2920	Road Works to East Loop Rd Typ III (EVA)	13	15FEB07A	31DEC07	50	0	8	12	-446
S3010	Installation of Road Signage (Sign Plates Only)	11	02OCT07A	19DEC07A	100	0	0		-324
S2900	Road Marking & White Lining (Staged for Access)	18	10DEC07A	28DEC07	50	0	6	14	-330
Miscellaenous Works									
S3000	Construct Recreated Stream	25	01JUN07A	17DEC07A	100	0	0		-398
ROADWORKS - South End of BV									
Road Pavement & Associated Work									
S3190	Installation of Road Signage (Sign Plates Only)	11	02OCT07A	19DEC07A	100	0	0		-310
S2990	Road Marking & White Lining (Staged Access)	18	10DEC07A	28DEC07	50	0	6	14	-316
S3670	NEW ACTIVITY - Road Pavement Friction Course	2	30JUL07A	10DEC07A	100	0	0		0
DSD MAINTENANCE ROAD									
DSD Maintenance Rd DSD1-1 (Acciona Interface)									
S3570	WSD Slope Reinstatement	18	20AUG07A	31DEC07	90	0	8	12	-435
DSD Maintenanace Rd DSD1 (Parallel to Channel)									
S2700	Access rd DSD1 -barrier footings	6	10SEP07A	28DEC07	90	0	6	14	-438
S2720	Access rd DSD1 - Barriers	6	10SEP07A	28DEC07	90	0	6	14	-426
S3160	REINSTATE BV ACCESS	0		28DEC07	0	0	0	14	-341
Landscaping & Establishment									
101476	BV - Soft Landscaping & Planting	100	03JUN06A	28DEC07	94	0	6	-282	-207
101475	BV - Hard Landscaping	90	03JAN07A	28DEC07	90	0	6	-282	-373
101477	BV - Establishment works	365	29DEC07	27DEC08	0	0	365	-347	-252
ENT SOUTH PORTAL VENTILATION BUILDING									
CONSTRUCTION									
South Portal Bldg. - CIVIL & ABWF WORKS									
ABWF WORKS									
Roof & External Facade									
T2360	Ent SPB - GMS,S/S Roof Balustrade & Railing	24	24MAR07A	03JAN08	70	0	10	10	-367
T2390	Ent SPB - Expanded metal cladding to Ext Walls	18	08SEP07A	31DEC07	85	0	8	12	-374

OCT 49 | NOV 50 | DEC 51 | JAN 52 | FEB 53 | MAR 54 | APR 55
15 22 29 5 12 19 26 3 10 17 24 31 7 14 21 28 4 11 18 25 3 10 17 24 31 7 14

Leighton–Kumagai Joint Venture

LEIGHTON - KUMUGAI JV

R8 - EAGLES'S NEST TUNNEL

CONTRACTORS TARGET PROGRAMME REV.1

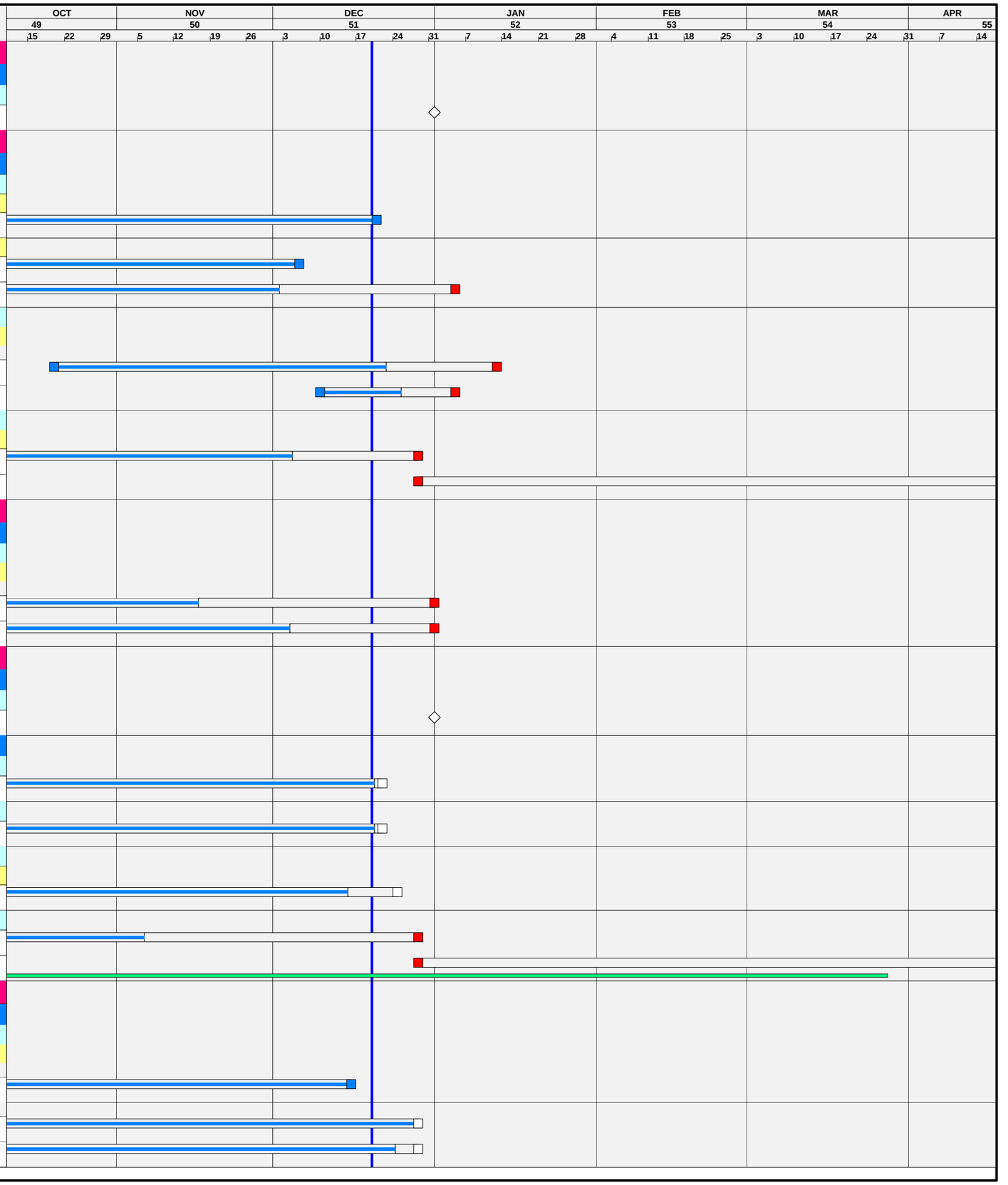
Proj. Name: W38E
Layout: A4 3 MONTHS ROLLING PROGRAMME
Filter: 3 MONTH ROLLING PROGRAMME
Current Proj: W38E
Target 1 Proj: BE02

Sheet 1 of 3

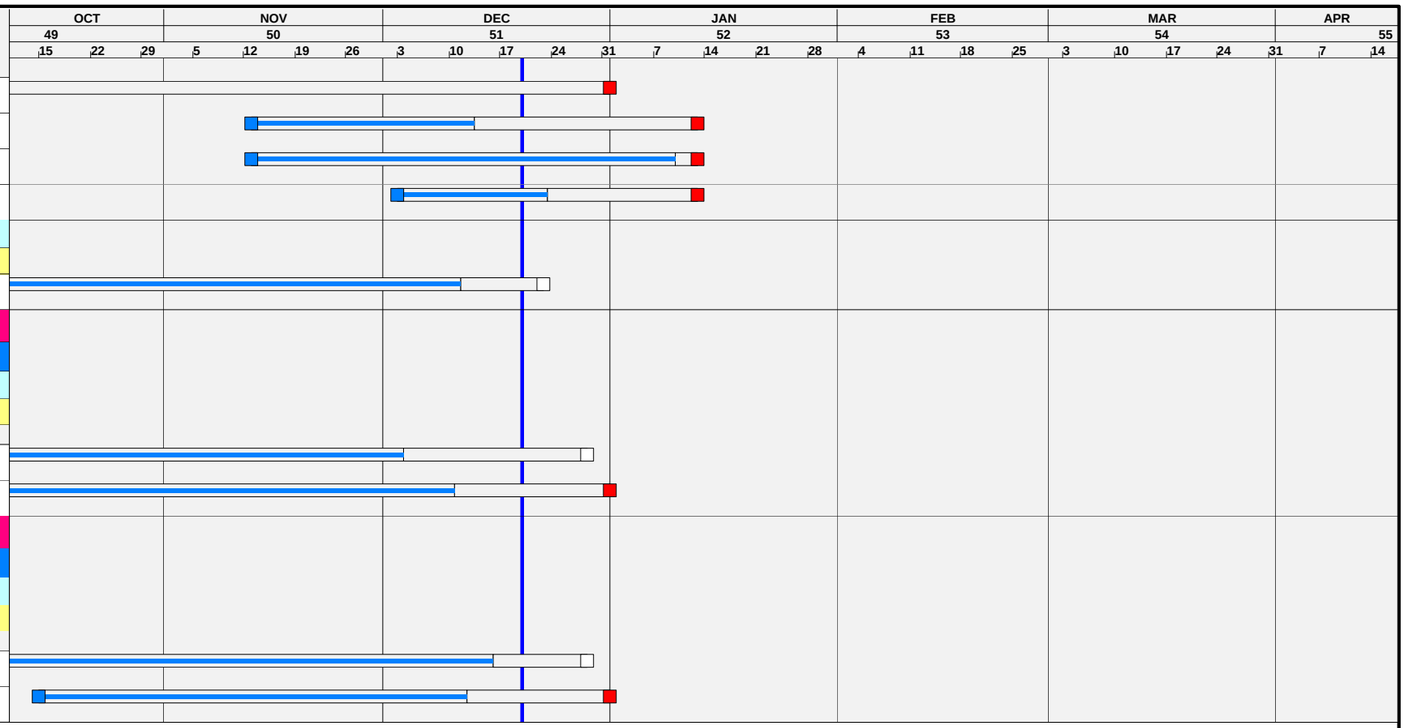
LKJV/ENT/DWP/B

Date	Revision	Checked	Approved
20FEB07	Prog update Feb 07	GW	RB

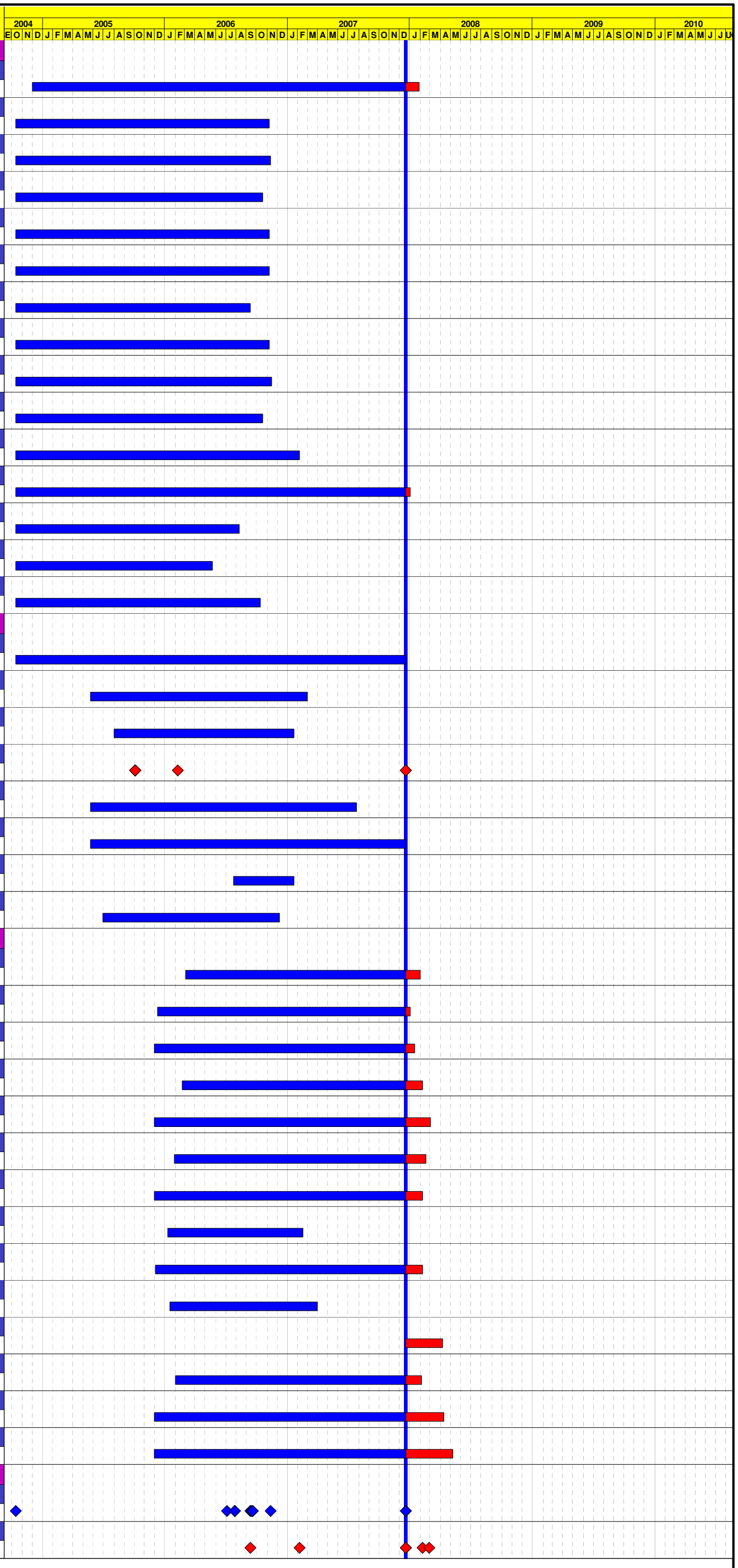
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish
EAGLES NEST TUNNEL									
Contract defined dates, stages & sections									
+ Area access & vacation dates									
		0	01JAN08	31DEC07	0	0	0	15	-374
VENTILATION ADIT & BUILDING									
CONSTRUCTION WORKS									
EXTERNAL WORKS									
Drainage									
S1970	Storm Drain & Gullies at Access Apron	24	14APR07A	20DEC07A	100	0	0		-423
Road Pavement & Associated Work									
S1920	Preparation and Block Paving	22	13JUN07A	05DEC07A	100	0	0		-302
S1930	Signage, furniture and finishes	24	20JUL07A	04JAN08	80	0	11	9	-301
VENTILATION BUILDING									
VA Building - ABWF									
VA Building - External Finishes									
T2110	VA Bldg. - Expanded metal cladding to Ext Walls	18	20OCT07A	12JAN08	75	0	18	2	-398
T3100	VA Bldg. - Balustrades	11	10DEC07A	04JAN08	60	0	11	9	-400
EXTERNAL AREAS									
LANDSCAPING & ESTABLISHMENT WORKS									
T3180	Planting Works	18	02SEP06A	28DEC07	95	0	6	-322	-368
T3200	Establishment Works	365	29DEC07	27DEC08	0	0	365	-398	-455
ENT NORTH PORTAL VENTILATION BUILDING									
CONSTRUCTION									
North Portal Bldg. - CIVIL & ABWF WORKS									
ABWF WORKS									
NP Bldg - Roofing & External Facade									
T1790	Ent NPB - GMS,S/S Channel, Balustrade & Railing	24	05MAR07A	31DEC07	85	0	8	12	-403
T1770	Ent NPB - Expanded metal cladding to Ext Walls	18	12SEP07A	31DEC07	75	0	8	12	-374
TOLL PLAZA & ANCILLIARY STRUCTURES									
CONTRACT DEFINED DATES & SECTIONS									
+ AREA ACCESS & VACATION DATES									
		0	01JAN08	31DEC07	0	0	0	15	-374
Construction Works									
TOLL PLAZA EAST SIDE									
S1140	Furniture, signage (face only), white lining	18	06OCT07A	21DEC07	98	0	2	18	-330
TOLL PLAZA WEST SIDE									
S1410	Furniture, signage (face only), white lining	18	06OCT07A	21DEC07	98	0	2	18	-297
TOLL PLAZA FOOTBRIDGE									
ABWF									
S1250	Toll Ftbrdge - Finishes	54	18JUN07A	24DEC07	95	0	4	16	-361
LANDSCAPING & ESTABLISHMENT WORKS									
S1480	Planting Works at Toll Plaza	24	10APR07A	28DEC07	80	0	6	-282	-223
S1490	Establishment Works at Toll Plaza	365	29DEC07	27DEC08	0	0	365	-347	-275
ADMINISTRATION BUILDING									
CONSTRUCTION									
CIVIL & ABWF WORKS									
ABWF									
Admin Bldg (G/F) - Internal Work @ Grid 1 to 21									
T2150	AB G/F (Grid 1-21) - Door Leaf & Final Paints	12	02JAN07A	15DEC07A	100	0	0		-381
Admin Bldg - Upper Roof & External Facade									
T2340	AB Ext (GL 11-21) - Slate Replacement Cladding	30	03APR06A	28DEC07	99	30	6	14	-472
T2330	AB Ext (GL 1-11) - Slate replacement Cladding	45	15OCT06A	28DEC07	99	0	6	14	-427



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	Target 1 % Comp	Rem Dur	Total Float	Variance Early Finish
Admin Bldg - Upper Roof & External Facade									
T2900	AB Ext UR/LR - Insulation & Conc Roof Tile	30	06NOV06A	31DEC07	70	0	8	12	-411
T2280	AB Ext (GL 11-16) - Expanded metal mesh cladding	18	13NOV07A	12JAN08	50	0	18	2	-409
T2915	AB Ext UR/LR- Install GMS, Balustrades & Railing	18	13NOV07A	12JAN08	95	0	18	2	-382
T2270	AB Ext (GL 3-11) - Expanded metal mesh cladding	18	03DEC07A	12JAN08	50	0	18	2	-385
BUILDING SERVICES									
Admin Bldg (Int. & Ext. Roof Lvl) - E & M Works									
EM3600	BS Works in R/F	78	06JUN06A	22DEC07	98	1	3	17	-417
SHATIN HEIGHTS SOUTH PORTAL BUILDING									
CONSTRUCTION									
CIVIL & ABWF WORKS									
ABWF									
Roof & External Facade									
AB6047	Sht SPB - GMS, S/S Channel, Balustrade & Railing	18	14AUG06A	28DEC07	95	0	6	14	-413
AB6034	Sht SPB - Expanded metal cladding to ext walls	18	08OCT07A	31DEC07	75	0	8	12	-393
SHT NORTH PORTAL BUILDING									
CONSTRUCTION									
CIVIL & ABWF WORKS									
ABWF Works									
Roofing & External Facade									
AB7250	Sht NPB - GMS, S/S Channel, Balustrade & Railing	18	16APR07A	28DEC07	95	0	6	14	-392
AB7220	Sht NPB - Expanded metal cladding to Ext Walls	18	15OCT07A	31DEC07	75	0	8	12	-393



	Orig Dur	Early Start	Early Finish	% Comp	Late Start	Late Finish	Total Float
Design Stage (excluding CSS)							
+ Design Stage-Interface Documents	1,156	01-12-04A	30-01-08	88	01-12-04A	30-01-08	-289
+ Design Stage-Manual Fallback Control(MFC) System	757	12-10-04A	07-11-06A	100	12-10-04A	07-11-06A	
+ Design Stage-Communication System	761	12-10-04A	11-11-06A	100	12-10-04A	11-11-06A	
+ Design Stage-CCTV System	739	12-10-04A	20-10-06A	100	12-10-04A	20-10-06A	
+ Design Stage-Traffic Control Field Devices (TCD)	757	12-10-04A	07-11-06A	100	12-10-04A	07-11-06A	
+ Design Stage-Vehicle Detection System(VDS)	757	12-10-04A	07-11-06A	100	12-10-04A	07-11-06A	
+ Design Stage-Private Branch Exchange(PBX) System	702	12-10-04A	13-09-06A	100	12-10-04A	13-09-06A	
+ Design Stage-Radio Systems	759	12-10-04A	09-11-06A	100	12-10-04A	09-11-06A	
+ Design Stage-Emergency Telephone(ET) System	763	12-10-04A	13-11-06A	100	12-10-04A	13-11-06A	
+ Design Stage-Building Public Address(PA) System	737	12-10-04A	18-10-06A	100	12-10-04A	18-10-06A	
+ Design Stage-Operation Facilities	848	12-10-04A	06-02-07A	100	12-10-04A	06-02-07A	
+ Design Stage-Speed Enforcement Camera(SEC)System	1,178	12-10-04A	02-01-08	98	12-10-04A	02-01-08	0
+ Design Stage-Electrical Installation	667	12-10-04A	09-08-06A	100	12-10-04A	09-08-06A	
+ Design Stage-Civil Provision	588	12-10-04A	22-05-06A	100	12-10-04A	22-05-06A	
+ Design Stage-Testing & Commissioning (T&C)	732	12-10-04A	13-10-06A	100	12-10-04A	13-10-06A	
Software Development							
+ Design Stage for Central TCSS System (CS)	1,164	12-10-04A		100	12-10-04A		
+ Core TCSS Configuration	645	25-05-05A	28-02-07A	100	25-05-05A	28-02-07A	
+ New Development	538	01-08-05A	20-01-07A	100	01-08-05A	20-01-07A	
+ Coordination Exercises with External Interfaces	807	04-10-05A	19-12-07	0	04-10-05A	19-12-07	-170
+ Coding of Interfaces	792	25-05-05A	25-07-07A	100	25-05-05A	25-07-07A	
+ TCSS Configuration	939	25-05-05A		100	25-05-05A		
+ Software Integration Test (SIT)	180	25-07-06A	20-01-07A	100	25-07-06A	20-01-07A	
+ ISCE Review (to be arranged after FAT to OPT)	1	29-06-05A	09-12-06A	100	29-06-05A	09-12-06A	
Procurement, Manufacture, FAT & Delivery							
+ Purchase,Manufacture & Deliver Central System	701	04-03-06A	02-02-08	59	04-03-06A	27-06-07	-306
+ Purchase,Manufacture & Deliver MFC System	752	12-12-05A	02-01-08	99	12-12-05A	02-01-08	-41
+ Purchase,Manufacture & Deliver Communication Sys	778	30-11-05A	16-01-08	97	30-11-05A	16-01-08	-261
+ Purchase,Manufacture & Deliver CCTV System	719	21-02-06A	09-02-08	73	21-02-06A	09-02-08	-301
+ Buy,Manufacture &Deliver Traffic Control Devices	824	01-12-05A	03-03-08	91	01-12-05A	02-04-07	-336
+ Buy,Manufacture &Deliver Vehicle Detector System	749	30-01-06A	17-02-08	89	30-01-06A	24-10-07	-116
+ Purchase,Manufacture &Deliver PBX System	800	30-11-05A	07-02-08	92	30-11-05A	06-01-08	-32
+ Collect,Purchase,Manufacture &Deliver ET System	403	09-01-06A	15-02-07A	100	09-01-06A	15-02-07A	
+ Purchase,Manufacture & Deliver PA System	795	05-12-05A	07-02-08	90	05-12-05A	25-01-08	-13
+ Buy,Manufacture &Deliver Operation Facilities	441	15-01-06A	31-03-07A	100	15-01-06A	31-03-07A	
+ Purchase,Manufacture & Deliver SEC System	0		08-04-08	25		16-11-07	-372
+ Buy,Manufacture &Deliver Electrical Installation	732	02-02-06A	03-02-08	88	02-02-06A	15-10-07	-111
+ Purchase,Manufacture & Deliver O&M Radio System	864	01-12-05A	12-04-08	63	01-12-05A	22-01-08	-97
+ P,M&D Integrated Tunnel Radio Re-broadcast Sys.	889	01-12-05A	07-05-08	71	01-12-05A	15-12-07	-144
Installation							
+ Site Access Dates for R8K	1,164	12-10-04A	19-12-07A	100	12-10-04A	19-12-07A	
+ Site Access Dates for R8T	532	13-09-06A	26-02-08	0	13-09-06A	26-02-08	0



Start Date	12-10-04
Finish Date	26-12-10
Data Date	20-12-07
Run Date	10-01-08 08:43

Early Bar
Progress Bar
Critical Activity

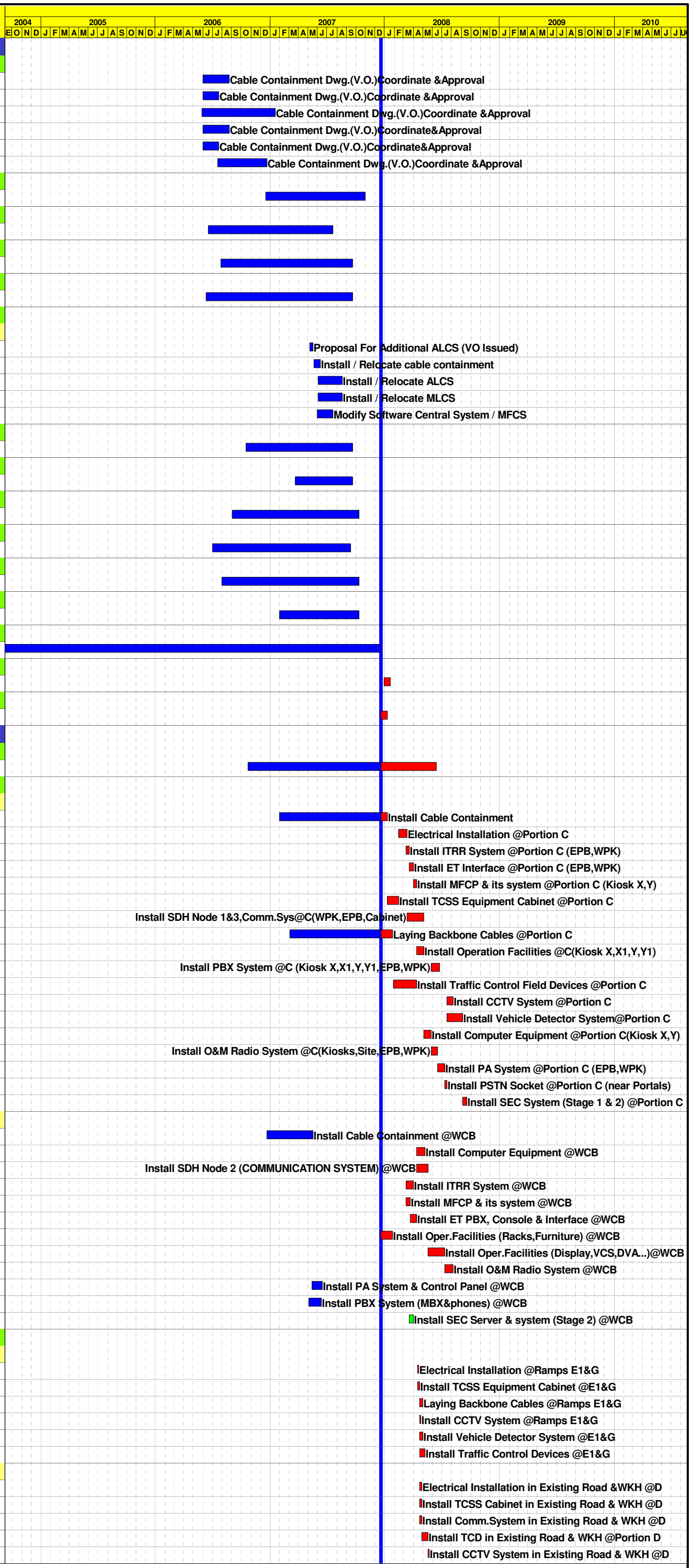
0712 Sheet 1 of 3

Route 8 TCSS SYSTEM
DWP - 3 month Executive Summary

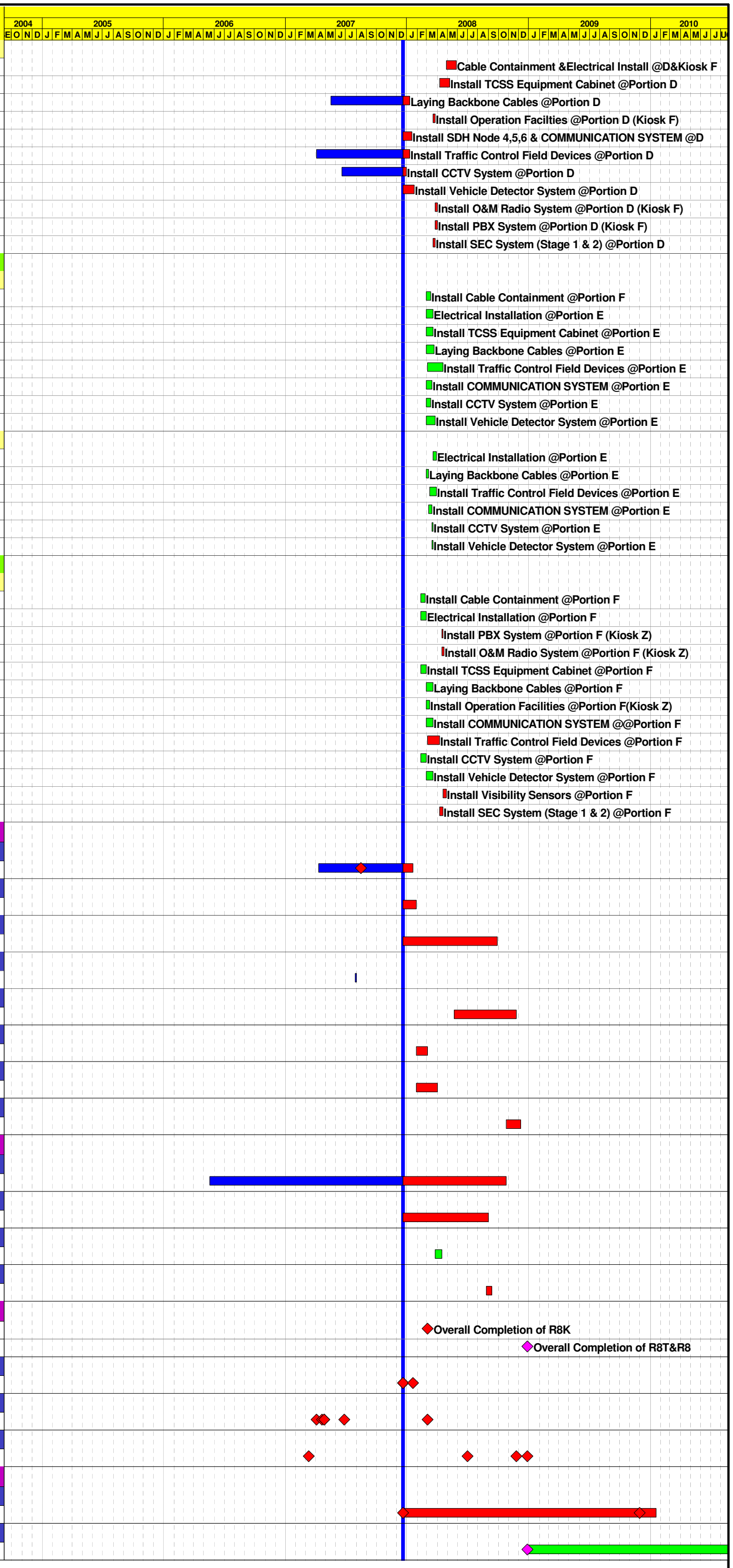
Approved DWP will be used as baseline

Date	Revision	Checked	Approved
10-03-06	DWP rev.E	JL	DA
27-05-05	DWP rev.D (Approved)	JL	DA
29-04-06	DWP rev.C	JL	DA
17-03-06	DWP rev.B	JL	DA
27-01-06	DWP rev.A	JL	DA

	Orig Dur	Early Start	Early Finish	% Comp	Late Start	Late Finish	Total Float
Installation for R8K							
Cable Containment Dwg(V.O.)Coordination&Approval							
	54	02-06-06A	22-08-06A	100	02-06-06A	22-08-06A	
	57	02-06-06A	22-07-06A	100	02-06-06A	22-07-06A	
	54	31-05-06A	18-01-07A	100	31-05-06A	18-01-07A	
	33	02-06-06A	22-08-06A	100	02-06-06A	22-08-06A	
	33	02-06-06A	22-07-06A	100	02-06-06A	22-07-06A	
	85	20-07-06A	20-12-06A	100	20-07-06A	20-12-06A	
+ Portion G - Road T3							
	316	20-12-06A	31-10-07A	100	20-12-06A	31-10-07A	
+ Portion H1A - Portal Buildings @SHT							
	398	18-06-06A	20-07-07A	100	18-06-06A	20-07-07A	
+ Portion H1B - Northbound Tunnel Tube @SHT							
	421	27-07-06A	20-09-07A	100	27-07-06A	20-09-07A	
+ Portion H1C - Southbound Tunnel Tube & CP @SHT							
	465	13-06-06A	20-09-07A	100	13-06-06A	20-09-07A	
SHT&ENT - VO Works for Additional ALCS & MLCS							
TCSS Installation							
	14	07-05-07A	18-05-07A	100	07-05-07A	18-05-07A	
	21	22-05-07A	10-06-07A	100	22-05-07A	10-06-07A	
	30	02-06-07A	17-08-07A	100	02-06-07A	17-08-07A	
	30	02-06-07A	17-08-07A	100	02-06-07A	17-08-07A	
	20	01-06-07A	20-07-07A	100	01-06-07A	20-07-07A	
+ Portion H2 - Open Road Section @SHT							
	339	17-10-06A	20-09-07A	100	17-10-06A	20-09-07A	
+ Portion H3 - RC Full Enclosure @SHT							
	182	23-03-07A	20-09-07A	100	23-03-07A	20-09-07A	
+ Portion I1 - ENT South Portal Approaches							
	402	04-09-06A	10-10-07A	100	04-09-06A	10-10-07A	
+ Portion I2 - Eagle's Nest Tunnel (ENT) Tubes							
	440	03-07-06A	15-09-07A	100	03-07-06A	15-09-07A	
+ Portion I3 - Toll Plaza, R8K ADB & NPB @ENT							
	436	01-08-06A	10-10-07A	100	01-08-06A	10-10-07A	
+ Portion J1 - Lai Chi Kok Viaduct (LCKV) near ENT							
	252	01-02-07A	10-10-07A	100	01-02-07A	10-10-07A	
+ Portion J2 - Sections except Portion J1 @LCKV							
	2,739	20-06-00A	19-12-07A	100	20-06-00A	19-12-07A	
+ Installation @HyD,TD,HKPF Government Offices							
	0		19-01-08	17		11-06-07	-259
+ Installation of SEC system for R8K & Portion B							
	22	20-12-07	10-01-08	0	24-04-07	10-05-08	-252
Installation for R8T							
+ Portion B - Nam Wan Tunnel (NWT) Tubes							
	598	24-10-06A	12-06-08	63	24-10-06A	30-04-08	-56
Portion C - Sections except Portion B @NWT&WTYV							
Installation @Portion C (except WCB & TMCA)							
	20	01-02-07A	08-01-08	0	01-02-07A	07-12-07	-32
	29	14-02-08	13-03-08	80	14-01-08	11-02-08	-31
	11	10-03-08	20-03-08	0	17-10-07	29-10-07	-145
	11	21-03-08	31-03-08	0	30-10-07	08-11-07	-144
	11	01-04-08	11-04-08	0	09-11-07	19-11-07	-144
	36	09-01-08	13-02-08	60	08-12-07	12-01-08	-32
	53	14-03-08	05-05-08	0	15-02-08	04-04-08	-31
	39	07-03-07A	26-01-08	0	07-03-07A	03-01-08	-23
	22	12-04-08	03-05-08	0	20-11-07	10-12-07	-145
	27	28-05-08	23-06-08	0	07-01-08	31-01-08	-144
	74	28-01-08	10-04-08	60	04-01-08	17-03-08	-24
	21	18-07-08	07-08-08	0	28-02-08	19-03-08	-141
	50	18-07-08	05-09-08	0	28-02-08	18-04-08	-141
	23	05-05-08	27-05-08	0	11-12-07	05-01-08	-146
	21	28-05-08	17-06-08	0	07-01-08	25-01-08	-144
	24	18-06-08	11-07-08	0	26-01-08	21-02-08	-144
	6	12-07-08	17-07-08	0	22-02-08	27-02-08	-141
	13	06-09-08	18-09-08	0	22-04-08	03-05-08	-138
Installation @West Control Building (WCB)							
	14	21-12-06A	18-05-07A	100	21-12-06A	18-05-07A	
	27	12-04-08	08-05-08	0	20-12-07	17-01-08	-114
	35	12-04-08	16-05-08	0	20-12-07	25-01-08	-114
	23	10-03-08	01-04-08	0	17-11-07	10-12-07	-114
	13	10-03-08	22-03-08	0	17-11-07	30-11-07	-114
	19	24-03-08	11-04-08	0	01-12-07	19-12-07	-114
	38	20-12-07	26-01-08	0	12-10-07	16-11-07	-71
	55	17-05-08	10-07-08	0	26-01-08	21-03-08	-112
	26	11-07-08	05-08-08	0	22-03-08	17-04-08	-111
	44	14-05-07A	15-06-07A	100	14-05-07A	15-06-07A	
	40	04-05-07A	14-06-07A	100	04-05-07A	14-06-07A	
	14	19-03-08	01-04-08	0	09-04-08	22-04-08	21
PortionD-NgongShuenChauViaduct (including VO103)							
Installation @Early-opening Ramps E1&G							
	4	14-04-08	17-04-08	0	16-10-07	20-10-07	-181
	8	14-04-08	21-04-08	0	16-10-07	24-10-07	-181
	9	22-04-08	30-04-08	0	25-10-07	02-11-07	-180
	2	22-04-08	23-04-08	0	25-10-07	26-10-07	-180
	11	22-04-08	02-05-08	0	25-10-07	03-11-07	-181
	17	22-04-08	08-05-08	0	25-10-07	09-11-07	-181
Installation in Existing Roads & WKH @Portion D							
	5	22-04-08	26-04-08	0	25-10-07	30-10-07	-180
	5	22-04-08	26-04-08	0	25-10-07	30-10-07	-180
	5	22-04-08	26-04-08	0	25-10-07	30-10-07	-180
	20	28-04-08	17-05-08	0	31-10-07	19-11-07	-180
	3	19-05-08	21-05-08	0	20-11-07	22-11-07	-181



	Orig Dur	Early Start	Early Finish	% Comp	Late Start	Late Finish	Total Float
Installation @Portion D							
	30	28-04-08	27-05-08	0	30-10-07	27-11-07	-182
	30	08-04-08	07-05-08	0	27-10-07	24-11-07	-165
	24	18-05-07A	08-01-08	30	18-05-07A	19-11-07	-50
	7	19-03-08	25-03-08	0	17-11-07	23-11-07	-123
	27	20-12-07	15-01-08	0	03-11-07	26-11-07	-50
	36	04-04-07A	09-01-08	50	04-04-07A	22-11-07	-48
	15	20-06-07A	28-12-07	50	20-06-07A	25-10-07	-64
	33	20-12-07	21-01-08	0	18-10-07	16-11-07	-66
	8	26-03-08	02-04-08	0	24-11-07	01-12-07	-123
	6	26-03-08	31-03-08	0	28-11-07	03-12-07	-119
	8	19-03-08	26-03-08	0	17-11-07	24-11-07	-123
Portion E - East Tsing Yi Viaduct (ETYV)							
Installation @Portion E							
	15	27-02-08	12-03-08	0	08-03-08	22-03-08	10
	23	27-02-08	20-03-08	0	19-03-08	11-04-08	21
	23	27-02-08	20-03-08	0	08-03-08	31-03-08	10
	25	27-02-08	22-03-08	0	03-04-08	29-04-08	36
	47	04-03-08	19-04-08	0	08-03-08	24-04-08	4
	17	27-02-08	14-03-08	0	03-04-08	21-04-08	36
	14	27-02-08	11-03-08	0	11-04-08	24-04-08	44
	29	27-02-08	26-03-08	0	11-04-08	10-05-08	44
Installation in Existing Roads @Portion E							
	7	21-03-08	27-03-08	0	12-04-08	18-04-08	22
	7	27-02-08	04-03-08	0	18-03-08	24-03-08	20
	18	10-03-08	27-03-08	0	31-03-08	18-04-08	21
	10	05-03-08	14-03-08	0	25-03-08	03-04-08	20
	4	15-03-08	18-03-08	0	04-04-08	08-04-08	20
	4	15-03-08	18-03-08	0	04-04-08	08-04-08	20
Portion F - Stonecutters Bridge (SCB)							
Installaton @Portion F							
	13	11-02-08	23-02-08	0	25-02-08	08-03-08	14
	18	11-02-08	28-02-08	0	12-03-08	29-03-08	30
	5	14-04-08	18-04-08	0	07-04-08	11-04-08	-7
	9	14-04-08	22-04-08	0	07-04-08	15-04-08	-7
	19	11-02-08	29-02-08	0	25-02-08	14-03-08	14
	18	01-03-08	18-03-08	0	31-03-08	17-04-08	30
	8	01-03-08	08-03-08	0	07-04-08	14-04-08	37
	19	01-03-08	19-03-08	0	19-03-08	07-04-08	18
	36	04-03-08	08-04-08	0	25-02-08	29-03-08	-10
	19	11-02-08	29-02-08	0	13-03-08	01-04-08	31
	18	01-03-08	18-03-08	0	02-04-08	19-04-08	32
	10	19-04-08	28-04-08	0	12-04-08	21-04-08	-7
	8	09-04-08	16-04-08	0	03-04-08	11-04-08	-6
Testing and Commissioning							
+ Site Commissioning Tests (SCT) @R8K							
	283	10-04-07A	17-01-08	96	10-04-07A	12-06-07	-261
+ SCT of SEC system @R8K & Portion B							
	41	20-12-07	29-01-08	0	24-04-07	10-05-08	-251
+ Site Commissioning Tests @R8T							
	0		29-09-08	10		12-06-08	-182
+ System Acceptance Tests (SAT) @R8K							
	2	30-07-07A	31-07-07A	100	30-07-07A	31-07-07A	
+ System Acceptance Tests @R8 (with EOT)							
	187	22-05-08	24-11-08	0	07-12-07	07-08-08	-182
+ Operability Test (OPT) @R8K							
	34	28-01-08	01-03-08	0	09-05-07	26-06-07	-264
+ SAT & OPT for SEC system @R8K							
	64	30-01-08	02-04-08	0	24-05-07	30-09-07	-251
+ Operability Test @R8 (with EOT)							
	44	26-10-08	08-12-08	0	08-06-08	20-09-08	-140
Operation and Maintenance Documents & Training							
+ Documentation for R8K Opening							
	893	18-05-06A	26-10-08	21	18-05-06A	22-02-10	-371
+ Documentation for R8 Opening							
	257	20-12-07	01-09-08	9	30-09-07	23-06-08	-86
+ Training for R8K							
	14	26-03-08	15-04-08	0	04-03-11	23-03-11	744
+ Training for R8							
	14	26-08-08	12-09-08	0	22-07-08	08-08-08	-25
Completion Dates							
	0		02-03-08	0		30-09-07*	-154
	0		26-12-08	0		01-07-09*	187
+ Early Road Opening Areas (to be advised)							
	29	20-12-07	17-01-08	0	01-06-06	12-06-07	-567
+ Section Completion of R8K							
	333	05-04-07A	02-03-08	0	05-04-07A	12-06-07	-264
+ Section Completion of R8/R8T							
	656	12-03-07A	26-12-08	0	12-03-07A	08-08-08	-182
Defects Liability Period (DLP) for Works							
+ DLP for R8K Work							
	761	20-12-07	18-01-10	0	01-11-07	30-11-09	-49
+ DLP for R8T Work							
	730	27-12-08	26-12-10	0	23-02-09	22-02-11	58



APPENDIX M
COMPLAINT LOG

Appendix M - Complaint Log

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
40426	Butterfly Valley	26 April 2004	A public noise complaint was recently received by EPD. The complaint was related to the noise generated from the Route 8 – ENT site near Butterfly Valley at the night time on 21 April 2004. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 23 April 2004.	<u>Noise at night time</u> The information provided by the RSS indicated that no works were undertaken by the Contractor during the concerned period. The concerned noise might probably be due to a burglary case occurred at same night. <u>Noise during day-time</u> It is believed that the day-time noise complaint was due to the site formation works of the Project. Considering the powered mechanical equipment used at the Butterfly Valley and the echo effect of the valley, ET believe that the day-time construction noise from the site at Butterfly Valley might cause nuisance to the nearby resident to some extent, though there was no noise level exceedance at the Government Quarters during our routine monitoring in last three months. The Contractor agreed to implement mitigation measures, including good site practices, selecting quieter plant and working methods and reduction in numbers of noisy plant operating currently, in order to mitigate noise impacts at the NSRs.	Closed
40914	Garden Villa	13-Sep-04 (by EPD) 14-Sep-04 (by ET Leader)	Environmental Protection Department (EPD) received a public noise complaint on 13 September 2004 about construction noise generated from the Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) Project, nearby by Garden Villa at Tai Po Road, Sha Tin. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 14 September 2004. The complaint was about general construction noise generated from a construction site nearby Garden Villa at Tai Po Road, Sha Tin. As informed by EPD,	<u>Environmental Permits</u> A Construction Noise Permit (No. GW-RN0405-04) was obtained by the Contractor for the use of powered mechanical equipment (PME) in the concerned works area and use of TAR no.1 during restricted hours. <u>Blasting Works</u> According to the information provided by the Resident Site Staff (RSS), for carrying out blasting works, a blasting permit should be issued by the Mines Division of Civil Engineering and Development Department (CEDD), but not under the jurisdiction of EPD. The CNP issued by EPD only specified the use of PME but not the blasting works during restricted hours.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			the complainant was particularly concerned of two issues: 1. The complainant was informed by the Contractor (Leighton – Kumagai Joint Venture) that blasting works would be conducted during restricted hours. He worried about the noise nuisance would be induced by the blasting works. 2. Noise nuisance from some site vehicles traveling on the Temporary Access Road (TAR no.1) near Garden Villa was noted by the complainant during restricted hours.	As advised by the RSS, the Contractor did intend to apply for a permit to the Mines Division of CEDD for blasting works during restricted hours. However, up to the time of preparation of this report, the Contractor still had not obtained the approval from the Mines Division and therefore, no blasting works were performed by the Contractor during restricted hours. <u>Use of TAR no.l</u> According to Condition 3d of the above-mentioned CNP, there was restriction on the use of site vehicles traveling on TAR no.1. The usage of site vehicles on TAR no.1 in a 2-week period before the date of complaint, i.e. 30th August to 12th September 2004 showed that the only vehicle type using TAR no.1 for the concerned period was concrete truck and the number of vehicle pass was limited to 4 times per hour, which was in compliance with the above CNP's conditions. Regular noise monitoring was undertaken by ET at Garden Villa on 30th August and 6th September 2004 during restricted hours (1900 – 2300 hours). The monitoring results were 58.7 dB(A) and 58.6 dB(A), respectively, which were below the noise limit level of 60 dB(A). However, it should be noted that site vehicles were not used by the Contractor on TAR no.1 during restricted hours on these two monitoring day. Based on the information obtained, the validity for the noise complaint in associated with night-time blasting works could not be concluded under ET's investigation, since no blasting works had been performed by the Contractor during restricted hours at the time of the report preparation. Also, it should be highlighted that for carrying out blasting works, permission should be obtained by Mines Division of CEDD, but not under the control of EPD. For the use of TAR no.1, the RSS's records showed that the number of vehicle pass in the period between 30th August and 12th September 2004 was complied with the CNP's conditions. It should be noted that only a maximum of 3 concrete trucks	

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				passing the site entrance was recorded. Therefore, it was considered that the nuisance noted by the complainant was not due to the site vehicles adopted by the Contractor (LKJV). Nevertheless, the Contractor was reminded to ensure the compliance of the CNP conditions and adopt good site practice to minimize the construction noise.	
41021	Garden Villa	09-Oct-04 (by EPD) 21-Oct-04 (by ET Leader)	Environmental Protection Department (EPD) received a public noise complaint on 9 October 2004 about construction noise generated from the Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) Project, nearby by Garden Villa at Tai Po Road, Sha Tin. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 21 October 2004. The complaint was about nighttime construction noise generated from a construction site nearby Garden Villa at Tai Po Road, Sha Tin. As informed by EPD, the complainant was particularly concerned of two issues: • Construction works undertaken by the Contractor (Leighton–Kumagai Joint Venture) were noted after 2300 hour. • Some workers were noted leaving the site through Temporary Access Road (TAR) no.1 at around 2 am, causing nuisance to the residents in Garden Villa.	According to the information provided by the RSS, no construction activity was undertaken in the nighttime period (2300 – 0700 hours) at the concerned site area. LKJV did admit that some vehicles had been operating at midnight for transporting LKJV's survey workers from the site. Inconsiderate behaviors were noted causing nuisance to Garden Villa residents: 1. Driving the vehicles too fast, which generated excessive engine noise; 2. Noise inside the vehicles (such as staff talking or radios) escaping through the open vehicle windows; and 3. Vehicle beeping horn to request the guards to open the gate. In order to rectify the situation, LKJV had notified the relevant staff with the receipt of the complaint and urged them to take appropriate measures when using TAR1 at night: 1. to drive slowly in order to reduce the engine noise, especially when approaching Garden Villa; 2. to roll up the vehicle windows to contain any noise from talking or radios; and 3. to prohibit beeping the vehicle horn for gate opening; instead, to park the car and approach the guard on foot.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
41023	Government Quarters (Butterfly Valley)	20-Oct-04 (by MHJV) 23-Oct-04 (by ET Leader)	A public complaint was received by the Engineer's Representative (ER) of Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) Project on 20th October 2004. The complaint was raised by a resident of the Government Quarters at Caldecott Road, concerning dust generation as a result of the construction activities at Butterfly Valley. The ER subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 23rd October 2004.	The complaint was considered valid based on: 1. ER's site observations; 2. ET's weekly site audit; and 3. 1-hr TSP exceedance record. Also, the sources of dust generation were identified as 1. 2 portions of the haul roads, one at Slope BV-S2 and one linking between South Portal Tunnel to Mui Kong Tsuen, were found to be dry. 2. Dust impact due to the haulage of excavated materials at the South Portal. Enhanced dust suppression measures had been implemented by the Contractor: • added rockfill to the haul road between South Portal Tunnel and the Gully fill area; • maintained watering to haul road at Slope BV-S2; • requested the fill material supplier to ensure the material was in a damp condition before leaving quarry; • provided for material not dampened at the Quarry to be directed to the wheel wash for water spray before entering the site; • when cleaning drill holes along slope BV-S4 to ensure adequate water was available for flushing to suppress dust emission; AND • provided damper stockpiles of cleared material at BV-S2 before loading. Based on ER's site observations, most of the above mitigation measures have been implementing by the Contractor. Also, an additional water browser was delivered to site on 29th Oct 04. No significant fugitive dust emission has been found. During ET's site inspections on 27th Oct and 3rd Nov 2004, the situation was found improved. No deficiency relating to air quality impact was noted by ET during the two audit sessions. The results of air quality monitoring (1-hr and 24-hr TSP) in the period between 21st Oct and 2nd Nov 2004 were all found to be complied with the Action / Limit Levels.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
41124	Government Quarters (Butterfly Valley)	21-Nov-04 (by LKJV) 24-Nov-04 (by ET Leader)	A public complaint was received by the Contractor of Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) Project on 21st November 2004 (Sunday). The complaint was concerned about excessive noise generation from construction machinery at Butterfly Valley on the same day. The Engineer's Representative (ER) subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 24th November 2004.	According to the ER, the only construction activity at Butterfly Valley undertaken on 21st Nov 04 was formation of access road near Slope BV-S2. The activity only involved operations of 1 no. of excavator and 1 no. of dump truck with grab, which complied with the condition stipulated in a valid CNP GW-RW0484-04, which was hold by the Contractor. Routine noise monitoring was conducted on 21st and 28th Nov 2004 at NM6. All the measured noise levels (48.5 to 56.4 dB(A)) were well below the noise limit level. In addition, the measurement results were within the baseline noise level. Therefore, the complaint was considered to be invalid. Nevertheless, the Contractor was reminded to ensure the compliance of the conditions stipulated in CNP. The Contractor was also recommended to adopt good site practice in order to minimize the construction noise.	Closed
41201	Government Quarters (Butterfly Valley)	01-Dec-04 (by MHJV & ET Leader)	A public complaint was received by the Engineer's Representative (ER) of Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) Project on 1st December 2004. The complaint was raised by a resident of the Government Quarters at Caldecott Road, concerning dust generation at Butterfly Valley. The Environmental Team (ET) of the Project was informed with the complaint on the same day. The resident complained that a large portion of the excavated slopes was not properly covered, which caused dust nuisance to her.	The complaint was considered valid based on: 1. ER's site observations; 2. ET's weekly site audit Upon receipt of the complaint, a series dust control measures had been implemented by the Contractor, such as covering of the exposed slopes with appropriate sheeting, regular watering to the haul roads and excavated slope faces, etc. During the ET's weekly site audit on 08-Dec-04 together with the representative of HyD, IEC, ER and the Contractor, the above mitigation measures were observed. The idle slopes at BVS2 had been covered by tarpaulin sheeting and erosion mat. The left exposed slope surfaces at BVS2 were under excavation, thus being unable to be covered. According to the ER, the complainant has expressed his satisfaction to the site condition on 07-Dec-04, after the implementation of dust mitigation measures by the	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				Contractor. However, owing to the prevailing of the dry season, the Contractor was reminded to ensure the dust control measures are effectively implemented.	
50125	Garden Villa (North Portal)	21-Jan-05 (by EPD) 25-Jan-05 (by ET Leader)	Environmental Protection Department (EPD) received a public noise complaint on 21 January 2005 about construction noise and dust generated from the Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) Project, nearby by Garden Villa at Tai Po Road, Sha Tin. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 25 January 2005. The complaint was about construction noise and dust generated from a construction site nearby Garden Villa at Tai Po Road, Sha Tin. The complainant was particularly concerned of two issues: 1. Noise from tunnel blasting work carrying out at around 7:30am and 10:00pm; and 2. Dump trucks without covering of canvas when leaving the construction site.	**Noise from blasting** For carrying out the blasting, the Contractor had obtained the permit from relevant authority. The ET's noise monitoring results did not show any exceedance for the measurement taken when blasting was in place. It should be highlighted that for carrying out blasting works, permission should be obtained by Mines Division of CEDD, but not under the control of EPD. In order to minimize the nuisance from the works, the Contractor was recommended: • To inform the residents around the area about the time of blasting in advance; and • To re-schedule the blasting time table, if possible, in order to avoid nuisance. **Uncovered dump trucks** In order to evaluate the situation, two inspections were carried out by the ET at Garden Villa on 27-Jan and 28-Jan-05 to identify the dump trucks leaving the site with uncovered load. On 27-Jan-05, 3 nos. of trucks, which were working for ENT Project, was noted by-passing Garden Villa without proper cover. Enhanced control (penalty system) was implemented by the Contractor after the inspection on 27-Jan. During the inspection on 28-Jan-05, 24 nos. of dump trucks for ENT Project were found leaving the site. No non-compliance was noted for the trucks working for ENT Project. LKJV was reminded to keep closely monitoring on the condition and the effectiveness of the proposed control measures.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50308	Garden Villa (North Portal)	05-Mar-05 (by EPD) 08-Mar-05 (by ET Leader)	EPD received a public complaint on 5 March 2005 about construction noise and dust generated from the construction sites of Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) and Route 8 - Sha Tin Heights Tunnel and Approaches (R8-SHT), nearby by Garden Villa at Tai Po Road, Sha Tin. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 8 March 2005. The complaint was about construction noise and dust generated from the construction sites nearby Garden Villa at Tai Po Road, Sha Tin. The complainant was particularly concerned of the following issues: 1. Nighttime & Sunday construction noise 2. Noise from tunnel blasting at early morning and nighttime 3. Dust from construction activities	*Nighttime & Sunday construction noise* • no exceedance for noise monitoring • restricted hour works were found complied with the CNPs • records of vehicular trips on TAR1 did not show non-compliance of CNP conditions *Noise from tunnel blasting at early morning and nighttime* • no exceedance for noise monitoring • valid blasting permit had been obtained from CEDD • blasting work is not under the jurisdiction of EPD *Dust from construction activities* • dump trucks with uncovered / inadequately covered materials were observed leaving site • no exceedance for TSP monitoring • enhanced dust suppression measures had been implemented by the Contractor <u>Conclusions</u> The complaint against the dust issue (uncovered / inadequately covered dump trucks) was considered justifiable The Contractor was reminded to review the current checking system. Continuous spot checks would be performed by ET and RSS.	Closed
50330	Garden Villa (TAR1)	30-Mar-05 (by EPD & ET Leader)	Environmental Protection Department (EPD) received a public complaint on 30th March 2005 about construction noise from the sites of Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) near Garden Villa at Tai Po Road, Sha Tin. The complaint, which was lodged by a resident of Garden Villa on 29th March 2005, was about the noise generated by heavy vehicles traveling in and out of the construction site near Garden Villa. According to the complaint, the noise was made from 7am onwards.	The site of concern was likely to be the Temporary Access Road no.1 (TAR1) connecting Tai Po Road and the construction sites of R8-ENT and Route 8 - Sha Tin Heights Tunnel and Approaches (R8-SHT). The time period of concern was within normal working hours (7am to 7pm) on a weekday not being holidays. According to the EM&A Manual, the criterion of construction noise in term of L_{eq}-30min within this period is 75 dB(A) for domestic premises. Since the commencement of the Project, no exceedance of daytime noise criterion of 75 dB(A) was recorded at Station AM3 (Garden Villa). During the 2-hour measurement period of the ad-hoc monitoring (0700-0900 hrs), all the measured noise levels (L_{eq}-30min) were below the daytime noise	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				criterion of 75 dB(A). Based on the results of routine noise monitoring and the ad-hoc measurement on 1st April 2005 at Garden Villa, no exceedance of daytime noise criterion of 75 dB(A) was recorded. The complaint lodged is therefore considered not justifiable. In order to minimize the nuisance generated by the vehicle use at Garden Villa, the Contractor has proposed to limit the frequency of trucks existing from TAR1 at a rate of one truck per minute during the time period of concern (7am to 8:30am).	
50415	Government Quarters	09-Apr-05 (by EPD) 15-Apr-05 (by ET Leader)	The complaint, which was lodged by a resident of 7/F, 38B, 8-10 Caldecott Road (Governmental Quarters) on 9th April 2005, was about the noise generated by the construction works at the Butterfly Valley during daytime. The complainant mentioned that the instant noise level taken by himself was 78 to 82 dB(A). EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 15th April 2005. The time period of concern was within normal working hours (7am to 7pm) on a weekday not being public holidays. According to the EM&A Manual, the criterion of construction noise in term of L_{eq}-30min within this period is 75 dB(A) for domestic premises.	Governmental Quarters (Station NM6) is one of the designated noise monitoring stations in the EM&A programme. Routine monitoring is undertaken on a weekly basis in accordance with the EM&A Manual. Since the commencement of the Project, no exceedance of daytime noise criterion of 75 dB(A) was recorded at this station. Ad-hoc measurement was conducted at the complainant's premises on 22 Apr 05. The measured noise level was 69.0 dB(A), which was well below the daytime noise criterion of 75 dB(A). Based on the results of routine noise monitoring and the ad-hoc measurements conducted in the complainant premises, no exceedance of daytime noise criterion of 75 dB(A) was recorded. The complaint lodged is therefore considered not justifiable.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50419	Government Quarters	15-Apr-05 (by EPD) 19-Apr-05 (by ET Leader)	The complaint was lodged by a resident of 8-10 Caldecott Road (Government Quarters) on 15th April 2005 to EPD as well as the Chief Resident Engineer of the Project. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 19th April 2005. The complainant mentioned that they had experienced quite a lot of noise emanating from the tunnel drilling area after 11pm over several nights and most particularly at the night of 14th April 2005 and at 4am on 15th April 2005.	The site of concern was likely to be the South Portal. For carrying out construction works at this area during restricted hours, two Construction Noise Permits (CNPs no. GW-RW0085-05 and GW-RW0086-06) were obtained by the Contractor in accordance with the requirements stipulated in Noise Control Ordinance. According to the information provided by the Resident Site Staff and the Contractor, the construction activities undertaken in the period between 11th and 15th April 2005 from 1900 to 0700 hours included drilling, breaking, trimming, set up of rock drill, installation of arch-rib and grouting. The powered mechanical equipment (PME) involved in the above works included backhoe, rock drill, loader, dumper, shot-crete machine, group pump, mobile platform and grout machine, which were covered by the CNPs. According to the routine monitoring results, for the time period between 2300-0700 hours, the measured noise levels exceeded the corresponding noise Limit Level of 50dB(A). However, the measured levels were found within the range of baseline level and below the average baseline level. Based on the routine noise monitoring results at Station NM6, the measured noise levels for the period between 2300-0700 hours were below the baseline noise level, which was comparable to the ambient level. According to the RSS's record, the PME items operated during the concerned period were found covered by the 2 CNPs hold by the Contractor. Based on the available information, there is not enough evidence to prove whether the complaint against nighttime construction noise generated in the concerned period (11th to 15th April 2005) is justifiable or not.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50512	Yew Chung International School	12-May-05	On 11 May 05, a notice was sent to Yew Chung International School (YCIS) by the Contractor, providing their tentative blasting schedule on 12 May 05. It was shown that one of the blasting operations was scheduled at 09:30am, at when an examination was being held in YCIS. Upon receipt of the notice, a representative of YCIS lodged a complaint to the Contractor via the Project's hotline at 07:40 on 12 May 2005. The complainant expressed her objection to the blasting operation taken at 09:30am when the examination was taken place. The Contractor then agreed on one occasion only to delay the tunnel blast planned for 9:30am until 9:50am (i.e. 5 min after the examination). The complainant satisfied but did expect no future blasting during the examination period. According to the Engineer's Representative, the Contractor did not wish to make any commitment to ensure no blasting would be taken within the examination period.	A 1-day continuous noise measurement was conducted by the Environmental Team at Station NM1 on 26 May 05. According to the ER's record, two blasting operations were taken in the vicinity of YCIS on 26 May 05. One surface blast was taken at Butterfly Valley at 15:42 and one tunnel blasting was taken at South Portal at 16:56. The measurement results showed that the noise impact in term of Leq-5min and Leq-30min arising from the blasting operations was insignificant. No exceedance of construction noise criterion for examination period was recorded (Leq-30min < 65dB(A)). The complaint lodged was therefore considered not justifiable. However, in order to minimize the potential nuisance arising from the blasting noise and the siren sounds prior to blasting, the Contractor was recommended to consider scheduling the blasting operations beyond the examination periods.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50610	Government Quarters	10-Jun-05	On 10 June 2005, the Resident Site Staff (Maunsell-Hyder Joint Venture) received a complaint from a resident of the Government Quarters at Caldecott Road. The complaint was concerned about the construction dust generation as a result of the construction activities of the Project at Butterfly Valley. The complainant had not specified which construction activities had contributed to the dust generation.	*Site Observations* According to the RSS's preliminary investigation, it was considered that soil nailing at Slope BV-S2 was the dominant dust source and was likely to be the activity of concern. The dust suppression measures taken were found inadequate to control the dust dispersion from the works. Noticeable dust dispersion from the soil nailing work could be observed. *Corrective Actions* After the Contractor was notified by the RSS of the complaint, immediate action was taken by the Contractor on the same day (10 June 2005). The dust mitigation measures for the soil nailing were enhanced. An additional thicker cover was used. Also, continuous water spray was applied to suppress the dust emission. *Environmental Outcome* The RSS made a response to the complainant on 10 June 2005. The complainant was informed of the rectification actions taken by the Contractor. No further adverse comment was received from the complainant. *Conclusions* Based on the RSS's information, this complaint is considered to be valid and related to the construction activities of the Project. However, corrective action had been taken by the Contractor immediately and the situation was found improved.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50712	A scattered house near South Portal and Tai Po Road Water Treatment Works Staff Quarters	12-Jul-05	On 12 July 2005, a resident, whose house is located near South Portal and Tai Po Road Water Treatment Works Staff Quarters, lodged a complaint to the Contractor via the Project's hotline at 11:40am. The complainant expressed his concern on the nuisance caused by the blasting works at early morning (before 07:00 hours) and late night (after 23:00 hours).	*Site Activity* According to the information provided by the RSS, tunnel blasting works have been taken place in the concerned period in north bound tunnel from the Ventilation Adit towards the direction of the South Portal. *Environmental Requirements* In the EP, the EM&A Manual of the Project and the NCO, no requirement is specified for the control of blasting operation and the associated environmental impact, such as blasting noise. It should be highlighted that for carrying out blasting works, permission should be obtained by Mines Division of CEDD, but not under the jurisdiction of EPD. For carrying out the above-mentioned blasting operations, the Contractor has obtained a valid blasting permit from CEDD under the Dangerous Goods Ordinance (Cap. 295). Under this permit, the Contractor is allowed to carry out 24-hour blasting works within the designated area. *Contractor's Actions* Though the blasting noise is not under the control of any environmental related regulation and the Contractor is allowed to carry out 24-hour blasting, the Contractor would try to keep the blasts of concern undertaken between 07:00 to 23:00 hours. This arrangement could effectively reduce the potential nuisance to the residents within the more sensitive time period (23:00 to 07:00 on next day). *Conclusions* The subjected blasting operations were carried out by the Contractor under a valid blasting permit. The complaint lodged is therefore considered not justifiable.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50809	Government Quarters (8-10 Caldecott Road)	09-Aug-05	On 9 August 2005, a resident of 8-10 Caldecott Road (Government Quarters) lodged a complaint to the Contractor via the Project's hotline at 14:30. The complainant expressed her concern on the nuisance caused by the blasting works undertaken at Butterfly Valley. Noise impact arising from the blasting works was one of the issues raised by the complainant.	*Ad-hoc Noise Measurement* An ad-hoc noise measurement was carried out on the roof of Government Quarters during a surface blast on 16 August 2005. According to the record of the RSS and the site observation, a surface blasting was undertaken at Butterfly Valley at around 15:38 on the monitoring day. The results show that the measured noise level in term of Leq-30min, i.e. 69.1 dB(A) during the surface blasting was well below the daytime construction noise criterion of 75 dB(A). *Conclusion and Recommendation* According to the results of ad-hoc noise measurement taken at Government Quarters on 16 August 2005, the measured noise levels (Leq-30min) did not exceed the noise criterion of 75 dB(A). In addition, the subjected blasting operations were carried out by the Contractor under a valid blasting permit. For the concern of noise impact, the complaint was considered not justifiable.	Closed
50830	Government Quarters (8-10 Caldecott Road)	30-Aug-05	The RSS received a public complaint from a resident of Government Quarters addressing two noise issues: 1. Noise nuisance caused by drilling works at Butterfly Valley; 2. Noise nuisance due to blasting 0045 hrs of 28 August 2005.	*Noise Measurement* No exceedance was recorded for the routine noise monitoring at NM6 (Government Quarters). Ad-hoc noise measurement was conducted on 1 and 2 Sept 05. All measured noise levels complied with the noise criteria. *Conclusion* The complaint was considered not justifiable. However, the Contractor had taken proactive actions in order to minimize the nuisance of the residents, (1) to stop the rock breaking works at BVS2 and (2) to install temporary noise barriers for drilling works.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50928	Government Quarters (8-10 Caldecott Road)	28-Sept-05	A resident of Government Quarters complaint about a blast undertaken at 0215hr on 28 Sept 05.	*Environmental Monitoring* After receiving the complaint, the ET carried out a continuous noise measurement at Station NM6 (Government Quarters) from 29 to 30 September 2005. All the measured noise levels in term of Leq-5min are close to the baseline noise level. The noise levels after correction of baseline levels were all below the noise criterion of 50 dB(A). *Conclusion* The subjected blasting operations were carried out by the Contractor under a valid blasting permit. In addition, no noise exceedance was recorded for the ad-hoc noise monitoring. The complaint lodged is therefore considered not justifiable.	Closed
51025	Caldecott Hill (2 Caldecott Road)	25-Oct-05	A public complaint was received by the MWPMO of Highways Department on 25 October 2005. The complaint was subsequently refereed to the RSS and Environmental Team of Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) Project. The complaint was lodged by the management company of Caldecott Hill (No.2 Caldecott Road). It was about dust generation when construction vehicles, particularly dump trucks and concrete trucks, traveling along the Water Treatment Works (WTW) access road and its junction with Caldecott Road. According to the photos provided by the complainant, noticeable dust generation was observed during construction vehicles movement on the roads of concern.	*Site Observations* Ad-hoc site inspections were carried out on 25 and 26 Oct 05. On 26 Oct 05, the WTW access road was observed dry. Deposition of dusty materials was noted. Significant dust generation was identified during vehicle movement. *Contractor's Actions* Mitigation actions were taken by the Contractor: 1. One labour was appointed to water spray the concerned road junction and clear up of dusty materials deposited on the WTW access road. 2. Regular watering on access road by hose pipe was performed to keep the road wet. 3. All vehicles would be wheel-washed and loads of dusty materials would be covered before leaving the site. *Conclusions* Based on the site observations, this complaint was considered to be valid and related to the Project works. However, enhanced dust mitigation measures were taken by the Contractor and the situation was found improved.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
51031	Po Leung Kuk Choi Kai Yau School	31-Oct-05	The resident site staff (MHJV) of R8-ENT received a complaint from the Principal of PLKCKY School. She commented that the blasting noise (nighttime and daytime) at Butterfly Valley became louder than before.	An ad-hoc noise measurement was taken by ET on 5 Nov 05 to evaluate the noise impact due to daytime surface blasting at the BV. The measurement results revealed that there has been no exceedance of noise level criteria. The complaint was therefore considered not justifiable.	Closed
51101	Butterfly Valley (Government Quarters)	1-Nov-05	On 1 Nov 05, the Resident Site Staff received a complaint from a resident of the Government Quarters. On 2 Nov 05, a complaint of similar natures and same location was received by the Environmental Protection Department. The complainant was concerned about the following environmental issues: 1. Noise nuisance due to tunnel blasting works undertaken at midnights and in early mornings (3am to 5am); 2. Noise nuisance due to operation of a generator after 11pm; 3. Construction dust and daytime noise due to processing and stockpiling of crushed rocks at Butterfly Valley; 4. Noise nuisance due to works outside tunnel in the early morning of 2 Nov 05.	*Item 1: Noise nuisance due to tunnel blasting* For carrying out the above-mentioned blasting operations, the Contractor has obtained a valid blasting permit from CEDD. Under this permit, the Contractor is allowed to carry out 24-hour blasting works. As advised by the Contractor, all the blasting operations had been completed by 12 Nov 05. *Item 2: Noise due to operation of a generator after 11pm* According to the Construction Noise Permit issued by EPD, one generator was allowed to be operated after 11pm at South Portal area outside the tunnel. In view of the provision of acoustic enclosure and the separation distance from the generator to Government Quarters (around 300m), the noise impact arising from this generator onto the residents of the Quarters was believed to be insignificant. During the ET's investigation on 11 Nov 05, no engine-like noise generated from the construction site could be identified. *Item 3: Dust and noise due to handling of crushed rocks* No noise exceedance was recorded. During the weekly site inspections, deficiencies regarding inadequate dust mitigation measures for the crushed rock processing and stockpiling were occasionally observed. Dry / uncovered stockpiles and dust emissions from crushed rocks handling were sometimes noted. *Item 4: Noise from works out of tunnel in morning of 2 Nov 05* According to the RSS's site records, there has been no activity outside the tunnel in the early morning of 2 November 2005. Work was undertaken deep inside the tunnel during the concerned period. The mentioned noise nuisance might not be related to R8-ENT Project. An ad-hoc noise measurement was carried out by ET from 8 to 10 November 2005 in order to evaluate the noise at Quarter's residents and no exceedance was recorded.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				Conclusion Based on the information obtained, environmental monitoring results and site observations, this complaint was considered not justifiable, except for the concern of dust nuisance due to crushed rock processing.	
51205	Caldecott Road junction	5-Dec-05	The complaint was lodged by the management company of Villa Carlton. The complainant mentioned that several complaints from the occupants of Villa Carlton were received, against the dust emission when they drove to Kowloon via the Caldecott Road Junction. She also considered that the amount of water spraying by the Contractor was insufficient to suppress dust emission at Caldecott Road Junction.	*Complaint Record* A similar complaint (Log no. 51025) was received on 25 Oct 05 from Caldecott Hill. Significant dust emission was noted when construction vehicles traveling along the WTW access road and its junction with Caldecott Road. With implementation of enhanced dust mitigation measures, the situation was found improved and satisfactory. *Site Observations* Since Nov 05, in order to observe the Contractor's actions taken for the above-mentioned complaint, the area of interest was included during the weekly environmental audit. No deficiency had been noted at this area during the audit. After receiving this new complaint (Log no.51205), several ad-hoc site inspections were carried out on 6, 8 and 14 Dec 05. In addition, the RSS of the Project had carried out daily checking of the condition of the Caldecott Road Junction. Sufficient dust mitigation measures had been implemented by the Contractor. The condition was found satisfactory. Therefore, this complaint was considered not justifiable. However, it is noted that the Contractor had stepped up dust mitigation measures to further improve the condition at Caldecott Road junction.	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
60204	Garden Villa	4-Jan-06 (by ETL)	A public complaint was received by the Environmental Protection Department on 3 January 2006. The complaint was subsequently referred to the Environmental Team of Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) Project on 4 January 2006. According to EPD's information, the complaint was lodged by a complainant, who walked along Tai Po Road on 1-2 January 2006. The following information was given by EPD for our investigation: • Time of concern: 1-2 January 2006 (Daytime) • Suspected site area of concern: ENT's Toll Plaza and Administration Building. • Dust and noise nuisance was noted by the complainant when he passed Garden Villa. • Noise from wood saw and crane or alike was noted.	**A. Construction Noise Impact** According to the Contractor's information, construction activities were carried out on 1 and 2 Jan 06, including: • Erection and dismantling of formwork • Fixing water pipe All the equipment operated by the Contractor on 1-2 Jan 06 complied with the permissible equipment stated in the CNP. On 1 Jan 06, noise monitoring was carried out. All the results complied with the noise criterion. **B. Construction Dust Impact** Erection and dismantling of formwork and fixing water pipe were considered not dust emissive in nature. For stockpiles of materials in Toll Plaza area, dust mitigation measures had been implementing by the Contractor. The condition in term of dust control was found satisfactory during the audit sessions on 4 and 11 Jan 06. Since December 2005, all TSP monitoring results complied with the Action / Limit Level. **Conclusion** Based on the information given, site observations and environmental monitoring results, this complaint was considered not justifiable. Nevertheless, the Contractor was reminded to adopt good site practice to minimize the environmental impacts at the nearby sensitive receivers	Closed