

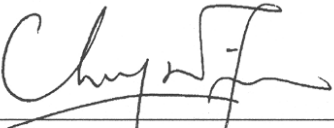
# Highways Department

## 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

#### Quarterly EM&A Report Part II – Eagle's Nest Tunnel and Associated Works (Version 1.0)

December 2005 to February 2006

Approved By   
(Environmental Team Leader)

#### REMARKS:

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

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

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## EXECUTIVE SUMMARY

- This is the ninth Quarterly 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 summary report documents the findings of EM&A works performed in the period between December 2005 and February 2006 for Contract No. HY/2003/02, Route 8 – Eagle's Nest Tunnel and Associated Works (the Project).
- The major site activities undertaken in the reporting month included slope cutting, excavation works, tunnel lining and concreting works for portal buildings and Administration Building.

### Environmental Monitoring Works

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

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

<i>Parameter</i>	<i>No. of Events</i>		<i>No. of Events Due to the Project</i>	<i>Action Taken</i>
	<i>Action Level</i>	<i>Limit Level</i>		
<i>December 2005</i>				
1-hr TSP	0	0	0	N/A
24-hr TSP	0	0	0	N/A
Noise	0	0	0	N/A
<i>January 2006</i>				
1-hr TSP	0	0	0	N/A
24-hr TSP	0	0	0	N/A
Noise	1	0	0	Complaint investigation
<i>February 2006</i>				
1-hr TSP	0	0	0	N/A
24-hr TSP	0	0	0	N/A
Noise	0	1	0	NOE was issued.

### Environmental Licensing and Permitting

- Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, Construction Noise Permits (CNPs) and Water Discharge Licenses (WDLs). The Contractor had also registered as a Chemical Waste Producer.

### Key Information in the Reporting Quarter

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

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

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	1	dust & noise	Complaint investigation	Closed	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N/A	N/A	---
Status of submissions under EP	0	---	N/A	N/A	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---
<p><b><u>Future Key Issues:</u></b></p> <p>Major site activities for the coming month include:</p> <ul style="list-style-type: none"> <li>• Slope cutting;</li> <li>• Haul road construction;</li> <li>• Soil nail installations;</li> <li>• Retaining wall construction;</li> <li>• Installation of water proofing membrane in tunnels;</li> <li>• Portal building construction.</li> </ul> <p>The anticipated environmental impacts will be mainly on surface runoff during rainy days, dust from slope work, haul roads and stockpiles.</p>					

## 1. INTRODUCTION

- 1.1 Route 9 (Kowloon Section) (R9K) (hereinafter call the R9K-Project) forms part of the Route 9 between Cheung Sha Wan and Sha Tin (R9-CSWST) project, which will be a new expressway connecting West Kowloon and Sha Tin. It will be the fourth external link between Sha Tin and Kowloon and will form an important link between the northeast New Territories and the west Kowloon, Lantau Island and the western New Territories. R9K is being managed and implemented by the Highways Department (HyD).
- 1.2 The engineering design of R9K is covered under Agreement No. CE 50/98 "Route 9 between Cheung Sha Wan and Sha Tin – Design Construction Assignment". The main consultant engaged under Agreement No. CE 50/98 is Maunsell Hyder Joint Venture (MHJV), who will act as the Engineer for the construction contracts. The works of R9K mainly comprise a 1.4km dual 3-lane Lai Chi Kok Viaduct from Lai Wan Interchange to Butterfly Valley; 0.5 km of dual 3-lane at-grade carriageway linking to the 2.1 km dual 3-lane twin-bore Eagle's Nest Tunnel with associated portal buildings; a toll plaza with an administration building located with the Sha Tin valley woodland; a ventilation building and an adit; associated noise barriers, noise enclosures, drainage, slope and landscape works; and electrical and mechanical works for the whole R9-CSWST. The remainder of the R9-CSWST forms the Sha Tin Section (R9S) of the project and is being managed and implemented separately by the Civil Engineering and Development Department (CEDD).
- 1.3 The R9-CSWST project is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 449) (EIAO). An environmental impact assessment (EIA) report has been prepared in 1998 for the R9-CSWST project (1998 R9 EIA) to consider the key issues of noise, air quality, water quality, ecological, construction waste, landscape and visual, land use and cultural impacts, and identify possible mitigation measures.
- 1.4 An Updated Final EIA report was subsequently completed in August 1999 for the R9-CSWST project (1999 R9 EIA), to cater for some changes in R9K portion as mentioned in paragraph 1 in the report. The 1999 R9 EIA was endorsed by Environmental Protection Department (EPD) in November 1999. The 1998 R9 EIA and the 1999 R9 EIA (R9 EIA Reports) were included in the EIA register under the EIAO as report no. EIA-135/BC and AEIAR-022/1999 respectively. An Environmental Monitoring and Audit (EM&A) Manuals for each of the R9 EIA Reports (EM&A Manuals) were also included as part of the EIA reports in the register.
- 1.5 Subsequent to the endorsement of the R9 EIA Reports by EPD in November 1999, the project programme was deferred to start in 2002/2003 for completion by 2006/07. The implementation of the project was then separated into the R9S and R9K portion. An Environmental Permit (EP) No. EP-103/2001 was issued on 17 September 2001 for R9K to the HyD as Permit Holder. A revised EP No. EP-103/2001/A was issued on 20 May 2003 for R9K (R9K EP) to HyD as Permit Holder. A varied EP-103/2001/C was recently issued on 22 July 2005.

- 1.6 The major construction activities of two civil contracts of the R9K project, Contract No. HY/2003/01 entitled "Route 9 – Lai Chi Kok Viaduct" and Contract No. HY/2003/02 entitled "Route 9 – Eagle's Nest Tunnel and Associated Works", were commenced in 15<sup>th</sup> December 2003 for completion in April 2007.
- 1.7 "Route 9" was recently re-titled as "Route 8 (previously known as Route 9)". Cinotech Consultants Limited (Cinotech) was commissioned by HyD to undertake the Environmental Monitoring and Audit works for "Route 8 (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 was appointed as the ET Leader under Condition 2.2 of the EP. Mr. David YEUNG of CH2M-IDC Hong Kong Ltd. was appointed as the IEC under Condition 2.1 of the EP. This is the ninth quarterly EM&A report summarizing the EM&A works for the ENT Project between December 2005 and February 2006.

## 2 PROJECT CHARACTERISTICS

### Project Organization and Contacts of Key Management

- 2.1 An organization structure and the line of communication were set up for the Project between the Project Proponent, Engineer's Representative (ER), Independent Environmental Checker (IEC), the Contractor and Environmental Team (ET). The organization chart and contact details are shown in **Appendix A** and **Figure 2**.

### Construction Programme and Synopsis of Work

- 2.2 The construction programme is presented in **Appendix B**. The site activities during the reporting period include:
- Regular blasting at North Portal and South Portal;
  - Soil nailing, box culvert and water-main works at Butterfly Valley;
  - Cut slop, drainage works and haul road construction at Butterfly Valley;
  - Chlorine barrier wall construction at Portion X;
  - Surface blasting and retaining wall construction at Butterfly Valley;
  - Water proofing membrane and lining construction at ENT Tunnel;
  - Excavation and mucking out from tunnels;
  - Pile cap construction at South Portal, North Portal, Toll Plaza and Ventilation Adit;
  - Tunnel drainage, cross passage, ventilation adit shotcreting, OHVD slab, road construction, E&M works and Kiler construction at ENT Tunnel;
  - Excavation, concreting of blinding layer, column and wall at South Portal, North Portal, Toll Plaza and Ventilation Adit;
  - Permanent rock dowels and shotcreting at Ventilation Adit;
  - Footing construction at Ventilation Adit;
  - Footbridge, subway construction and drainage works at Toll Plaza;
  - E&M MSFD installation at ENT Tunnel; and
  - E&M installation work within SHT works area.

### **3 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS**

#### **Monitoring Parameters and Monitoring Locations**

- 3.1 The EM&A Manual designated locations for the ET to monitor environmental impacts in terms of noise and air quality due to the Project. The monitoring locations are depicted in **Figures 1a** and **1b**. **Appendix C** gives details of monitoring requirements.

#### **Monitoring Methodology and Calibration Details**

- 3.2 Monitoring works/equipments were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly EM&A Reports.

#### **Environmental Quality Performance Limits (Action and Limit Levels)**

- 3.3 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective Event Action Plans would be implemented. The Action/Limit Levels for each environmental parameter are provided in **Appendix D**.

#### **Environmental Mitigation Measures**

- 3.4 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manuals for the Contractor to implement. A list of mitigation measures is given in **Appendix G**.

### **4 MONITORING RESULTS**

#### **Weather Conditions**

- 4.1 The weather during monitoring sessions was mainly sunny or cloudy. The weather conditions for each individual monitoring session were presented in the field record sheets.

#### **Air Quality**

##### *1-hr TSP Monitoring*

- 4.2 All 1-hour TSP monitoring was conducted as scheduled during the reporting month.
- 4.3 No Action / Limit Level exceedance was recorded in this reporting quarter.



*24-hr TSP Monitoring*

- 4.4 All 24-hr TSP monitoring was conducted as scheduled in this reporting quarter.
- 4.5 No Action / Limit Level exceedance was recorded in the reporting quarter.
- 4.6 The monitoring data of 1-hr and 24-hr TSP Levels are attached in the appendices of the Monthly Reports for December 2005 to February 2006. The graphical presentations of the monitoring results are shown in **Appendix E**.

**Construction Noise**

- 4.7 Noise monitoring was performed at the four designated locations during the daytime period (0700-1900 hours) on normal as scheduled in this reporting month. Restricted-hour monitoring was also conducted at NM5, NM6 and NM7.
- 4.8 One Action Level exceedance was recorded due to a noise complaint received on 4 January 2006.
- 4.9 One Limit Level exceedance was recorded on 16 February 2006 at NM7 (Garden Villa). According to the field observation, the major noise source was from the breaking activities by other contractor and the exceedance was considered not related to the Project works.
- 4.10 All the Construction Noise Levels (CNLs) 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.
- 4.11 The monitoring data of construction noise are attached in the appendices of the Monthly Reports for December 2005 to February 2006. The graphical presentations of the monitoring results are shown in **Appendix F**.
- 4.12 Construction noise exceedances recorded in the reporting quarter and the associated actions taken are summarized in **Appendix J**.

## 5 ENVIRONMENTAL AUDIT

### Implementation Status of Environmental Mitigation Measures

- 5.1 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 Environmental Mitigation Implementation Status (EMIS) is provided in **Appendix G**.

### Site Audit Summary

- 5.2 ET's weekly site audits were conducted on 6, 14, 22 and 29 December 2005, 4, 11, 19 and 25 January, 2, 6, 16 and 23 February 2006. IEC's monthly site audits were conducted on 6 December 2005, 4 January and 6 February 2006 together with ET.
- 5.3 During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations are summarized in **Table 5.1**.

**Table 5.1 Observations and Recommendations of the Site Audits**

Parameters	Date	Observations / Recommendations	Remedial Actions
<i>Air Quality</i>	6-Dec-05	Uncovered stockpiles of dusty material were identified at Portion D4 (Toll Plaza). The Contractor was recommended to cover the idled stockpiles properly to minimize dust emission.	Rectification / improvement was observed during the site audit on 14-Dec-05.
	14-Dec-05	Deposition of mud and soil was observed on the WTW access road. The Contractor was reminded to improve the performance of wheel washing at the site exit of South Portal area.	Rectification / improvement was observed during the site audit on 22-Dec-05.
	29-Dec-05	Partly covered stockpile was observed at Toll Plaza. The contractor was reminded to cover the stockpile.	Rectification / improvement was observed during the site audit on 4-Jan-06.
	4-Jan-06	Fugitive dust emission was observed from soil nailing work at BVS2. The Contractor was reminded to provide proper cover and sufficient water spray for the works. Immediate action was taken by the Contractor to rectify the problem.	Rectification / improvement was observed during the site audit on 11-Jan-06.
	4-Jan-06 11-Jan-06	Dark smoke was emitted from an air compressor at BVS2. The Contractor was reminded to ensure proper maintenance for the equipment used on site.	Rectification / improvement was observed during the site audit on 19-Jan-06.
	6-Feb-06	Fugitive dust emission was observed during the excavation works at Portion D4 near Administration Building. Immediate actions (water spray) were taken by the Contractor during the audit session.	Immediate action was taken by the Contractor during the audit session.

<b>Parameters</b>	<b>Date</b>	<b>Observations / Recommendations</b>	<b>Remedial Actions</b>
	16-Feb-06	Fugitive dust emission was observed from the drilling works at Portion I1 (South Portal). The Contractor was reminded to implement sufficient dust mitigation measures during the dust emissive works.	Rectification / improvement was observed during the site audit on 23-Feb-06.
	23-Feb-06	Open stockpile was observed in site at Toll Plaza (Portion D4). It should be covered by imperious sheeting if idled or spayed with water.	Rectification / improvement was observed during the site audit on 2-Mar-06.
<b>Noise</b>	14-Dec-05	An air compressor was operated with doors opened at Portion H1 near the existing box culvert. The Contractor was reminded to keep the compressor's doors closed during operation.	Rectification / improvement was observed during the site audit on 22-Dec-05.
	25-Jan-06	Noise label of Air Compressor was found missing at BVS-2. The Contractor was reminded to provide a label for the compressor.	Rectification / improvement was observed during the site audit on 2-Feb-06.
<b>Chemical and Waste Management</b>	6-Dec-05	Fuel oil was observed accumulating inside the drip tray besides the wheel washing bay of Ventilation Adit. The Contractor was reminded to remove the oil as soon as possible to prevent oil spillage.	Rectification / improvement was observed during the site audit on 14-Dec-05.
	14-Dec-05	General refuse scattering on ground was observed at Toll Plaza Portion D4. The Contractor was reminded to dispose of the refuse properly.	Rectification / improvement was observed during the site audit on 22-Dec-05.
	22-Dec-05	Oil dripping on the ground from the blocked hold of drip tray was observed at BVS-4. The contractor was reminded to rectify the situation.	Rectification / improvement was observed during the site audit on 29-Dec-05.
	22-Dec-05 29-Dec-05	Oil stain on the ground near drip tray was observed at Toll Plaza. The contractor was reminded to rectify the situation.	Rectification / improvement was observed during the site audit on 4-Jan-06.
	4-Jan-06	An oil drum was placed on bare ground besides the air compressor at BVS2. A drip tray should be provided for the drum.	Rectification / improvement was observed during the site audit on 11-Jan-06.
	4-Jan-06	Refuse was found scattering on site behind the container barrier and in the sand trap at Ventilation Adit.	Rectification / improvement was observed during the site audit on 11-Jan-06.
	11-Jan-06	A hole was observed on the drip tray at Portion D3. The contractor was reminded to block the hole to prevent oil dripping on the ground.	Rectification / improvement was observed during the site audit on 19-Jan-06.
	11-Jan-06	Oil stain was observed beside drip tray near sub-contractor office at Toll Plaza. The contractor was reminded to collect the stained soil.	Rectification / improvement was observed during the site audit on 19-Jan-06.
	19-Jan-06	Oil drum was placed on the bare ground at Ventilation Adit. The contractor was reminded to provide a drip tray for the oil drum.	Rectification / improvement was observed during the site audit on 25-Jan-06.

<b>Parameters</b>	<b>Date</b>	<b>Observations / Recommendations</b>	<b>Remedial Actions</b>
	25-Jan-06	Oil drum was placed on the bare ground near the Air Compressor at BVS-2. The contractor was reminded to provide a drip tray for the oil drum.	Rectification / improvement was observed during the site audit on 2-Feb-06.
	25-Jan-06	Refuse was found scattering on site near aquar-sed at South Portal. The Contractor was reminded to clean the refuse.	Rectification / improvement was observed during the site audit on 2-Feb-06.
	6-Feb-06	Oil drums at BVS2 and Portion D4 (near subway) were not placed at bunded area. The Contractor was reminded to provide drip trays for the oil drums.	Rectification / improvement was observed during the site audit on 16-Feb-06.
	16-Feb-06	Oil stain was observed at Portion D4 near the Administration Building.	Rectification / improvement was observed during the site audit on 23-Feb-06.
	23-Feb-06	Oil stain was observed in site at Mui Kong Tsuen near AquaSed.	Rectification / improvement was observed during the site audit on 2-Mar-06.
	16-Feb-06	Copy of the Environmental Permit was not posted at the site exit of Ventilation Adit.	Rectification / improvement was observed during the site audit on 23-Feb -06.
<b>Permit / Licenses</b>	16-Feb-06	Copy of the Environmental Permit was not posted at the site exit of Ventilation Adit.	Rectification / improvement was observed during the site audit on 23-Feb -06.
<b>Others</b>	6-Dec-05	Stagnant water was observed besides the North Portal's site sub-office at Portion D4. The Contractor was reminded to divert the water to prevent mosquito breeding.	Rectification / improvement was observed during the site audit on 14-Dec-05.

### **Status of Environmental Licensing and Permitting**

- 5.4 Environmental licenses and permits including the Environmental Permit for the Project were in place and valid during the reporting quarter. The status of all licenses and permits obtained for the Project is summarized in **Appendix H**.

## **6 NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)**

### **Summary of Exceedances**

#### Air Quality

- 6.1 No Action / Limit Level exceedance was recorded.

#### Construction Noise Monitoring

- 6.2 One Action Level exceedance was recorded due to a noise complaint received on 4 January 2006.
- 6.3 One Limit Level exceedance was recorded on 16 February 2006 at NM7 (Garden Villa). According to the field observation, the major noise source was from the breaking activities by other contractor and the exceedance was considered not related to the Project works. No further action was required.

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

- 6.4 There was no non-compliance from the site audits in the reporting quarter. As mentioned previously in the Section 5.2 of this report, the observations and recommendations made in each individual site audit session were presented.

## 7 ENVIRONMENTAL COMPLAINTS

7.1 Two environmental complaints were received in the reporting quarter.

Log no. 51205 (Received on 5 Dec 05)

7.2 The complaint was raised by the management company of Villa Carlton, regarding dust emission at the Caldecott Road Junction. The complainant considered that the amount of water spraying by the Contractor was insufficient to suppress dust emission at Caldecott Road Junction.

7.3 Since the previous complaint of similar nature (ET's Log no.51025) was lodged, the Contractor had implemented several dust mitigation measures to alleviate the dust impact at the Caldecott Road junction. The condition was found satisfactory and sufficient dust mitigation measures were in place as observed during the weekly environmental audit and the ad-hoc inspection carried out by ET on 6, 8 and 14 December 2005. Therefore, the complaint was considered not justifiable and the complaint investigation report was submitted on 23 December 2005.

Log no. 60104 (Received on 4 Jan 06)

7.4 One environmental complaint (Log no. 60104) was received on 4 January 2006 from EPD. According to EPD's information, the complainant, who walked along Tai Po Road on 1-2 January 2006, commented that construction dust and noise was noted on 1-2 January 2006 during daytime when he pass Garden Villa. The site of concern was likely to be ENT's Toll Plaza and Administration Building. Complaint investigation was undertaken by ET. Based on the monitoring results, the complaint was considered not justifiable. The complaint investigation report was submitted on 13 January 2006.

7.5 The details of the complaints, the investigation results and the mitigation actions are summarized in **Appendix I**. There were 22 complaints received since the Project commencement.

## **8 NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS**

- 8.1 No notification of summon or successful prosecution was recorded in this reporting quarter.
- 8.2 There was no notification of summon or successful prosecution received since the Project commencement.

## **9 COMMENTS, CONCLUSIONS AND RECOMMENDATIONS**

- 9.1 Major site activities for coming months include:

### *ENT Tunnel*

- Water-proofing membrane, tunnel lining, OHVD slab, road slab, tunnel drainage, cross passage, Ventilation Adit lining, Kicker construction, OHVD soffit and E&M works.

### *Butterfly Valley*

- Cut slope and haul road, soil nailing, box culvert, retaining wall, water mains construction, noise barrier footing, drainage works, roc dowel and earth filling works.

### *South Portal Building*

- Concreting of columns, walls and slab at 3/F levels.

### *North Portal Building*

- Concreting of columns, walls and slabs at 3/F and 4/F levels.

### *Toll Plaza's Structures and Administration Building*

- Footbridge and subway, drainage, concreting of columns, walls and slabs for workshop.

### *Ventilation Adit Tunnel and Building*

- Concreting of columns, walls and slabs at 2/F to exhaust vent shaft floor.

### *Other Works Areas*

- Chlorine barrier wall construction at Portion X.
- E&M installation works within SHT works area.
- Plastering and painting of wall at SHT Portal Buildings.

- 9.2 The anticipated environmental impacts will be mainly on water quality impact at Butterfly Valley and Toll Plaza during wet season.

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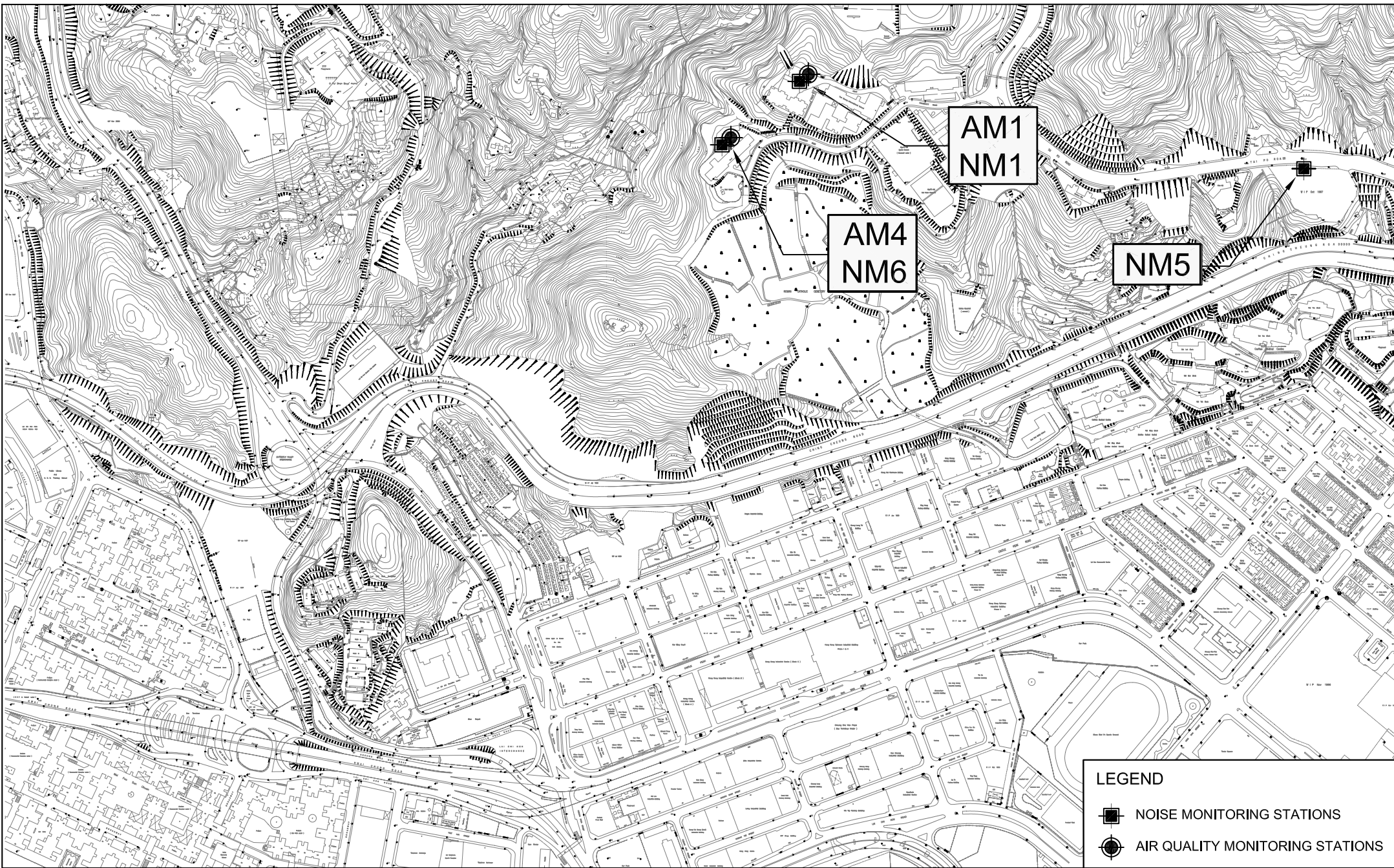
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## FIGURES

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LEGEND	
	NOISE MONITORING STATIONS
	AIR QUALITY MONITORING STATIONS

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

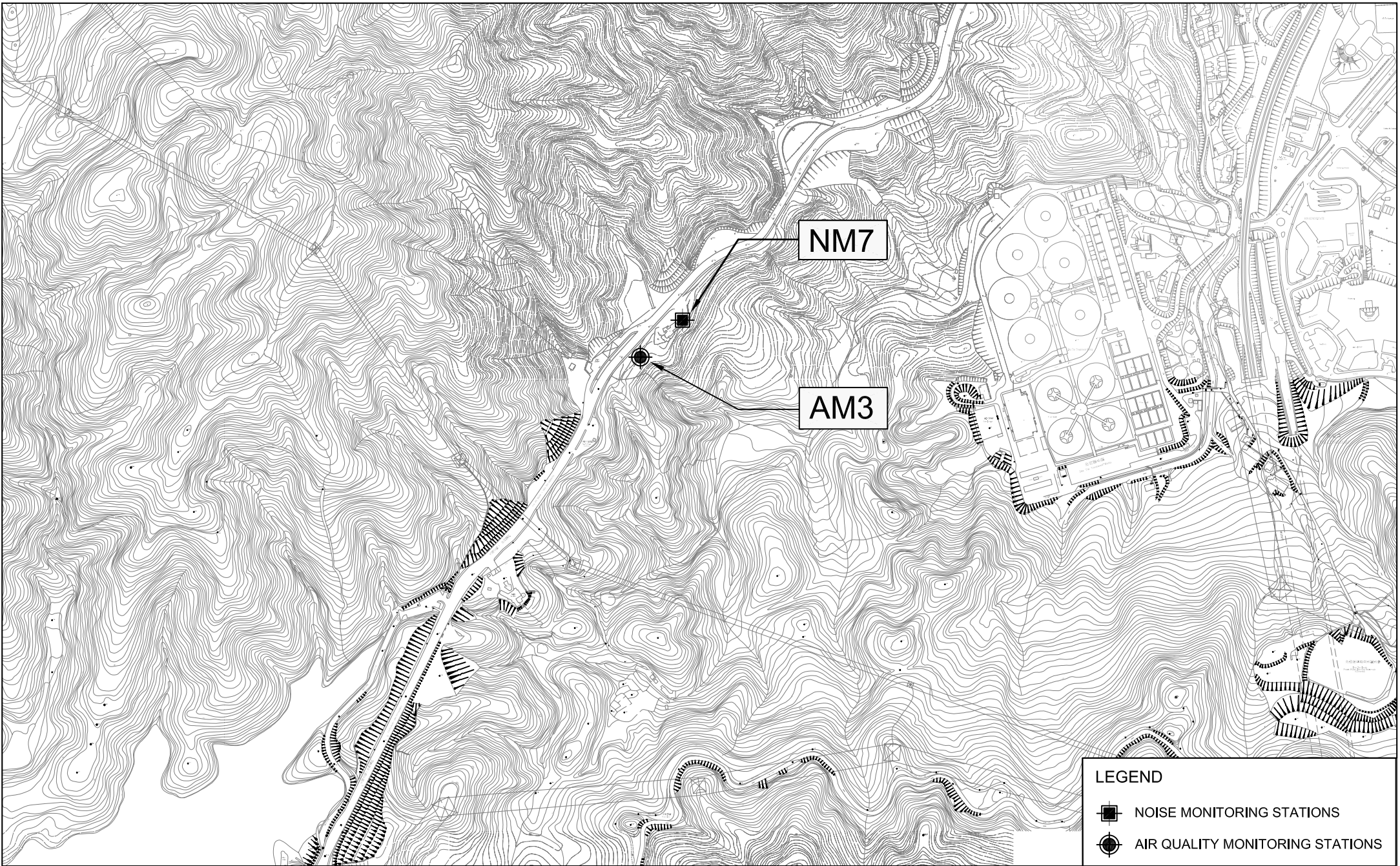
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2005

Project No.  
MA3024

Figure No.  
1a





LEGEND	
	NOISE MONITORING STATIONS
	AIR QUALITY MONITORING STATIONS

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**

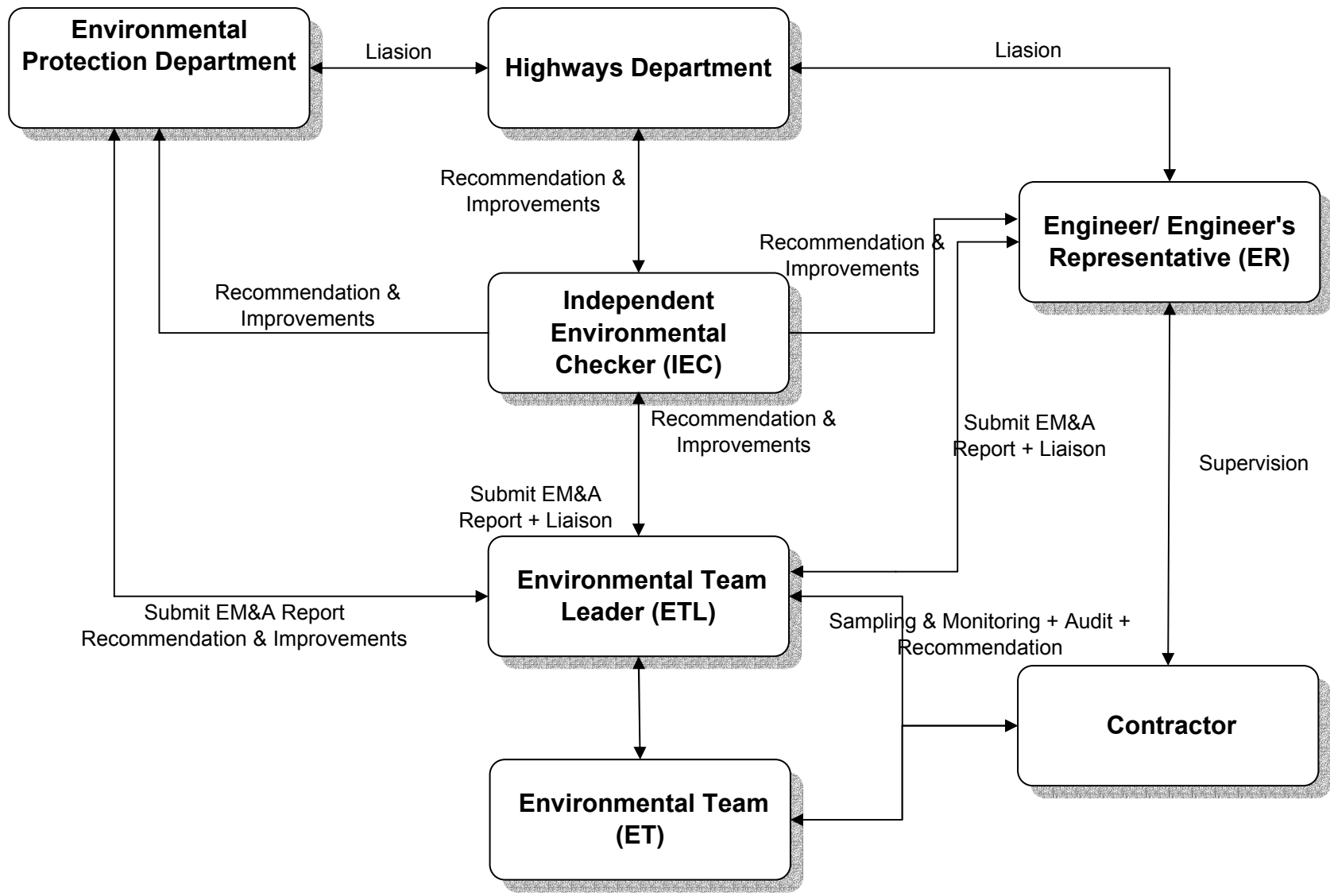
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Date  
 2005

Project No.  
 MA3024

Figure No.  
 1b





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

Environmental Monitoring and Audit Organization Chart

Scale N.T.S

Date 2006

Project No. MA3024

Figure 2



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**APPENDIX A  
CONTACT DETAILS OF THE PROJECT  
ORGANISATION**

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## Appendix A - Contact Details of the Project Organisation (ENT)

Permit No.	Valid Period		Details	Status
	From	To		
<b>Environmental Permit (EP)</b>				
EP-103/2001/C	22/07/05	N/A	<p><u>Construction and operation of</u></p> <p>(a) All civil works (including highways, traffic, geotechnical, drainage, structural, architectural and landscaping works) for the Lai Chi Kok Viaduct, the interchange with Ching Cheung Road, the main road within Butterfly Valley and the Eagle's Nest Tunnel;</p> <p>(b) All E&amp;M works (including ventilation, Traffic Control &amp; Surveillance System (TCSS), toll collection system and lighting) for the whole Route 9 between Cheung Sha Wan and Sha Tin;</p> <p>(c) The permanent slope works above the northern portal of the Eagle's Nest Tunnel;</p> <p>(d) The architectural works (including fitting out and furnishings) of the portal buildings of the Sha Tin Heights Tunnel.</p>	Valid
<b>Registration of Chemical Waste Producer</b>				
WPN 5213-761-L2595-01	26/01/04	N/A	N/A	Valid
<b>Water Discharge Licence</b>				
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
<b>Construction Noise Permit (CNP)</b>				
GW-RW0643-05	08/10/05	07/04/06	<p><i>Location:</i> Butterfly Valley</p> <p><i>Time period:</i> general holiday (including Sundays) between 0700 and 2300 hours, and any other day between 1900 and 2300 hours.</p>	Valid
GW-RW0073-06	07/2/06	4/5/06	<p><i>Location:</i> Butterfly Valley</p> <p><i>Time period:</i> General holidays (including Sundays) between 2300 to 0700 hrs</p>	Valid
GW-RW0043-06	6/2/06	5/8/06	<p><i>Location:</i> Ventilation Adit</p> <p><i>Time period:</i> general holiday (including Sundays) between 0700 and 2300 hours, and any other day between 1900 and 2300 hours.</p>	Valid

Permit No.	Valid Period		Details	Status
	From	To		
GW-RN0532-05	04/10/05	03/04/06	<i>Location:</i> South Portal <i>Time period:</i> general holiday (including Sundays) between 0900 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid
GW-RN0447-05	04/10/05	03/04/06	<i>Location:</i> South Portal <i>Time period:</i> Any day between 2300 and 0700 hours on next day.	Valid
GW-RN0449-05	04/10/05	03/04/06	<i>Location:</i> North Portal <i>Time period:</i> general holiday (including Sundays) between 0900 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid
GW-RN0448-05	04/10/05	03/04/06	<i>Location:</i> North Portal <i>Time period:</i> Any day between 2300 and 0700 hours on next day.	Valid
GW-RN0537-05	11/11/05	10/05/06	<i>Location:</i> Toll Plaza <i>Time period:</i> general holiday (including Sundays) between 0900 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid
GW-RN0593-05	08/12/05	07/06/06	<i>Location:</i> South and North Portal Buildings <i>Time period:</i> general holiday (including Sundays) between 0900 and 2400 hours, and any other day between 1900 and 2400 hours.	Valid

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**APPENDIX B**  
**CONSTRUCTION PROGRAMME**

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Data Date 20FEB06  
Run Date 25FEB06 14:20

### 3 MONTH ROLLING PROGRAMME

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

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC	JAN	FEB	MAR	APR	MAY	JUN
										27	28	29	30	31	32	33

#### GENERAL & PRELIMINARIES

#### CONTRACT DEFINED DATES, STAGES & SECTIONS

##### STAGES OF THE WORKS

KD04	KD-4 Achievement of Stage 4 (17.Dec.05) 03jan06	0		10APR06	0	100	0	-97	-227							
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##### SECTIONS OF THE WORKS

KD13	KD-13 Compl.Section 5 (10.Jul.05) 15sep05	0		25MAR06	0	100	0	-191	-294							
KD22	KD-22 Compl.Section 14 (01June05) 5Jul05	0		07APR06	0	100	0	-276	-357							
KD14	KD-14 Compl.Section 6 of the works (24.Nov.06)	0		13APR06	0	0	0	225	-26							

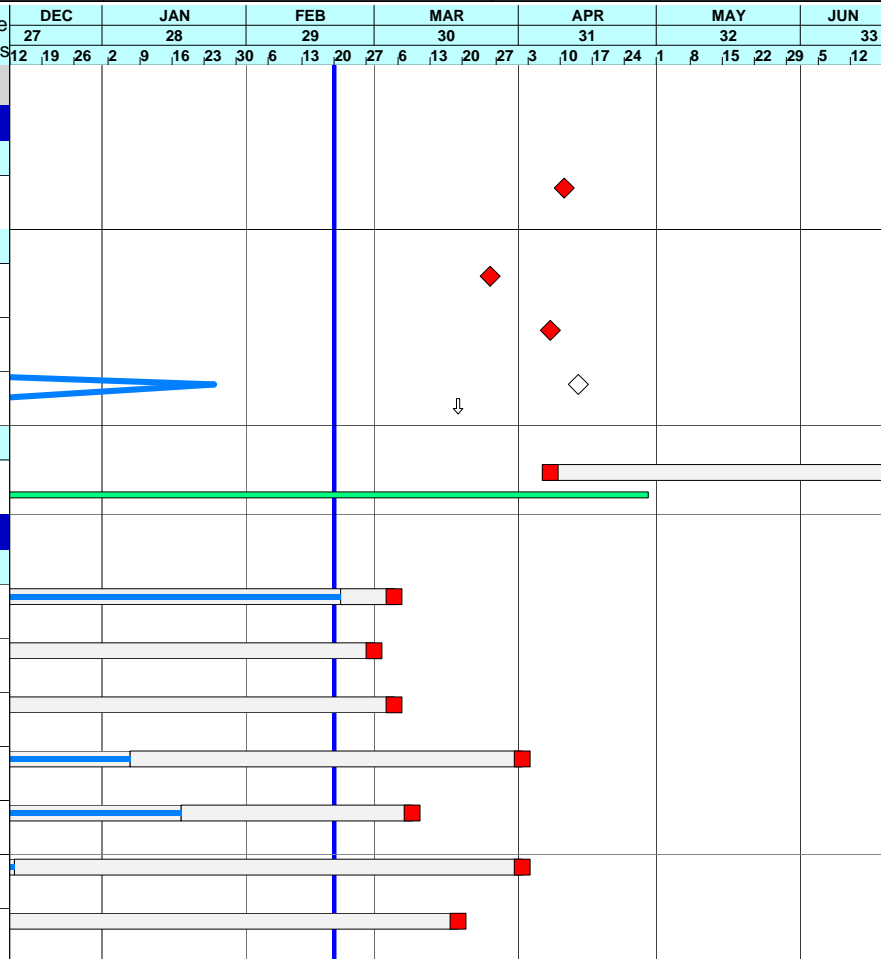
#### PROGRAMME RESTRAINTS

EXC05	LCK Contr.to erect Noise Enclosure C3,C4 & I2	350	08APR06	23MAR07	0	0	350	-255	-329							
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#### SUBMITTALS & APPROVALS

##### DRAWING SUBMITTAL & APPROVAL

8034	Prep.& Sub. Independ't Serv. Dwgs for SHT&T3&LCK	48	04AUG04A	04MAR06	98	100	12	-2	-366							
8024	Engineer Comment / Approve ENT ISD Submissions	18	06AUG04A	28FEB06	85	100	8	-122	-482							
8030	Res-sub. & Approv of ENT ISD	24	06SEP04A	04MAR06	70	100	12	-122	-462							
8035	Engineer Comment / Approve SHT&T3LCK ISD Sub.	24	13SEP04A	01APR06	85	100	12	-26	-366							
8032	Engineer Comment / Approve SHT&T3&LCK CSD Sub.	18	25OCT04A	08MAR06	90	100	15	-26	-441							
8036	Re-sub. & Approv of SHT & T3 & LCK ISD	36	31MAR05A	01APR06	70	100	36	-26	-330							
8033	Re-sub. & Approv. of SHT & T3 & LCK CSD	24	28JUN05A	18MAR06	60	100	24	-26	-426							



### LEIGHTON - KUMAGAI JV R8- EAGLE'S NEST TUNNEL DETAILED WORKS PROGRAMME REVISION C

Proj. Name: W16C  
 Layout: 3 MONTHS ROLLING PROGRAMME  
 Filter: 3 MONTH ROLLING PROGRAMME  
 Current Proj: W16C  
 Target 1 Proj: BLRC  
 Target 2 Proj: EOT7

LKJV/ENT/DWP/B

Date	Revision	Checked	Approved
25FEB06	Programme update Feb	GW/CC	RB





Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC							JAN				FEB				MAR				APR				MAY				JUN						
										12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12							
<b>BUTTERFLY VALLEY</b>																																											
<b>CONTRACT KEY DATES &amp; MILESTONES</b>																																											
<b>AREA ACCESS &amp; VACATION DATES</b>																																											
VCT_X	Release of Portions - X	0		22APR06	0	100	0	777	-258																																		
<b>CONSTRUCTION WORKS</b>																																											
<b>EARTHWORKS &amp; SLOPEWORKS</b>																																											
<b>SLOPE SP-S2 &amp; SP-S3</b>																																											
SLOPE STABILISATION (SOIL NAILS, ROCK BOLTS ETC)																																											
1110	SP-S2/S3 Inst. Soil Nails & Test (97nr.w/3rig)	18	08SEP05A	10MAR06	0	100	17	61	-479	[Gantt bar: 08SEP05A to 10MAR06]																																	
3798	SP-S2/S3 hydro-seeding & tensar mat	24	11MAR06	08APR06	0	100	24	188	-479	[Gantt bar: 11MAR06 to 08APR06]																																	
<b>SLOPE BV-S2</b>																																											
EXCAVATION (SOFT & ROCK)																																											
2692	BV-S2/9 (South) Slope excvtn (rock & some soft)	83	05SEP05A	28FEB06	80	100	8	-153	-240	[Gantt bar: 05SEP05A to 28FEB06]																																	
2695	BV-S2/10 (South) Slope excvtn (rock & some soft)	22	20FEB06	16MAR06	0	100	22	-153	-221	[Gantt bar: 20FEB06 to 16MAR06]																																	
SLOPE STABILISATION (SOIL NAILS, ROCK BOLTS ETC)																																											
2694	BV-S2/9 Inst. Rock bolts & Test (4nr.w/1.rig) D6/8	5	01DEC05A	24FEB06	60	100	5	-153	-239	[Gantt bar: 01DEC05A to 24FEB06]																																	
2691	BV-S2/8 Inst. Rock bolts & Test (60nr.w/3.rig)	22	01MAR06	25MAR06	0	100	22	175	-341	[Gantt bar: 01MAR06 to 25MAR06]																																	
2696	BV-S2/10 Row B3 Soil Nails & Test 39nr.w/2.rig	11	06MAR06	17MAR06	0	100	11	-153	-221	[Gantt bar: 06MAR06 to 17MAR06]																																	
HYDRO-SEEDING & TENSAR MAT																																											
3805	BV-S2 Berm 8 hydro-seeding & tensar mat	12	20NOV05A	04MAR06	30	100	12	217	-225	[Gantt bar: 20NOV05A to 04MAR06]																																	
3811	BV-S2 Berm 9 hydro-seeding & tensar mat	12	27MAR06	10APR06	0	100	12	175	-241	[Gantt bar: 27MAR06 to 10APR06]																																	
3812	BV-S2 Berm 10 hydro-seeding & tensar mat	12	11APR06	27APR06	0	100	12	175	-226	[Gantt bar: 11APR06 to 27APR06]																																	
SURFACE DRAINAGE																																											
3694	BV-S2 Berm 7 Surface drainage	14	25APR05A	04MAR06	20	100	12	661	-334	[Gantt bar: 25APR05A to 04MAR06]																																	
3695	BV-S2 Berm 8 Surface drainage	14	28NOV05A	04MAR06	50	100	12	177	-237	[Gantt bar: 28NOV05A to 04MAR06]																																	
3696	BV-S2 Berm 9 Surface drainage	14	06MAR06	21MAR06	0	100	14	177	-237	[Gantt bar: 06MAR06 to 21MAR06]																																	
3697	BV-S2 Berm 10 Surface drainage	14	22MAR06	07APR06	0	100	14	177	-224	[Gantt bar: 22MAR06 to 07APR06]																																	
<b>SLOPE BV-S3</b>																																											
HYDRO-SEEDING & TENSAR MAT																																											
3806	BV-S3 hydro-seeding & tensar mat to +41.0mPD	60	24DEC05A	27JAN06A	100	100	0		-281	[Gantt bar: 24DEC05A to 27JAN06A]																																	

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	Month																											
										DEC	JAN	FEB	MAR	APR	MAY	JUN																					
											27	28	29	30	31	32	33																				
											12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12
HYDRO-SEEDING & TENSAR MAT																																					
3913	BV-S3 hydro-seeding & tensarmat to +56.0mPD	24	24DEC05A	04MAR06	0	100	12	217	-244																												
SURFACE DRAINAGE																																					
1984	BV-S3 Slope Surface Drainage +56.0mPD	35	13JAN06A	24JAN06A	100	100	0		-241																												
SLOPE BV-S4																																					
SLOPE STABILISATION (SOIL NAILS, ROCK BOLTS ETC)																																					
2352	BV-S4/4b Row A2/A3 Soil Nail & Test 28nr.w/2rig	13	11AUG05A	04MAR06	60	100	12	64	-524																												
SLOPE FINISHES																																					
1139	11NW&434 BV-S4/1-2-3bcd-4b Hydro-seed/Tensarmat	18	20FEB06	11MAR06	0	100	18	58	-437																												
2380	BV-S4/3a-4a & 5 hydro-seeding & tensarmat	12	13MAR06	25MAR06	0	100	12	58	-409																												
SURFACE DRAINAGE																																					
3705	BV-S4/3 Surface Drainage	8	17MAR05A	21JAN06A	100	100	0		-506																												
3706	BV-S4/4 Surface Drainage	12	20DEC05A	11MAR06	0	100	18	64	-429																												
SLOPE SP-S1																																					
SURFACE DRAINAGE																																					
3711	Sp-S1/4 Surface Drainage	7	06JUL04A	27FEB06	40	100	7	222	-462																												
RC STRUCTURES																																					
RETAINING WALL BV-R1																																					
CONCRETE WORKS																																					
1145	BV-R1(A) RC Base Slab ch.2+060	18	06JAN06A	28FEB06	75	100	8	-22	-222																												
1147	BV-R1(B) RC Base Slab ch.2+070 to B1(BP wall)	18	13JAN06A	07MAR06	50	100	14	-28	-216																												
1146	BV-R1(A) RC Ret.Wall ch.2+060	18	13FEB06A	07MAR06	10	100	14	-10	-222																												
1143	BV-R1(C) Pile Capping Beam	18	01MAR06	21MAR06	0	100	18	-22	-171																												
1148	BV-R1(B) RC Ret.Wall ch.2+070 to B1(BP wall)	18	08MAR06	28MAR06	0	100	18	-28	-219																												
1160	BV-R1(C) Extend BP Wall	18	22MAR06	12APR06	0	100	18	-22	-171																												
EXCAVATION (SOFT & ROCK)																																					
2700	BV-R1 Excavation (BV-S2/8 rock)	61	23JUL05A	11MAR06	0	100	18	655	-269																												
FINISHES																																					
1144	BV-R1(C) Wall Finishes to BP Wall	15	13APR06	04MAY06	0	100	15	74	-171																												
1150	BV-R1 Wall finishes	60	06MAY06	17JUL06	0		60	74	-171																												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC	JAN	FEB	MAR	APR	MAY	JUN
										27	28	29	30	31	32	33
<b>RETAINING WALL BV-R2</b>																
CONCRETE WORKS																
1116	BV-R2 (7) Capping Beam and wall	30	13DEC05A	17FEB06A	100	100	0		-310							
1117	BV-R2 (8) Capping Beam and wall	30	11MAR06	19APR06	0	100	30	61	-328							
FINISHES																
1123	BV-R2 Wall finishes	60	06MAY06	17JUL06	0	100	60	61	-298							
BACKFILLING																
1122	BV-R2(A&B) Granular Drain & Compacted Backfill	36	07APR05A	25FEB06	5	100	6	74	-215							
1126	BV-R2(C) Granular Drain & Compacted Backfill	6	20APR06	26APR06	0	100	6	111	0							
<b>STEPPED CHANNEL &amp; BOX CULVERT</b>																
CONCRETE WORKS																
1911	Box culvert bays (32to43) ch.2+010 to 2+110	55	20SEP05A	27MAR06	50	100	31	-203	-251							
<b>INLET HEADWALLS</b>																
INLET HEAD WALL																
3797	Inlet headwall ch.1+830	66	16FEB06A	06MAY06	5	100	60	169	-347							
3715	Inlet headwall @SP-S2/3	30	11MAR06	19APR06	0	100	30	182	-491							
3796	Inlet headwall ch.1+810	66	17MAR06	09JUN06	0	100	66	141	-375							
<b>WSD WORKS</b>																
<b>WSD 900 MAIN DIVERSION</b>																
1929	Inst.900.dia pipe (incl.thrust blocks) westside	90	19JUL05A	25JAN06A	100	100	0		-339							
1174	Inst.DN900 pipe (incl.thrust blocks) to BV-S4	66	01AUG05A	25JAN06A	100	100	0		-357							
3163	DN900 main clean/pressure test & WSD approve	54	26JAN06A	13FEB06A	100	100	0		-375							
1175	DN900 connection by WSD	12	20FEB06	03MAR06	0	100	12	-72	-447							
1176	DN900 WSD Diversion Implemented	0		03MAR06	0	100	0	-72	-393							
<b>WSD 2x600 MAIN DIVERSION</b>																
1169	Inst.2xDN600 WSD Pipe down BV-S2/6-7	90	21JUL05A	22APR06	70	100	50	56	-346							
1165	Construct DN600 pipe tunnel	66	26SEP05A	10FEB06A	100	100	0		-280							
1167	Inst.DN600 WSD Pipe along BV-S2/8 (CH140>200)	40	31OCT05A	16MAR06	0	100	22	18	-113							
1164	Inst.DN600 WSD Pipe in Pipe Tunnel	18	29NOV05A	23JAN06A	100	100	0		-235							

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC	JAN	FEB	MAR	APR	MAY	JUN	
										27	28	29	30	31	32	33	
<b>WSD 2x600 MAIN DIVERSION</b>																	
1163	Inst.DN600 WSD Pipe along BV-S2/8 (CH140>45)	30	20FEB06	25MAR06	0	100	30	29	-209								
1166	Construct DN600 Pipe Bridge 'D' (CH225>280)	30	16MAR06	24APR06	0	100	30	29	-371								
3791	DN600 main clean/pressure test & WSD approve	40	25APR06	03JUN06	0	100	40	36	-215								
<b>WSD 200 MAIN</b>																	
2338	Inst.DN200 pipe (incl.thrust blocks) to BV-S4	60	03OCT05A	31MAR06	20	100	35	-98	-412								
2340	DN200 connection by WSD	12	25MAR06	05APR06	0	100	12	-126	-515								
3164	DN200 main clean/pressure test & WSD approve	54	06APR06	29MAY06	0	100	54	-126	-515								
2341	DN200 WSD Diversion Implemented	0		29MAY06	0		0	-126	-515								
<b>TERRAIN MITIGATION</b>																	
<b>NTMM - BV-S2</b>																	
2392	NTMM - Constr.Peforated Drain Channel	24	11JUL05A	04MAR06	80	100	12	-153	-323								
2350	NTMM - Afforestation of Area	60	15MAR06	30MAY06	0	100	60	149	-331								
<b>NTMM - CULVERT 'A'</b>																	
<b>CONCRETE WORKS</b>																	
2388	Culvert 'A' - Constr.Culvert 'A' Ch.2+140	18	13FEB06A	09MAR06	0	100	16	149	-210								
<b>SOIL STABILISATION (SOIL NAILS,ROCK BOLTS ETC)</b>																	
2386	Culvert 'A' - excavate gabion benches Ch.2+140	4	10MAR06	14MAR06	0	100	4	149	-236								
<b>FINISHES</b>																	
2387	Culvert 'A' - place gabions Ch.2+140	4	15MAR06	18MAR06	0	100	4	649	-236								
<b>RECREATED STREAM</b>																	
3808	Recreated stream DN525 pipe (east) ch.1+740	18	20FEB06	11MAR06	0	100	18	-26	-510								
1927	Recreated stream (east) ch.1+720 to 2+010	64	03APR06	23JUN06	0	100	64	-44	-182								
3809	Recreated stream pond [east] ch.1+880	36	12MAY06*	23JUN06	0	100	36	-44	-182								
3810	Recreated stream pond [east] ch.1+920	36	12MAY06	23JUN06	0	100	36	129	-182								
<b>EXCISION WORKS - NOISE BARRIERS &amp; ENCLOSURES</b>																	
<b>NOISE BARRIER (SB)</b>																	
2741	SB Barrier.Fnds.-RC Base (C2) 7m	58	10JAN06A	10APR06	5	100	42	-76	-180								

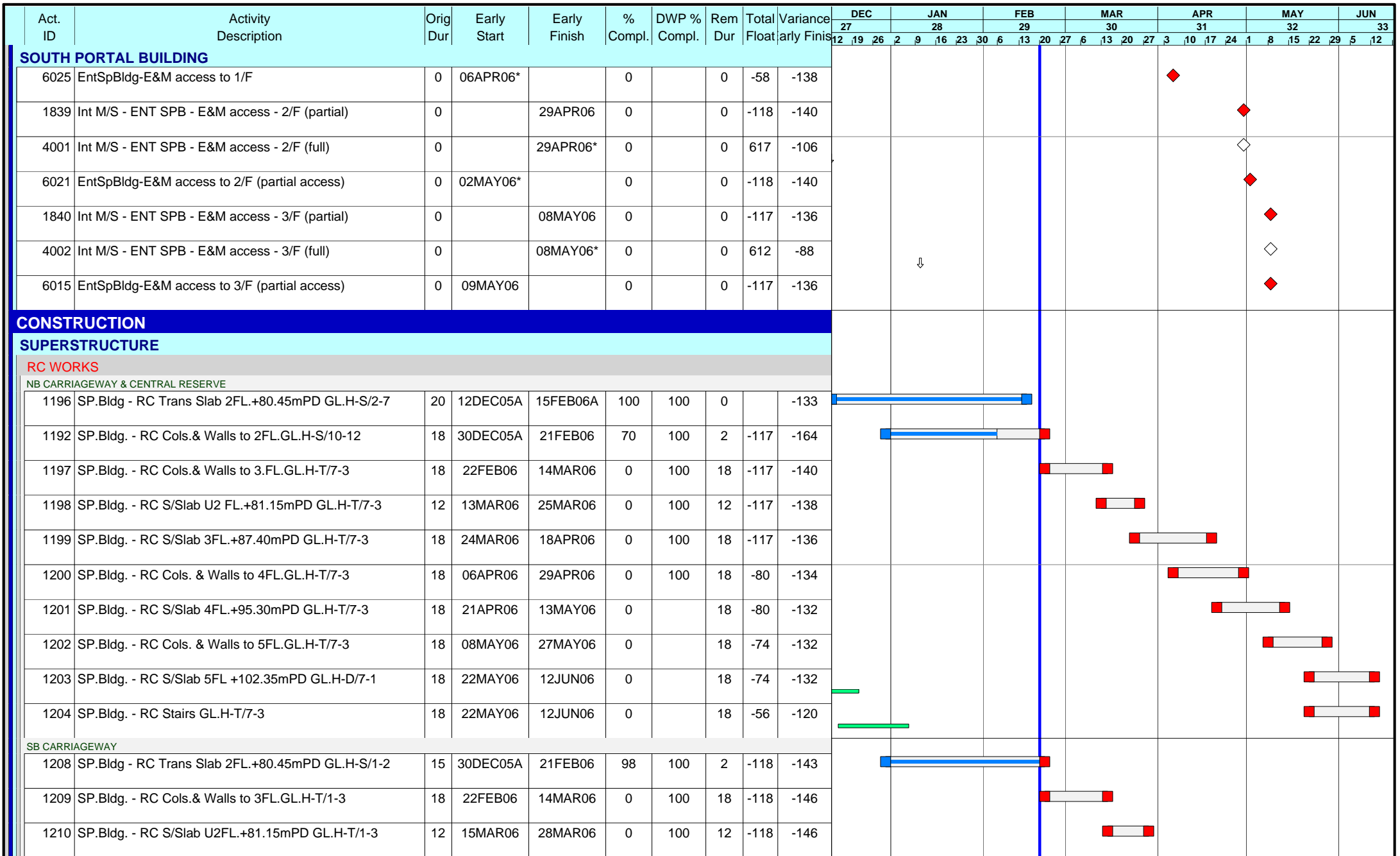
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC				JAN				FEB				MAR				APR				MAY				JUN					
										27	28	29	30	27	28	29	30	27	28	29	30	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13
<b>NOISE SEMI-ENCLOSURE [SB]</b>																																							
2739	SB Semi-Encl.Fnds.- RC Base (C3,C4,I2) Type B	51	14DEC05A	07APR06	10	100	40	-223	-288																														
2735	SB Semi-Encl.Fnds.- RC Base (C4) Type D	23	20FEB06	17MAR06	0	100	23	-206	-285																														
2737	SB Semi-Encl.Fnds.- RC Base (I2) Type E	14	20FEB06	07MAR06	0	100	14	-197	-262																														
2733	SB Semi-Encl.Fnds.- RC Base (C3) Type C	20	15MAR06	07APR06	0	100	20	-223	-326																														
<b>SB/NB ROADWORKS &amp; FINISHES</b>																																							
<b>ROADS - FORMATION</b>																																							
<b>FILLING</b>																																							
1103	BV Compact.Fill to Form.ch.1+920 to 2+020	84	14JUN04A	11MAR06	90	100	18	-201	-305																														
1102	BV Compact.Fill to Form.ch.2+020 - 2+200	48	11AUG04A	11MAR06	90	100	18	-201	-341																														
2732	BV Compact.Fill to Form.ch.1+860 to 1+920	78	03OCT05A	25MAR06	90	100	30	-154	-275																														
<b>DRAINAGE</b>																																							
2381	SB/NB Sth.Appr.Rd.Drainage ch.2+030 - 2+200	114	03JAN06A	29APR06	8	100	56	-204	-265																														
2727	BV.Appr.Rd.Drainage ch.1+780 to 1+920	62	20FEB06	09MAY06	0	100	62	-162	-245																														
1178	BV.Appr.Rd.Drainage ch.1+920 to 1+960	44	06MAR06	29APR06	0	100	44	-174	-299																														
2726	SB/NB Sth.Appr.Rd.Drain Testing ch.2+030 - 2+200	42	29MAR06	23MAY06	0	100	42	-204	-265																														
2721	BV.Appr.Rd.Drain Testing ch.1+920 to 1+960	30	02MAY06	07JUN06	0	100	30	28	-299																														
2728	BV.Appr.Rd.Drain Testing ch.1+860 to 1+920	36	10MAY06	21JUN06	0		36	66	-245																														
<b>SURFACING</b>																																							
2383	SB/NB Sth.Appr.Rd.Surf.(Type I) ch.2+020 - 2+200	89	24MAY06	06SEP06	0		89	-204	-232																														
<b>ROADS - FINISHES</b>																																							
2742	TCSS Ducts NB & SB Carriageway ch.1+800 to 1+900	90	06APR06	27JUL06	0	100	90	-162	-221																														
2717	BV CLP Inst.HV cable duct to SP	60	08APR06	23JUN06	0	100	60	-156	-258	dwg.. 2810A																													
1253	TCSS Ducts NB & SB Carriageway ch.1+920 to 2+200	90	24APR06	10AUG06	0		90	-174	-259																														
<b>KIOSKS</b>																																							
<b>KIOSK 3</b>																																							
2260	Kiosk K3 - Substructure	9	24MAY06	03JUN06	0		9	56	-265																														

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC	JAN	FEB	MAR	APR	MAY	JUN	
										27	28	29	30	31	32	33	
<b>EVA ROADWORKS &amp; FINISHES</b>																	
<b>SB (EAST SIDE) EVA ROADWORKS</b>																	
FILLING																	
1980	BV Fill Temp.covered culvert ch.2+000	12	20FEB06	04MAR06	0	100	12	-52	-182								
2378	BV Fill to Formation (east) ch.1+840 - 1+980	24	06MAR06	01APR06	0	100	24	-52	-182								
DRAINAGE																	
1979	SB EVA rd.drainage (east) ch.2+000 to 2+200	31	11APR05A	04MAR06	75	100	12	74	-190								
1978	SB EVA rd.drain testing (east) ch.2+000 to 2+200	18	06MAR06	25MAR06	0	100	18	74	-190								
<b>NB (WESTSIDE) EVA ROADWORKS</b>																	
FILLING																	
1149	Granular Drain & Comp.B/Fill to BV-R1 Wall	36	29MAR06	16MAY06	0	100	36	-28	-177								
DRAINAGE																	
2730	NB EVA Rd.Drainage (west) ch.2+020 to 2+190	31	17MAY06	22JUN06	0		31	-28	-159								
<b>EXCISION WORK-SHEK LEI PUI WATER TREATMENT PLANT</b>																	
2751	Soilid Barrier Type II - Cladding	30	20FEB06*	25MAR06	0	100	30	-152	-297								
2752	Soilid Barrier Type I - Cladding	18	20FEB06	11MAR06	0	100	18	-146	-267								
2753	Soilid Barrier Type III - Cladding	24	20FEB06	18MAR06	0	100	24	-146	-249								
2754	Soilid Barrier Type IV - Cladding	18	20FEB06	11MAR06	0	100	18	-140	-225								
TARG1	Target Date WTW - complete	0		25MAR06	0	100	0	-191	-294								
<b>ENT SOUTH PORTAL VENTILATION BUILDING</b>																	
<b>SUBMITTALS &amp; APPROVALS</b>																	
<b>E&amp;M EQPT. &amp; MATERIAL.SUBMITTALS</b>																	
8201	EntSpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	02MAR06	95	100	10	-132	-289								
8212	EntSpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	24FEB06	99	100	5	-17	-150								
8207	EntSpBldg-Sub.FS wet sys	54	05AUG04A	24FEB06	99	100	5	-44	-273								
8208	EntSpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	02MAR06	95	50	10	-58	-100								
8200	EntSpBldg-Sub.CMCS & ELV sys	78	26AUG04A	08MAR06	98	100	15	-108	-249								
8205	EntSpBldg-Sub.PD irrig. sys	54	04FEB05A	09MAR06	85	100	16	-80	-290								





Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	Month							
										DEC 27	JAN 28	FEB 29	MAR 30	APR 31	MAY 32	JUN 33	
<b>PROCUREMENT - MATERIAL</b>																	
7616	EntSpBldg-Proc & Manuf. HV/LV cable	180	20MAY05A	01AUG06	65	100	63	-138	-180								
6012	EntSpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	05JUN06	30	100	84	-44	-214								
6761	EntSpBldg-Proc & Manuf. TVF,Ductwks & Cont'l sys	180	09JUN05A	04JUL06	40	100	108	-74	-156								
6010	EntSpBldg-Proc & Manuf. Cleans & flush water sys	120	30SEP05A	22JUN06	10	100	90	-41	-235								
8492	EntSpBldg-Proc & Manf bldg related luminaires	180	23NOV05A	22JUN06	90	100	30	-77	-136								
6035	EntSpBldg-Proc & Manuf. MVAC Package AC Units	120	11JAN06A	21SEP06	10		90	-82	-140								
6009	EntSpBldg-Proc & Manuf. MVAC mech.vent. sys	120	03MAR06	29JUL06	0	100	120	-102	-223								
6011	EntSpBldg-Proc & Manuf. PD irrig. sys	120	13MAR06	08AUG06	0	100	120	-80	-274								
6751	EntSpBldg-Proc & Manuf. MVAC / TVF pneumatic sys	120	17MAY06	06OCT06	0		120	-106	-140								
<b>ABWF WORKS</b>																	
1951	SP.Bldg. - Procure aluminium cladding	180	19APR05A	04MAR06	80	100	12	-86	-78								
2030	SP.Bldg. - Initial deliver balust & metal works	0	07MAR06		0	100	0	-27	0								
1977	SP.Bldg. - Initial deliver doors & windows	0	11APR06		0		0	-56	0								
2018	SP.Bldg. - Initial deliver fall arrest system	0	02MAY06		0		0	-16	0								
2017	SP.Bldg. - Initial delivery louvres	0	22MAY06		0		0	-86	0								
2019	SP.Bldg. - Initial deliver slate cladding	0	22MAY06		0		0	-86	0								
2029	SP.Bldg. - Initial deliver aluminium cladding	0	22MAY06		0		0	-86	0								
<b>MAJOR EQUIPMENT DELIVERY</b>																	
7617	EntSpBldg-Del. HV/LV main & submain cable	48	20FEB06A	02SEP06	50		22	-138	-160								
<b>E&amp;M ACCESS DATES</b>																	
<b>SOUTH PORTAL BUILDING</b>																	
1817	Int M/S - ENT SPB - E&M access - G/F	0		28MAR06	0		0	-46	-138								
6023	EntSpBldg-E&M access to G/F	0	29MAR06*		0		0	-46	-138								
1838	Int M/S - ENT SPB - E&M access - 1/F	0		04APR06	0		0	-58	-138								



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance early Finish	DEC		JAN			FEB			MAR			APR			MAY			JUN															
										27	26	29	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	33							
<b>SB CARRIAGEWAY</b>																																										
1211	SP.Bldg. - RC S/Slab 3FL.+87.40mPD GL.H-T/1-3	12	22MAR06	04APR06	0	100	12	-109	-146																																	
1212	SP.Bldg. - RC Cols.& Walls to 4FL.GL.H-T/1-3	18	29MAR06	22APR06	0	100	18	-70	-146																																	
1213	SP.Bldg. - RC S/Slab 4FL.+95.30mPD GL.H-T/1-3	12	13APR06	29APR06	0		12	-70	-146																																	
1214	SP.Bldg. - RC Cols.& Walls to 5FL.GL.H-T/1-3	18	24APR06	16MAY06	0		18	-70	-146																																	
1215	SP.Bldg. - RC S/Slab 5FL +102.35mPD GL.H-T/1-3	9	13MAY06	23MAY06	0		9	-67	-146																																	
1216	SP.Bldg. - RC Stairs GL.H-T/1-3	18	17MAY06	07JUN06	0		18	-70	-143																																	
<b>STRUCTURAL STEELWORKS</b>																																										
1218	SP.Bldg. - Crane beams to underside of U2F	12	24APR06	09MAY06	0		12	2	-140																																	
1223	SP.Bldg. - Crane beams to underside of 3FL	12	04MAY06	18MAY06	0		12	-6	-136																																	
<b>ARCHITECTURAL &amp; BUILDER'S WORKS</b>																																										
<b>ROOFING &amp; EXTERNAL FACADE</b>																																										
1260	SP.Bldg.Ext Louvre & cladding 2FL to 3FL	30	22MAY06	26JUN06	0		30	-86	-138																																	
<b>BUILDER'S WORK</b>																																										
1219	SP.Bldg.W/Proof Tank/Pits & Test GF GL.H-S/10-12	18	22FEB06	14MAR06	0	100	18	-100	-138																																	
1220	SP.Bldg.Plinths GL.	12	22FEB06	07MAR06	0	100	12	-100	-138																																	
1526	SP.Bldg. Wet Trades GL	18	08MAR06	28MAR06	0	100	18	-84	-138																																	
1264	SP.Bldg. Wet Trades 1FL	18	15MAR06	04APR06	0	100	18	-90	-138																																	
1221	SP.Bldg.Plinths 2FL.	12	06APR06	22APR06	0	100	12	-112	-140																																	
1265	SP.Bldg. Wet Trades 2FL	18	06APR06	29APR06	0	100	18	-118	-140																																	
1266	SP.Bldg. Wet Trades 3FL	18	26APR06	18MAY06	0		18	-117	-136																																	
1552	SP.Bldg. - Ext. Doors & Windows (frame)	18	19MAY06	09JUN06	0		18	-84	-136																																	
1222	SP.Bldg.Plinths 4FL.	12	22MAY06	05JUN06	0		12	-38	-132																																	
1267	SP.Bldg. Wet Trades 4FL (Up Plen)	18	22MAY06	12JUN06	0		18	-44	-132																																	

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC	JAN	FEB	MAR	APR	MAY	JUN	
										27	28	29	30	31	32	33	
<b>E&amp;M - GENERAL</b>																	
<b>MVAC WORKS</b>																	
MCC, POWER & CONTROL																	
6745	EntSpBldg-MCC, power & control 1st fix	42	09MAY06	27JUN06	0		42	-57	-136								
<b>FS WORKS</b>																	
FS MAJOR EQUIPMENT																	
6028	EntSpBldg-Hydrant Pump & Tank set 1st fix	48	29MAR06	30MAY06	0		48	8	-138								
TUNNEL HYDRANT + HOSE REEL																	
6777	EntSpBldg-ENT Tunnel (Hyd/HR) pumps set 1st fix	24	29MAR06	29APR06	0		24	62	-138								
<b>ELECTRICAL WORKS</b>																	
HV POWER DISTRIBUTION MAJOR EQPT.																	
6027	EntSpBldg-HV power dist. sys 1st fix	36	02MAY06	14JUN06	0		36	-112	-140								
EARTHING & LIGHTNING PROTECTION																	
6014	EntSpBldg-Earth'g & lightn'g - Earth Mat & Rods	30	04MAY06	09JUN06	0		30	-84	-136								
<b>PLUMBING &amp; DRAINAGE WORKS</b>																	
6029	EntSpBldg-Cleansing Water Pumps & Tanks 1st fix	18	29MAR06	22APR06	0		18	56	-138								
IRRIGATION SYSTEM																	
6030	EntSpBldg-irrig. Water Pumps & Tanks 1st fix	18	29MAR06	22APR06	0		18	56	-138								
<b>TCSS CONTAINMENT</b>																	
8480	EntSpBldg - TCSS Contain't for KD5	24	24APR06	23MAY06	0		24	-108	-140								
<b>E&amp;M G/F</b>																	
<b>MVAC WORKS</b>																	
MECH. VENT./AIR CONDITIONING																	
6024	EntSpBldg G/F-AC(1st Fix) mech.vent.	36	29MAR06	16MAY06	0		36	-46	-138								
<b>E&amp;M 1/F</b>																	
<b>MVAC WORKS</b>																	
MECH. VENT./AIR CONDITIONING																	
6026	EntSpBldg 1F-AC(1st Fix) mech.vent.	42	06APR06	30MAY06	0		42	-58	-138								
<b>TUNNEL VENTILATION SYSTEM</b>																	
6753	EntSpBldg 1F-TVF pneumatic 1st fix	24	06APR06	09MAY06	0		24	68	-138								
<b>E&amp;M 2/F</b>																	
<b>MVAC WORKS</b>																	
MECH. VENT./AIR CONDITIONING																	
6022	EntSpBldg 2F-AC(1st Fix) mech.vent.	36	02MAY06	14JUN06	0		36	-118	-140								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC							JAN				FEB			MAR			APR				MAY				JUN													
										12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	2	9	16	23	30	6	13	20	27	3
<b>ELECTRICAL WORKS</b>																																																
MAIN & SUB-MAIN DISTRIBUTION																																																
6060	EntSpBldg 2F-ES(1st Fix) Main & Sub-main dist.	54	24MAY06	27JUL06	0		54	-118	-140																																							
FINAL CIRCUIT																																																
6061	EntSpBldg 2F-ES(1st Fix) Final Circuit dist.	54	24MAY06	27JUL06	0		54	-118	-140																																							
<b>E&amp;M ROOF</b>																																																
<b>MVAC WORKS</b>																																																
MECH. VENT./AIR CONDITIONING																																																
6016	EntSpBldg 3F-AC(1st Fix) mech.vent.	30	09MAY06	13JUN06	0		30	-117	-136																																							
<b>EXTERNAL AREAS</b>																																																
<b>PLUMBING &amp; DRAINAGE</b>																																																
IRRIGATION SYSTEM																																																
7587	EntSpBldg Ext-PD(1st Fix) irrig. sys	24	29MAR06	29APR06	0		24	74	-138																																							
7588	EntSpBldg Ext-PD(2nd Fix) irrig. sys	18	02MAY06	23MAY06	0		18	74	-138																																							
7589	EntSpBldg Ext-PD(Final Fix) irrig. sys	12	24MAY06	07JUN06	0		12	74	-138																																							
<b>EAGLES NEST TUNNEL</b>																																																
<b>SUBMITTALS &amp; APPROVALS</b>																																																
<b>E&amp;M EQPT./ MTRL.DETAIL SUBMITTAL</b>																																																
8217	EntRtNb-Sub.TVS control sys	54	02JUL04A	20MAR06	95	100	25	-158	-265																																							
8220	EntRtSb&VA-Sub.TVS control sys	54	02JUL04A	20MAR06	95	100	25	-158	-277																																							
8215	EntRtNb-Sub.FS AFA & Linear sys	54	05JUL04A	24FEB06	99	100	5	-200	-461																																							
8219	EntRtSb&VA-Sub.FS AFA & Linear sys	54	05JUL04A	24FEB06	99	100	5	-200	-470																																							
8213	EntRtNb-Sub.CMCS & ELV sys	78	26AUG04A	25MAR06	98	100	30	-98	-342																																							
8221	EntRtSb&VA-Sub.CMCS & ELV sys	78	26AUG04A	25MAR06	98	100	30	-108	-348																																							
<b>E&amp;M EQPT./MTRL.APPROVAL BY ENGINEER</b>																																																
6808	EntRtSb&VA-App. Tunnel Lgt sys	18	05AUG04A	08MAR06	80	100	15	-203	-366																																							
6878	EntRtNb-App. Tunnel Lgt sys	18	05AUG04A	11MAR06	80	100	18	-200	-366																																							
6802	EntRtSb&VA-App. LV main & submain dist. sys	18	13AUG04A	11MAR06	80	100	18	-212	-384																																							
6882	EntRtNb-App. LV main & submain dist. sys	18	13AUG04A	11MAR06	80	100	18	-160	-374																																							

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC 27							JAN 28				FEB 29				MAR 30			APR 31				MAY 32				JUN 33							
										12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3				
<b>E&amp;M EQPT./MTRL.APPROVAL BY ENGINEER</b>																																											
6785	EntRtSb&VA-App. FS AFA & Linear sys	18	14SEP04A	11MAR06	85	100	18	-200	-465																																		
6880	EntRtNb-App. FS AFA & Linear sys	18	14SEP04A	11MAR06	85	100	18	-200	-456																																		
6798	EntRtSb&VA-App. CMCS & ELV sys	18	20SEP04A	11MAR06	88	100	18	-108	-318																																		
6877	EntRtNb-App. CMCS & ELV sys	18	20SEP04A	11MAR06	88	100	18	-98	-312																																		
6795	EntRtSb&VA-App. TVS control sys	18	12NOV04A	11MAR06	70	100	18	-158	-252																																		
6884	EntRtNb-App. TVS control sys	18	12NOV04A	11MAR06	70	100	18	-158	-240																																		
<b>DESIGN &amp; ENGINEERING</b>																																											
<b>PERMANENT WORKS</b>																																											
<b>TUNNEL</b>																																											
1657	Design/ICE Check Tunnel Clading	24	03JAN06A	25FEB06	60	100	6	-130	-217																																		
1668	Eng Approve Dsg X-passage/Adit Fire Doors	12	20FEB06	04MAR06	0	100	12	-208	-411																																		
1659	Eng Approve Dsg Tunnel Clading	12	27FEB06	11MAR06	0	100	12	-130	-217																																		
1669	Issue Constr Dwgs X-passage/Adit Fire Doors	0		04MAR06	0	100	0	-208	-404																																		
1658	Issue Constr Dwgs Tunnel Clading	0		11MAR06	0	100	0	-130	-210																																		
<b>PROCUREMENT - MATERIAL</b>																																											
<b>TUNNEL</b>																																											
1660	Order/Manufact/Del Tunnel Cladding	200	29DEC05A	15JUL06	10	90	40	-130	-110																																		
1685	Order/Manufact/Del Fire Doors	50	06MAR06	09MAY06	0	100	50	-208	-304																																		
<b>NORTHBOUND TUNNEL</b>																																											
6879	EntRtNb-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	14JUN06	20	100	90	-100	-206																																		
6883	EntRtNb-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	12JUN06	40	100	90	-200	-348																																		
6885	EntRtNb-Proc & Manuf. ES Cabling	180	20MAY05A	30MAY06	65	100	80	-160	-256																																		
7622	EntRtNb-Proc & Manuf. TVS in Tunnel	180	09JUN05A	23MAY06	60	100	30	-106	-260																																		
6881	EntRtNb-Proc & Manuf. Tunnel Lgt sys	120	20JAN06A	04JUL06	0	100	90	-200	-276																																		
6887	EntRtNb-Proc & Manuf. TVS control sys	180	13MAR06	19OCT06	0	100	180	-158	-240																																		

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	Schedule (Gantt Chart)											
										DEC 27	JAN 28	FEB 29	MAR 30	APR 31	MAY 32	JUN 33					
<b>SOUTHBOUND TUNNEL &amp; V.A TUNNEL</b>																					
6786	EntRtSb&VA-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	12JUN06	40	100	90	-200	-357												
6799	EntRtSb&VA-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	08AUG06	20	100	100	-146	-258												
6803	EntRtSb&VA-Proc & Manuf. ES Cabling	180	20MAY05A	18JUL06	65	100	120	-212	-306												
6809	EntRtSb&VA-Proc & Manuf. Tunnel Lgt sys	120	20JAN06A	29JUN06	0	100	90	-203	-276												
6796	EntRtSb&VA-Proc & Manuf. TVS control sys	180	13MAR06	19OCT06	0	100	180	-158	-252												
<b>MAJOR EQUIPMENT DELIVERY</b>																					
<b>TUNNEL</b>																					
<b>NORTHBOUND TUNNEL</b>																					
7623	EntRtNb-Del. TVS in Tunnel	72	01DEC05A	23MAY06	60	100	43	-106	-188												
<b>SOUTHBOUND TUNNEL &amp; V.A TUNNEL</b>																					
7620	EntRtSb&VA-Del. TVS in Tunnel	72	12DEC05A	07JUN06	60	100	29	-118	-212												
<b>CONSTRUCTION WORKS</b>																					
<b>TUNNEL PREPARATION WORKS</b>																					
<b>TUNNEL LINING</b>																					
<b>SOUTH PORTAL</b>																					
3320	Demobilise lining form NB (from NP) at VA/CP7	12	20FEB06	04MAR06	0	100	12	649	-128												
3321	Demobilise lining form NB (from SP) at VA/CP7	12	20FEB06	04MAR06	0	100	12	649	-135												
3736	Demobilise lining form SB (from NP) at VA/CP7	12	27FEB06	11MAR06	0	100	12	643	-143												
3323	Demobilise OHVD form NB (from SP) at VA/CP7	12	06MAR06	18MAR06	0	100	12	649	-135												
3739	Demobilise OHVD form SB (from NP) at VA/CP7	12	14MAR06	27MAR06	0	100	12	642	-140												
3735	Demobilise lining form SB (from SP) at VA/CP7	12	07APR06	24APR06	0	100	12	610	-179												
3322	Demobilise OHVD form NB (from NP) at VA/CP7	12	08APR06	25APR06	0	100	12	621	-152												
3738	Demobilise OHVD form SB (from SP) at VA/CP7	12	27APR06	12MAY06	0	100	12	608	-181												
<b>NORTHBOUND TUNNEL DRIVE</b>																					
<b>TUNNEL INVERT</b>																					
<b>NORTH PORTAL</b>																					
3188	NB exc.grnd/foul water drain trough 118m(fr.NP)	39	17JAN06A	14FEB06A	100	100	0		-190												
3345	NB Foulwater Gulley ENF-20 to ENF-21 [49m]	11	17JAN06A	24JAN06A	100	100	0		-100												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC							JAN			FEB			MAR			APR			MAY			JUN											
										12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12							
NORTH PORTAL																																											
3344	NB Foulwater Gulley ENF-19 to ENF-20 [49m]	11	06FEB06A	14FEB06A	100	100	0		-100																																		
3343	NB Foulwater Gulley ENF-18 to ENF-19 [49m]	11	20FEB06	03MAR06	0	100	11	-2	-104																																		
3432	NB Ground water ENG-21 to ENG-22 [50m]	11	18JAN06A	25JAN06A	100	100	0		-115																																		
3431	NB Ground water ENG-20 to ENG-21 [49m]	11	07FEB06A	15FEB06A	100	100	0		-115																																		
3430	NB Ground water ENG-19 to ENG-20 [49m]	11	20FEB06	03MAR06	0	100	11	-13	-118																																		
3429	NB Ground water ENG-18 to ENG-19 [50m]	11	04MAR06	16MAR06	0	100	11	-13	-118																																		
SOUTH PORTAL																																											
3210	NB exc.grnd/foul water drain trough 253m(fr.SP)	50	17JAN06A	10FEB06A	100	100	0		-287																																		
3212	NB exc.grnd/foul water drain trough 146m(fr.SP)	27	18JAN06A	11FEB06A	100	100	0		-232																																		
3211	NB exc.grnd/foul water drain trough 90m(fr.SP)	21	06FEB06A	14FEB06A	100	100	0		-265																																		
3213	NB exc.grnd/foul water drain trough 100m(fr.SP)	18	20FEB06	11MAR06	0		18	65	-238																																		
3214	NB exc.grnd/foul water drain trough 199m(fr.SP)	37	20FEB06	03APR06	0		37	73	-227																																		
3216	NB Invert Cleaning [fr.SP] 253m	18	25JAN06A	18FEB06	0	100	0	-12	-291																																		
3217	NB Invert Cleaning [fr.SP] 90m	20	20FEB06	14MAR06	0	100	20	24	-286																																		
3218	NB Invert Cleaning [fr.SP] 146m	24	15MAR06	12APR06	0	100	24	24	-279																																		
3219	NB Invert Cleaning [fr.SP] 100m	22	13APR06	13MAY06	0		22	24	-279																																		
3220	NB Invert Cleaning [fr.SP] 199m	23	15MAY06	10JUN06	0		23	24	-276																																		
3328	NB Foulwater Gulley ENF-4 to ENF-5 [51m]	11	13JAN06A	20JAN06A	100	100	0		-176																																		
3324	NB Foulwater Gulley ENF-1A to ENF-1 [44m]	10	17JAN06A	27JAN06A	100	100	0		-227																																		
3329	NB Foulwater Gulley ENF-5 to ENF-6 [51m]	11	18JAN06A	26JAN06A	100	100	0		-170																																		
3325	NB Foulwater Gulley ENF-1 to ENF-2 [50m]	11	23JAN06A	08FEB06A	100	100	0		-219																																		
3330	NB Foulwater Gulley ENF-6 to ENF-7 [44m]	10	24JAN06A	08FEB06A	100		0		-164																																		
3331	NB Foulwater Gulley ENF-7 to ENF-7A [6m]	6	07FEB06A	14FEB06A	100		0		-163																																		
3332	NB Foulwater Gulley ENF-7A to ENF-8 [50m]	11	20FEB06	03MAR06	0		11	-6	-167																																		



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC							JAN				FEB			MAR			APR			MAY			JUN					
										12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12		
SOUTH PORTAL																																						
3333	NB Foulwater Gulley ENF-8 to ENF-9 [50m]	11	04MAR06	16MAR06	0		11	-6	-167																													
3334	NB Foulwater Gulley ENF-9 to ENF-10 [49m]	11	17MAR06	29MAR06	0		11	-6	-167																													
3335	NB Foulwater Gulley ENF-10 to ENF-11 [50m]	11	30MAR06	12APR06	0		11	-6	-167																													
3336	NB Foulwater Gulley ENF-11 to ENF-12 [47m]	10	13APR06	27APR06	0		10	-6	-167																													
3337	NB Foulwater Gulley ENF-12 to ENF-13 [47m]	10	28APR06	11MAY06	0		10	-6	-167																													
3338	NB Foulwater Gulley ENF-13 to ENF-14 [49m]	11	12MAY06	24MAY06	0		11	-6	-167																													
3339	NB Foulwater Gulley ENF-14 to ENF-15 [49m]	11	25MAY06	07JUN06	0		11	-6	-167																													
3415	NB Ground water ENG-4 to ENG-5 [51m]	11	14JAN06A	21JAN06A	100	100	0		-187																													
3416	NB Ground water ENG-5 to ENG-6 [51m]	11	19JAN06A	27JAN06A	100	100	0		-181																													
3412	NB Ground water ENG-1B to ENG-2 [50m]	11	24JAN06A	09FEB06A	100	100	0		-230																													
3417	NB Ground water ENG-6 to ENG-7 [50m]	11	25JAN06A	09FEB06A	100	100	0		-174																													
3410	NB Ground water ENG-1C to ENG-1B [44m]	14	20FEB06	07MAR06	0	100	14	43	-238																													
3418	NB Ground water ENG-7 to ENG-8 [50m]	11	20FEB06	03MAR06	0		11	-12	-182																													
3419	NB Ground water ENG-8 to ENG-9 [50m]	11	04MAR06	16MAR06	0		11	-12	-182																													
3411	NB Ground water ENG-1A to ENG-1B	6	08MAR06	14MAR06	0	100	6	43	-238																													
3420	NB Ground water ENG-9 to ENG-10 [49m]	11	17MAR06	29MAR06	0		11	-12	-182																													
3421	NB Ground water ENG-10 to ENG-11 [51m]	11	30MAR06	12APR06	0		11	-12	-182																													
3422	NB Ground water ENG-11 to ENG-12 [46m]	10	13APR06	27APR06	0		10	-12	-182																													
3423	NB Ground water ENG-12 to ENG-13 [47m]	10	28APR06	11MAY06	0		10	-12	-182																													
3424	NB Ground water ENG-13 to ENG-14 [49m]	11	12MAY06	24MAY06	0		11	-12	-182																													
3425	NB Ground water ENG-14 to ENG-15 [49m]	11	25MAY06	07JUN06	0		11	-12	-182																													
TUNNEL LINING																																						
NORTH PORTAL																																						
3243	NB NP Arch Lining 157m Tch.1+830 to 1+673 VA	36	05JAN06A	26JAN06A	100	100	0		-115																													

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC							JAN				FEB				MAR				APR				MAY				JUN						
										12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12							
NORTH PORTAL																																											
3252	NB NP OHVD 150m Tch.1+980 to 1+830	30	13DEC05A	06FEB06A	100	100	0		-141																																		
3253	NB NP OHVD 157m Tch.1+830 to 1+673 VA	40	04FEB06A	07APR06	70	100	40	-132	-152																																		
SOUTH PORTAL																																											
3313	NB SP Arch Lining 130m Tch.1+513 to 1+643	36	28DEC05A	20JAN06A	100	100	0		-117																																		
3317	NB NP OHVD 130m Tch.1+513 to 1+643	38	12JAN06A	24FEB06	90	100	5	-128	-132																																		
TUNNEL FINISHING WORKS																																											
SERVICE TROUGH & UTILITIES																																											
3531	NB service trough 150m Tch.2+430 to 2+280 fr.NP	23	19DEC05A	10FEB06A	100	100	0		-226																																		
3532	NB service trough 150m Tch.2+280 to 2+130 fr.NP	23	12JAN06A	18FEB06A	100	100	0		-203																																		
3533	NB service trough 150m Tch.2+130 to 1+980 fr.NP	23	18JAN06A	17MAR06	46	100	23	-167	-196																																		
3534	NB service trough 150m Tch.1+980 to 1+830 fr.NP	23	18FEB06A	18APR06	15	100	23	-167	-189																																		
3535	NB service trough 175m Tch.1+830 to 1+673 fr.NP	25	19APR06	19MAY06	0		25	-167	-182																																		
3537	NB service trough 150m Tch.1+063 to 1+213 fr.SP	23	21JAN06A	17MAR06	31	100	23	-201	-263																																		
3538	NB service trough 150m Tch.1+213 to 1+363 fr.SP	23	08FEB06A	18APR06	25	100	23	-201	-244																																		
3539	NB service trough 150m Tch.1+363 to 1+513 fr.SP	23	14FEB06A	17MAY06	0	100	23	-201	-225																																		
3540	NB service trough 160m Tch.1+513 to 1+673 fr.SP	24	18MAY06	15JUN06	0	100	24	-201	-210																																		
3514	NB NP 200 main 150m Tch.2+580 to 2+430 fr.NP	23	17JAN06A	25FEB06	20	100	6	-215	-273																																		
3515	NB NP 200 main 150m Tch.2+430 to 2+280 fr.NP	23	27FEB06	24MAR06	0	100	23	-215	-266																																		
3516	NB NP 200 main 150m Tch.2+280 to 2+130 fr.NP	23	25MAR06	25APR06	0	100	23	-215	-259																																		
3517	NB NP 200 main 150m Tch.2+130 to 1+980 fr.NP	23	26APR06	24MAY06	0	100	23	-215	-252																																		
3518	NB NP 200 main 150m Tch.1+980 to 1+830 fr.NP	23	25MAY06	21JUN06	0		23	-215	-245																																		
3520	NB SP 200 main 150m Tch.1+063 to 1+213 fr.SP	23	20FEB06	17MAR06	0	100	23	-197	-267																																		
3521	NB SP 200 main 150m Tch.1+213 to 1+363 fr.SP	23	18MAR06	18APR06	0	100	23	-197	-248																																		
3522	NB SP 200 main 150m Tch.1+363 to 1+513 fr.SP	23	19APR06	17MAY06	0	100	23	-197	-229																																		
3523	NB SP 200 main 160m Tch.1+513 to 1+673 fr.SP	24	23MAY06	20JUN06	0	100	24	-201	-218																																		

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC	JAN	FEB	MAR	APR	MAY	JUN	
										27	28	29	30	31	32	33	
<b>SERVICE TROUGH &amp; UTILITIES</b>																	
3640	NB NP - 50% TCSS Containment KD6	60	20FEB06	06MAY06	0	100	60	-152	-233								
3641	NB NP - Remain 50% TCSS Contain't KD6	63	19APR06	05JUL06	0	100	63	-201	-218								
<b>DRAINAGE &amp; RC SLAB</b>																	
3584	NB Invert Drainage & RC.Slab - rightside 650m	54	17JAN06A	25MAR06	30	100	30	-21	-146								
3588	NB Invert Drainage & RC.Slab - leftside 650m	54	17JAN06A	25MAR06	30	100	30	29	-128								
3585	NB Invert Drainage & RC.Slab - rightside 650m	54	27MAR06	05JUN06	0	100	54	-21	-146								
3589	NB Invert Drainage & RC.Slab - leftside 650m	54	20MAY06	24JUL06	0		54	-12	-169								
<b>WALL PANELS</b>																	
3606	NB VE Panel Support System - rightside 650m	23	20FEB06	17MAR06	0	100	23	-148	-194								
3607	NB VE Panel Support System - rightside 650m	23	18MAR06	18APR06	0	100	23	-148	-194								
3608	NB VE Panel Support System - rightside 650m	23	19APR06	17MAY06	0	100	23	-148	-194								
3610	NB VE Panel Support System - leftside 650m	23	18MAY06	14JUN06	0	100	23	-148	-194								
<b>F.S WORKS</b>																	
<b>TUNNEL HYDRANT &amp; HOSE REEL</b>																	
6893	EntRtNb-Wet dist. (HR/Hyd) 1st fix	60	20JAN06A	22APR06	10	100	50	-100	-206								
6899	EntRtNb-Wet dist. (HR/Hyd) 2nd fix	60	24APR06	06JUL06	0	100	60	-70	-206								
<b>ELECTRICAL WORKS</b>																	
<b>MAIN &amp; SUB-MAIN DISTRIBUTION</b>																	
6897	EntRtNb-HV, LV main & submain dist. 1st fix	84	20FEB06	05JUN06	0	100	84	-116	-210								
<b>FINAL CIRCUIT</b>																	
7576	EntRtNb-Final circuit 1st fix	96	06MAR06	04JUL06	0	100	96	-92	-224								
<b>TUNNEL / EXTERNAL LIGHTING</b>																	
6894	EntRtNb-Tunnel Lgt sys	96	04JAN06A	30MAY06	20	100	80	-124	-200								
<b>ELV WORKS</b>																	
<b>ELV MISC. WORKS</b>																	
6895	EntRtNb-CMCS&other	90	24APR06	10AUG06	0	100	90	-100	-206								
<b>TUNNEL VENTILATION SYSTEM</b>																	
<b>TUNNEL VENTILATION</b>																	
6896	EntRtNb-TVS Tunnel vent. & SE 1st fix	72	04JAN06A	22APR06	30	100	50	-106	-188								



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC			JAN			FEB			MAR			APR			MAY			JUN																					
										27	26	25	29	28	27	29	28	27	30	29	28	31	30	29	1	31	30	1	31	30	1	31	30	2	1	31													
SOUTH PORTAL																																																	
3374	SB Foulwater Gulley ESF-7 to ESF-7A [7m]	6	28APR06	06MAY06	0		6	-117	-215																																								
3375	SB Foulwater Gulley ESF-7A to ESF-8 [50m]	11	08MAY06	19MAY06	0		11	-117	-215																																								
3376	SB Foulwater Gulley ESF-8 to ESF-9 [50m]	11	20MAY06	02JUN06	0		11	-117	-215																																								
3456	SB Ground water ESG-1B to ESG-2 [49m]	11	07FEB06A	15FEB06A	100	100	0		-212																																								
3454	SB Ground water ESG-1C to ESG-1B [40m]	9	20FEB06	01MAR06	0	100	9	-103	-215																																								
3457	SB Ground water ESG-2 to ESG-3 [50m]	11	20FEB06	03MAR06	0	100	11	-121	-215																																								
3455	SB Ground water ESG-1A to ESG-1B	6	02MAR06	08MAR06	0	100	6	-103	-215																																								
3458	SB Ground water ESG-3 to ESG-4 [48m]	11	04MAR06	16MAR06	0	100	11	-121	-215																																								
3459	SB Ground water ESG-4 to ESG-5 [49m]	11	17MAR06	29MAR06	0	100	11	-121	-215																																								
3460	SB Ground water ESG-5 to ESG-6 [49m]	11	30MAR06	12APR06	0	100	11	-121	-215																																								
3461	SB Ground water ESG-6 to ESG-7 [50m]	11	13APR06	28APR06	0		11	-121	-215																																								
3462	SB Ground water ESG-7 to ESG-8 [50m]	11	29APR06	13MAY06	0		11	-121	-215																																								
3463	SB Ground water ESG-8 to ESG-9 [50m]	11	15MAY06	26MAY06	0		11	-121	-215																																								
3464	SB Ground water ESG-9 to ESG-10 [51m]	11	27MAY06	09JUN06	0		11	-121	-215																																								
TUNNEL LINING																																																	
NORTH PORTAL																																																	
2194	SB NP Arch Lining 175m Tch.1+835 to 1+660 VA	35	10JAN06A	25FEB06	93	100	2	-121	-143																																								
3160	SB NP OHVD 150m Tch.1+985 to 1+835	30	28DEC05A	23JAN06A	100	100	0		-145																																								
3161	SB NP OHVD 175m Tch.1+835 to 1+660 VA	40	21JAN06A	13MAR06	50	100	15	-121	-140																																								
SOUTH PORTAL																																																	
3151	SB SP Arch Lining 150m Tch.1+363 to 1+513	30	30DEC05A	14FEB06A	100	100	0		-174																																								
3168	SB SP Arch Lining 130m Tch.1+513 to 1+643	38	23JAN06A	06APR06	50	100	15	-152	-179																																								
3173	SB SP OHVD 150m Tch.1+213 to 1+363	30	08DEC05A	20JAN06A	100	100	0		-178																																								
3174	SB SP OHVD 150m Tch.1+363 to 1+513	30	19JAN06A	22MAR06	46	100	15	-154	-193																																								
3175	SB SP OHVD 130m Tch.1+513 to 1+643	26	23MAR06	26APR06	0	100	26	-154	-181																																								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance	Early Finis	DEC		JAN			FEB			MAR			APR			MAY			JUN															
											27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
<b>TUNNEL FINISHING WORKS</b>																																											
<b>SERVICE TROUGH &amp; UTILITIES</b>																																											
3564	SB service trough 150m Tch.2+435 to 2+285 fr.NP	23	17DEC05A	11FEB06A	100	100	0		-236		12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12						
3565	SB service trough 150m Tch.2+285 to 2+135 fr.NP	23	12JAN06A	17FEB06A	100	100	0		-211																																		
3566	SB service trough 150m Tch.2+135 to 1+985 fr.NP	23	23JAN06A	17MAR06	45	100	23	-167	-205																																		
3567	SB service trough 150m Tch.1+985 to 1+835 fr.NP	23	18MAR06	18APR06	0		23	-167	-198																																		
3568	SB service trough 175m Tch.1+835 to 1+660 @VA	26	19APR06	20MAY06	0		26	-167	-191																																		
3570	SB service trough 150m Tch.1+063 to 1+213 fr.SP	23	20FEB06	17MAR06	0	100	23	-190	-240																																		
3571	SB service trough 150m Tch.1+213 to 1+363 fr.SP	23	18MAR06	18APR06	0	100	23	-190	-233																																		
3572	SB service trough 150m Tch.1+363 to 1+513 fr.SP	23	19APR06	17MAY06	0	100	23	-190	-226																																		
3573	SB service trough 150m Tch.1+513 to 1+663 fr.SP	23	18MAY06	14JUN06	0	100	23	-190	-207																																		
3545	SB NP 200 main 150m Tch.3+035 to 2+885 fr.NP	23	15DEC05A	25FEB06	67	100	6	-284	-372																																		
3546	SB NP 200 main 150m Tch.2+885 to 2+735 fr.NP	23	27FEB06	24MAR06	0	100	23	-284	-365																																		
3547	SB NP 200 main 150m Tch.2+735 to 2+585 fr.NP	23	25MAR06	25APR06	0	100	23	-284	-358																																		
3548	SB NP 200 main 150m Tch.2+585 to 2+435 fr.NP	23	26APR06	24MAY06	0	100	23	-284	-351																																		
3549	SB NP 200 main 150m Tch.2+435 to 2+285 fr.NP	23	25MAY06	21JUN06	0		23	-284	-344																																		
3555	SB SP 200 main 150m Tch.1+063 to 1+213 fr.SP	23	24FEB06	22MAR06	0	100	23	-188	-248																																		
3556	SB SP 200 main 150m Tch.1+213 to 1+363 fr.SP	23	23MAR06	22APR06	0	100	23	-188	-241																																		
3557	SB SP 200 main 150m Tch.1+363 to 1+513 fr.SP	23	24APR06	22MAY06	0	100	23	-188	-234																																		
3558	SB SP 200 main 150m Tch.1+513 to 1+663 fr.SP	23	23MAY06	19JUN06	0	100	23	-188	-215																																		
3642	SB & VA - 50% TCSS Contain't from NP KD6	66	20FEB06	13MAY06	0	100	66	-224	-242																																		
3643	SB & VA - Remain 50% TCSS Contain't NP KD6	66	15MAY06	01AUG06	0	100	66	-224	-241																																		
<b>DRAINAGE &amp; RC SLAB</b>																																											
3574	SB Invert Drainage & RC.Slab - rightside 650m	54	22NOV05A	14FEB06A	100	100	0		-79																																		
3575	SB Invert Drainage & RC.Slab - rightside 650m	54	22NOV05A	14FEB06A	100	100	0		-25																																		

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	Month							
										DEC 27	JAN 28	FEB 29	MAR 30	APR 31	MAY 32	JUN 33	
<b>DRAINAGE &amp; RC SLAB</b>																	
3578	SB Invert Drainage & RC.Slab - leftside 650m	54	17JAN06A	18APR06	25		40	-19	-69								
3579	SB Invert Drainage & RC.Slab - leftside 650m	54	17JAN06A	07JUN06	25		40	-19	-55								
<b>SOUTHBOUND &amp; VENTILATION ADIT TUNNEL</b>																	
<b>FS Works</b>																	
<b>TUNNEL HYDRANT &amp; HOSE REEL</b>																	
6774	EntRtSb&VA-Wet dist. (HR/Hyd) 1st fix	60	03APR06	19JUN06	0	100	60	-146	-258								
<b>ELECTRICAL WORKS</b>																	
<b>MAIN &amp; SUB-MAIN DISTRIBUTION</b>																	
6805	EntRtSb&VA-HV, LV main & submain dist. 1st fix	96	10JAN06A	30MAY06	2	100	80	-112	-206								
<b>FINAL CIRCUIT</b>																	
7571	EntRtSb&VA-Final circuit 1st fix	96	06MAR06	04JUL06	0	100	96	-116	-233								
<b>TUNNEL / EXTERNAL LIGHTING</b>																	
6811	EntRtSb&VA-Tunnel Lgt & VA lgt sys 1st fix	96	04JAN06A	24MAY06	10	100	75	-125	-198								
<b>ELV WORKS</b>																	
<b>ELV MISC.WORKS</b>																	
6789	EntRtSb&VA-CMCS&other ELV 1st fix & Misc	90	20JAN06A	04OCT06	2		90	-146	-258								
<b>TUNNEL VENTILATION SYSTEM</b>																	
<b>TUNNEL VENTILATION</b>																	
6764	EntRtSb&VA-TVS Tunnel vent. & SE 1st fix	72	10JAN06A	09MAY06	20	100	62	-118	-212								
6769	EntRtSb&VA-TVS Tunnel vent. & SE 2nd fix	96	10MAY06	31AUG06	0	100	96	-118	-212								
<b>PNEUMATIC SYSTEM</b>																	
6771	EntRtSb&VA-TVS pneumatic 1st fix	72	20JAN06A	03AUG06	2	100	72	-58	-212								
<b>CROSS PASSAGES</b>																	
<b>X-PASSAGE LINING</b>																	
2606	Invert Clean & Lining to CP.5	10	17DEC05A	07FEB06A	100	100	0		-164								
2607	Invert Clean & Lining to CP.6	10	05JAN06A	18FEB06A	100	100	0		-164								
2602	Invert Clean & Lining to CP.8	10	14JAN06A	06FEB06A	100	100	0		-183								
<b>X-PASSAGE INVERT</b>																	
2625	Invert Lining to CP.4	8	24JAN06A	24JAN06A	100	100	0		-149								
2622	Invert Lining to CP.8	8	17FEB06A	20FEB06A	100	100	0		-175								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC							JAN				FEB			MAR			APR				MAY			JUN												
										27							28				29			30			31				32			33												
										12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3							
<b>X-PASSAGE INVERT</b>																																														
2626	Invert Lining to CP.5	8	22FEB06	02MAR06	0	100	8	-140	-164																																					
2627	Invert Lining to CP.6	8	06MAR06	14MAR06	0	100	8	-142	-164																																					
<b>X-PASSAGE FINISHING WORKS</b>																																														
2639	Construct Rooms (incl.ABWF) at CP.11	24	24JAN06A	25JAN06A	100	100	0		-181																																					
2644	Construct Rooms (incl.ABWF) at CP.3	24	17FEB06A	18FEB06A	100	100	0		-159																																					
2645	Construct Rooms (incl.ABWF) at CP.4	24	18FEB06A	23FEB06	0	100	4	-96	-138																																					
2641	Construct Rooms (incl.ABWF) at CP.9	24	20FEB06A	23FEB06	0	100	4	-96	-158																																					
2640	Construct Rooms (incl.ABWF) at CP.10	24	20FEB06	18MAR06	0	100	24	-140	-207																																					
2643	Construct Rooms (incl.ABWF) at CP.2	24	06MAR06	01APR06	0	100	24	-140	-207																																					
2647	Construct Rooms (incl.ABWF) at CP.6	24	22MAR06	22APR06	0	100	24	-142	-164																																					
2642	Construct Rooms (incl.ABWF) at CP.8	24	10MAY06	07JUN06	0	100	24	-208	-230																																					
<b>TESTING &amp; COMMISSIONING</b>																																														
<b>EAGLE'S NEST TUNNEL</b>																																														
<b>STATUTORY INSPECTIONS</b>																																														
<b>FSD INSPECTION</b>																																														
6917	EntRt-All FS design approved by FSD (MHJV)	0	13MAR06		0	100	0	-146	-258																																					
6918	EntRt-Issue, endorse & submit FSI 314 to FSD	6	27MAR06	01APR06	0	100	6	-146	-258																																					
<b>VENTILATION ADIT &amp; BUILDING</b>																																														
<b>SUBMITTALS &amp; APPROVALS</b>																																														
<b>ABWF &amp; BUILDER'S WORKS</b>																																														
1971	VA Bldg. - Prep & submit door & window detail	90	03FEB05A	14FEB06A	100	100	0		-206																																					
1974	VA Bldg. - Approve louvre details	24	07APR05A	04MAR06	50	100	12	-132	-258																																					
1989	VA Bldg. - Prep & sub fall arrest system	90	19APR05A	14FEB06A	100	100	0		-152																																					
1972	VA Bldg. - Approve door & window details	24	07MAY05A	04MAR06	0	100	12	-126	-198																																					
1991	VA Bldg. - Approve slate cladding	24	15JUN05A	04MAR06	50	100	12	-132	-258																																					
1990	VA Bldg. - Approve fall arrest system	24	14OCT05A	14FEB06A	100	100	0		-128																																					



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	Schedule							
										DEC 27	JAN 28	FEB 29	MAR 30	APR 31	MAY 32	JUN 33	
<b>ABWF &amp; BUILDER'S WORKS</b>																	
1988	Va Bldg. - Approve aluminium cladding	24	13DEC05A	04MAR06	0	100	12	-102	-258								
1976	Va Bldg. - Approve balustrade & metal works	24	10JAN06A	13FEB06A	100	100	0		-239								
<b>E&amp;M EQPT./MTRL.DETAIL SUBMITTAL</b>																	
8234	VaBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	14MAR06	95	100	20	-129	-289								
8231	VaBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	24FEB06	99	100	5	-17	-214								
8228	VaBldg-Sub.FS wet sys	54	05AUG04A	24FEB06	99	100	5	-47	-214								
8233	VaBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	02MAR06	95	100	10	-63	-141								
8230	VaBldg-Sub.CMCS & ELV sys	78	26AUG04A	02MAR06	98	100	10	-125	-237								
8235	VaBldg-Sub.PD irrig. sys	54	04FEB05A	02MAR06	85	100	10	-71	-237								
<b>E&amp;M EQPT./MTRL.APPROVAL BY ENGINEER</b>																	
8495	VaBldg-App. building related luminaires	18	18AUG04A	11MAR06	90	100	18	-31	-251								
6581	VaBldg-App. FS wet sys	18	04SEP04A	11MAR06	80	100	18	-47	-209								
6590	VaBldg-App. FS AFA & FM200 sys	18	14SEP04A	11MAR06	85	100	18	-17	-209								
6587	VaBldg-App. of CMCS & ELV sys	18	20SEP04A	11MAR06	88	100	18	-125	-227								
6582	VaBldg-App. MVAC mech.vent. sys	18	23SEP04A	11MAR06	80	100	18	-197	-257								
6580	VaBldg-App. PD all fresh & flush water sys	18	04NOV04A	11MAR06	85	100	18	-53	-221								
6864	V6aBldg-App. MVAC MCC, power & control sys	18	12NOV04A	11MAR06	80	100	18	-129	-269								
6857	VaBldg-App. MVAC / TVF pneumatic sys	18	07MAR05A	15AUG06	80		18	-179	-257								
7590	VaBldg-App. PD irrig. sys	18	05MAY05A	11MAR06	30	100	18	-71	-227								
<b>PROCUREMENT</b>																	
<b>ARCHITECTURAL</b>																	
1995	Va Bldg. - Procure aluminium cladding	30	19APR05A	04MAR06	0	100	12	-122	-136								
2035	Va Bldg. - Initial delivery balust & metal works	0	07MAR06		0		0	-97	0								
2034	Va Bldg. - Initial delivery fall arrest system	0	22MAR06		0	100	0	-110	0								
2032	Va Bldg. - Initial delivery doors & windows	0	11APR06		0	100	0	-126	0								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC							JAN				FEB				MAR			APR				MAY				JUN							
										12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	33		
<b>ARCHITECTURAL</b>																																											
2038	VA Bldg. - Initial delivery aluminium cladding	0	10MAY06		0		0	-122	0																																		
2031	VA Bldg. - Initial delivery slate cladding	0	22MAY06		0		0	-132	0																																		
2033	VA Bldg. - Initial delivery louvres	0	22MAY06		0		0	-132	0																																		
<b>E&amp;M MATERIALS</b>																																											
6584	VaBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	14JUN06	40	100	90	-73	-151																																		
6583	VaBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	16MAY06	90	100	20	-55	-151																																		
6591	VaBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	22AUG06	20	100	150	-125	-179																																		
6636	VaBldg-Proc & Manuf. FS AFA & FM200 sys	120	25MAR05A	18JUL06	40	100	90	-47	-191																																		
6865	VaBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	22AUG06	20	100	150	-129	-221																																		
6586	VaBldg-Proc & Manuf. FS wet sys	120	06JUN05A	18JUL06	30	100	120	-47	-191																																		
6851	VaBldg-Proc & Manuf. TVF, Ductwks & Cont'l sys	180	09JUN05A	18JUL06	40	80	120	-47	-111																																		
6585	VaBldg-Proc & Manuf. PD fresh & flush water sys	120	30SEP05A	04JUL06	10	100	90	-53	-191																																		
8496	VaBldg-Proc & Manf bldg related luminaires	180	23NOV05A	21JUN06	90	100	50	-61	-151																																		
8516	VaBldg-Proc & Manuf. MVAC Package AC Units	120	11JAN06A	24NOV06	10		60	-143	-257																																		
6588	VaBldg-Proc & Manuf. MVAC mech.vent. sys	180	13MAR06	19OCT06	0	100	180	-197	-257																																		
7591	VaBldg-Proc & Manuf. PD irrig. sys	120	13MAR06	08AUG06	0	100	120	-71	-227																																		
<b>MAJOR EQUIPMENT DELIVERY</b>																																											
6592	VaBldg-Del. HV power dist. equip't to 2/F	48	20FEB06A	13JUL06	40		48	-55	-151																																		
<b>E&amp;M ACCESS DATES</b>																																											
<b>VENTILATION BUILDING</b>																																											
1848	Int M/S - Vent Adit - E&M access to plenum	0		22APR06	0	100	0	-1	-186																																		
1818	Int M/S - Vent Adit - E&M G/F access	0		13MAY06	0		0	-65	-185																																		
1844	Int M/S - Vent Adit - E&M 1/F access	0		13MAY06	0		0	-65	-163																																		
1845	Int M/S - Vent Adit - E&M 2/F access	0		29MAY06	0		0	-54	-159																																		

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance	DEC		JAN			FEB			MAR			APR			MAY			JUN	
										27	27	29	28	30	29	30	31	27	28	30	31	27	28	30	31	27	28	30
<b>CONSTRUCTION WORKS</b>																												
<b>ADIT TUNNEL</b>																												
<b>TUNNEL LINING</b>																												
1536	VA Form Portal Transition Structure VA Bldg.	18	15DEC05A	11MAR06	60	100	18	-104	-231																			
<b>VA TRANSITION STRUCTURE</b>																												
1923	VA RC Tnl Interface Lower part	40	18NOV05A	14MAR06	50	100	20	-142	-229																			
1924	VA RC Tnl Interface upper part	88	16JAN06A	22APR06	10	100	50	-142	-171																			
<b>SUBSTRUCTURE</b>																												
6589	VaBldg Drainage & Earth mat	48	23APR05A	18MAR06	60	100	24	-168	-261																			
<b>SUPERSTRUCTURE</b>																												
<b>RC WORKS</b>																												
1541	VA Bldg.RC S/Slab 1FL.GL.C-F/1-6 +116.70mPD	16	29DEC05A	23FEB06	90	100	4	-168	-182																			
1542	VA Bldg.RC Walls/Cols to 2FL GL.C-F/1-6	16	20FEB06	09MAR06	0	100	16	-168	-186																			
1543	VA Bldg.RC S/Slab 2FL GL.C-F/1-6 +124.95mPD	16	01MAR06	18MAR06	0	100	16	-168	-186																			
1544	VA Bldg.RC Walls/Cols to URFL GL.C-F/1-6	16	10MAR06	28MAR06	0	100	16	-168	-186																			
1545	VA Bldg.RC S/Slab URFL +131.65mPD	12	25MAR06	08APR06	0	100	12	-152	-186																			
1548	VA Bldg.RC.Walls/Cols to 1F GL.A-C/1-6	14	19NOV05A	03MAR06	50	100	11	-142	-150																			
1549	VA Bldg.RC S/Slab 1FL.GL.A-C/1-6 +116.70mPD	10	19DEC05A	21MAR06	20	100	26	-142	-159																			
1550	VA Bldg.RC Walls/Cols to 2FL GL.A-C/1-6	10	17MAR06	28MAR06	0	100	10	-129	-159																			
1551	VA Bldg.RC S/Slab 2FL GL.A-C/1-6 +124.95mPD	12	28MAR06	11APR06	0	100	12	-129	-159																			
<b>STRUCTURAL STEELWORKS</b>																												
1546	VA Bldg.Struct.Steelworks URFL +131.65mPD	24	06APR06	09MAY06	0	100	24	-152	-186																			
1561	VA Bldg. - Crane Beam to underside of 1FL & test	18	13APR06	09MAY06	0	100	18	-61	-159																			
1560	VA Bldg. - Crane Beam to underside of 2FL & test	18	09MAY06	29MAY06	0	100	18	-54	-159																			
<b>ARCHITECTURAL &amp; BUILDER'S WORKS</b>																												
<b>ROOFING &amp; EXTERNAL FACADE</b>																												
1558	VA.Bldg.Roof W/Proofing & Testing	30	10MAY06	14JUN06	0		30	-152	-186																			
1809	VA.Bldg. Ext Doors & Windows	24	10MAY06	07JUN06	0		24	-146	-186																			



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance	Early Finis	Month																											
											DEC	JAN			FEB		MAR		APR		MAY		JUN															
												27	28	29	30	31	32	33																				
												12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12
<b>E&amp;M EQPT. &amp; MATERIAL APPROVALS</b>																																						
6210	EntNpBldg-App. FS AFA & FM200 sys	18	14SEP04A	25FEB06	85	100	6	-26	-144																													
6203	EntNpBldg-App. CMCS & ELV sys	18	20SEP04A	25FEB06	88	100	6	-108	-230																													
6200	EntNpBldg-App. MVAC mech.vent. sys	18	23SEP04A	25FEB06	80	100	6	-178	-308																													
6198	EntNpBldg-App. PD cleans. & flush water sys	18	04NOV04A	25FEB06	85	100	6	-32	-246																													
6837	EntNpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	25FEB06	80	100	6	-156	-296																													
6830	EntNpBldg-App. MVAC / TVF pneumatic sys	18	07MAR05A	09MAY06	80	100	6	-100	-160																													
<b>ABWF WORKS</b>																																						
1955	NP.Bldg. - Prep & submit louvre details	24	19NOV04A	04MAR06	50	100	12	-83	-350																													
1959	NP.Bldg. - Prep & sub aluminium cladding	24	19NOV04A	04MAR06	50	100	12	-85	-350																													
1970	NP.Bldg. - Prep & submit slate cladding	24	19NOV04A	04MAR06	50	100	12	-113	-350																													
1946	NP.Bldg. - Prep & submit door & window detail	24	17FEB05A	04MAR06	50	100	12	661	-282																													
1954	NP.Bldg. - Approve door & window details	24	06APR05A	04MAR06	50	100	12	-53	-258																													
1956	NP.Bldg. - Approve louvre details	24	08APR05A	04MAR06	50	100	12	-83	-326																													
1963	NP.Bldg. - Approve slate cladding	24	15JUN05A	04MAR06	50	100	12	-113	-326																													
1962	NP.Bldg. - Approve fall arrest system	24	14OCT05A	14FEB06A	100	100	0		-250																													
1960	NP.Bldg. - Approve aluminium cladding	24	13DEC05A	04MAR06	0	100	12	-85	-326																													
1958	NP.Bldg. - Approve balustrade & metal works	24	10JAN06A	13FEB06A	100	100	0		-259																													
<b>PROCUREMENT - MATERIAL</b>																																						
<b>ABWF WORKS</b>																																						
1967	NP.Bldg. - Procure aluminium cladding	180	18JAN05A	04MAR06	50	100	12	-85	-146																													
2052	NP.Bldg. - Initial delivery balust & metal works	0	25MAR06		0		0	-34	0																													
2039	NP.Bldg. - Initial delivery doors & windows	0	11APR06		0		0	-53	0																													
2049	NP.Bldg. - Initial delivery louvre	0	11APR06		0		0	-83	0																													
2053	NP.Bldg. - Initial delivery fall arrest system	0	02MAY06		0		0	-43	0																													

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC	JAN	FEB	MAR	APR	MAY	JUN	
										27	28	29	30	31	32	33	
<b>ABWF WORKS</b>																	
2050	NP.Bldg. - Initial delivery aluminium cladding	0	10MAY06		0		0	-85	0								
2051	NP.Bldg. - Initial delivery slate cladding	0	22MAY06		0		0	-113	0								
<b>E&amp;M WORKS</b>																	
6202	EntNpBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	12JUN06	40	100	90	-122	-170								
6201	EntNpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	06MAY06	90	100	60	-86	-176								
6208	EntNpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	29JUL06	20	100	130	-108	-174								
6269	EntNpBldg-Proc & Manuf. FS AFA & FM200 sys	120	25MAR05A	19AUG06	40	100	90	-78	-166								
6838	EntNpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	29JUL06	20	100	130	-156	-240								
6205	EntNpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	12JUN06	30	100	90	-26	-192								
6824	EntNpBldg-Proc & Manuf. TVF, Ductwks&Cont'l sys	180	09JUN05A	25JUL06	40	100	80	-104	-180								
6204	EntNpBldg-Proc & Manuf. Cleans & flush water sys	120	30SEP05A	19JUN06	10	100	90	-32	-216								
8500	EntNpBldg-Proc & Manf bldg related luminaires	180	23NOV05A	05AUG06	90	100	130	-90	-202								
6206	EntNpBldg-Proc & Manuf. MVAC mech.vent. sys	180	06JAN06A	17AUG06	20	100	140	-178	-268								
6230	EntNpBldg-Proc & Manuf. MVAC Package AC Units	120	11JAN06A	21SEP06	10		80	-94	-148								
6831	EntNpBldg-Proc & Manuf. MVAC / TVF pneumatic sys	120	10MAY06	28SEP06	0		120	-100	-160								
<b>MAJOR EQUIPMENT DELIVERY</b>																	
<b>ENT NORTH PORTAL BUILDING</b>																	
6211	EntNpBldg-Del. HV power dist. equip't to 2/F	48	08MAY06	04JUL06	0		48	-86	-176								
<b>INTERFACE MILESTONES</b>																	
<b>NORTH PORTAL BUILDING</b>																	
1833	Int M/S - ENT NPB - E&M 2/F access	0		12APR06	0	100	0	-106	-166								
6219	EntNpBldg-E&M access to 2/F	0	13APR06*		0	100	0	-106	-148								
1834	Int M/S - ENT NPB - E&M 3/F access	0		09MAY06	0		0	-100	-166								
1837	Int M/S - ENT NPB - E&M Ext.Elev access	0		09MAY06	0		0	-40	-170								
6213	EntNpBldg-E&M access to 3/F	0	10MAY06*		0		0	-100	-166								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	Month							
										DEC 27	JAN 28	FEB 29	MAR 30	APR 31	MAY 32	JUN 33	
<b>NORTH PORTAL BUILDING</b>																	
6218	EntNpBldg-E&M access to External Elevation	0	10MAY06*		0		0	-40	-142								
<b>CONSTRUCTION</b>																	
<b>SUPERSTRUCTURE</b>																	
<b>RC WORKS</b>																	
<b>NB CARRIAGEWAY &amp; CENTRAL RESERVE</b>																	
1394	NP.Bldg - RC S/Slab U2FL.+78.40.65mPD GL.E-H/3-7	12	24DEC05A	23FEB06	50	100	4	-149	-178								
1395	NP.Bldg. - RC Cols.& Walls to 3FL.GL.A-J/3-6	18	24DEC05A	25FEB06	50	100	6	-149	-176								
1396	NP.Bldg. - RC S/Slab 3FL.+85.98mPD GL.A-J/3-7	18	20FEB06	11MAR06	0	100	18	-149	-174								
1397	NP.Bldg. - RC Cols.& Walls to 4FL.GL.A-J/3-7	18	06MAR06	25MAR06	0	100	18	-95	-174								
1398	NP.Bldg. - RC S/Slab 4FL.+93.83mPD GL.A-H/3-7	18	20MAR06	10APR06	0	100	18	-95	-174								
1399	NP.Bldg. - RC Cols.& Walls to 5FL.GL.A-H/3-7	18	03APR06	27APR06	0	100	18	-95	-174								
1400	NP.Bldg. - RC S/Slab 5FL.+100.88mPD GL.A-H/3-7	18	28APR06	20MAY06	0	100	18	-95	-174								
1401	NP.Bldg. - RC Stairs GL.A-H/5-7	18	28APR06	20MAY06	0	100	18	-64	-162								
<b>SB CARRIAGEWAY</b>																	
1407	NP.Bldg. - RC S/Slab U2FL.~78.5mPD GL.E-H/1-3	12	24DEC05A	23FEB06	50	100	4	-143	-162								
1408	NP.Bldg. - RC Cols.& Walls to 3FL.GL.A-J/1-3	18	24DEC05A	25FEB06	50	100	6	-149	-176								
1409	NP.Bldg. - RC S/Slab 3FL.+85.98mPD GL.A-J/1-3	12	27FEB06	11MAR06	0	100	12	-149	-170								
1410	NP.Bldg. - RC Cols.& Walls to 4FL.GL.A-J/1-3	18	06MAR06	25MAR06	0	100	18	-77	-170								
1411	NP.Bldg. - RC S/Slab 4FL.+93.83mPD GL.A-H/1-3	12	20MAR06	01APR06	0	100	12	-77	-170								
1412	NP.Bldg. - RC Cols.& Walls to 5FL.GL.A-H/1-3	18	27MAR06	20APR06	0	100	18	-77	-170								
1413	NP.Bldg. - RC S/Slab 5FL.+100.88mPD GL.A-H/1-3	9	11APR06	27APR06	0	100	12	-77	-170								
1414	NP.Bldg. - RC Stairs GL.A-H/5-7	18	21APR06	13MAY06	0	100	18	-71	-170								
<b>STRUCTURAL STEELWORKS</b>																	
1232	NP.Bldg.- Crane beams to underside of U2F & test	18	17MAR06	07APR06	0	100	18	-102	-162								
1233	NP.Bldg.- Crane beams to underside of 3FL & test	18	08APR06	03MAY06	0	100	18	-96	-162								
1234	NP.Bldg.- Crane beams to underside of 4FL & test	18	08MAY06	27MAY06	0		18	-56	-164								





Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC	JAN	FEB	MAR	APR	MAY	JUN	
										27	28	29	30	31	32	33	
<b>E&amp;M 2/F</b>																	
<b>MVAC WORKS</b>																	
MECH. VENT./AIR CONDITIONING																	
6220	EntNpBldg 2F-AC(1st Fix) mech.vent.	36	13APR06	30MAY06	0	100	36	-106	-148								
<b>ELECTRICAL WORKS</b>																	
MAIN & SUB-MAIN DISTRIBUTION																	
6251	EntNpBldg 2F-ES(1st Fix) Main & Sub-main dist.	54	24MAY06	27JUL06	0		54	-106	-148								
FINAL CIRCUIT																	
6252	EntNpBldg 2F-ES(1st Fix) Final Circuit dist.	54	24MAY06	27JUL06	0		54	-106	-148								
<b>E&amp;M 3/F</b>																	
<b>MVAC WORKS</b>																	
MECH. VENT./AIR CONDITIONING																	
6214	EntNpBldg 3F-AC(1st Fix) mech.vent.	30	10MAY06	14JUN06	0		30	-100	-166								
<b>TESTING &amp; COMMISSIONING</b>																	
<b>STATUTORY INSPECTION</b>																	
<b>FSD INSPECTION</b>																	
6298	EntNpBldg-All FS design approved by FSD (MHJV)	0	02MAY06		0		0	-52	-170								
6325	EntNpBldg-Issue, endorse & submit FSI 314 to FSD	6	24MAY06	30MAY06	0		6	-52	-170								
<b>TOLL PLAZA &amp; ANCILLIARY STRUCTURES</b>																	
<b>SUBMITTALS &amp; APPROVALS</b>																	
<b>ABWF &amp; BUILDER'S WORKS</b>																	
1522	TP/FB - Approve footbridge details	24	28JUL05A	04MAR06	0	100	12	-38	-385								
<b>DESIGN &amp; ENGINEERING</b>																	
<b>PERMANENT WORKS</b>																	
1244	Design/ICE Check Tool Booth Canopy	24	20FEB06	18MAR06	0	100	24	-12	-133								
1341	Eng Approve Dsg Tool Booth Canopy	12	20MAR06	01APR06	0	100	12	-12	-133								
1358	Issue Constr Dwgs Tool Booth Canopy	0		11APR06	0	100	0	-12	-133								
<b>PROCUREMENT - MAJOR MATERIAL</b>																	
2184	Order/Fabricate/Deliver FBridge Structural Steel	120	01APR05A	14MAR06	0	100	20	-13	-44								
1518	Admin Bldg - Procure & manufacture lift	270	01JUN05A	25MAR06	0	80	30	82	11								
2185	Order/Fabricate/Deliver Tool Booth Canopy	90	01DEC05A	30MAY06	0	80	80	-49	-80								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC	JAN	FEB	MAR	APR	MAY	JUN																														
										27	28	29	30	31	32	33																														
<b>TOLL PLAZA</b>											12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12									
1512	TP/FB - Procure & manufacture lifts (x2)	270	15JUL05A	25MAR06	0	80	30	103	36																																					
1521	TP/FB - Procure & fabricate footbridge	110	15JUL05A	25MAR06	0	100	30	-38	-223																																					
7548	TP-Proc & Manuf. MVAC Package AC Units	120	11JAN06A	14SEP06	10		120	-25	-77																																					
<b>INTERFACE MILESTONES</b>																																														
<b>TOLL PLAZA COLLECTOR'S SUBWAY</b>																																														
1492	Int M/S - TP/CS - E&M access	0		13MAY06	0		0	61	-67																																					
7543	E&M access to Toll Plaza Subway	0	23MAY06*		0		0	54	0																																					
<b>CONSTRUCTION WORKS</b>																																														
<b>TOLL PLAZA ROADWORKS</b>																																														
<b>ROADS - FORMATION</b>																																														
1770	TP/Rd - Perm materials storage area; Ptn D2 & D3	175	01JUN04A	15MAR06	90	100	21	-108	-213																																					
1497	TP/Rd - Drainage ch.4+520 to 4+680	44	01AUG05A	12JUN06	20	20	90	-64	-73																																					
1744	TP/Rd - Drainage ch.4+320 to 4+460	40	01JAN06A	25MAR06	10	100	30	-74	-85																																					
1745	TP/Rd - Drainage ch.4+460 to 4+520	46	01JAN06A	12JUN06	10	0	30	-52	-67																																					
1877	TP/Rd - Water main	60	03MAR06	18MAY06	0	90	60	-74	-85																																					
1878	TP/Rd - HV & LV Cable ducting	60	27MAR06	12JUN06	0	60	60	-74	-85																																					
1825	TP/Rd - Drain Testing - ch.4+320 to 4+460	36	03APR06	20MAY06	0	90	36	-40	-85																																					
1775	TP/Rd - Telecom ducts	44	19APR06	12JUN06	0	0	44	-74	-85																																					
<b>ROADS - EVA</b>																																														
1743	TP/Rd - Drainage - EVA loop road - SW area	48	16MAR06	17MAY06	0	100	48	-108	-116																																					
1751	TP/Rd - Drain Testing - EVA loop road - SW area	18	18MAY06	08JUN06	0	100	18	-79	-116																																					
1752	TP/Rd - Sub-base - EVA loop road - SW area	6	18MAY06	24MAY06	0	100	6	-67	-116																																					
1756	TP/Rd - Drainage - EVA loop rd - E & NE area	55	18MAY06	22JUL06	0	60	55	-108	-116																																					
<b>ROADS - FINISHES</b>																																														
1500	TP/Rd - TCSS Ducts SB&NB C'Way ch.4+520 to 4+680	42	20FEB06	10APR06	0	0	42	-31	-17																																					
1824	TP/Rd - Ptn D4 TCSS Ducts S&NB ch.4+460 to 4+520	24	20FEB06	18MAR06	0	100	24	-183	-193																																					

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	Month											
										DEC 27	JAN 28	FEB 29	MAR 30	APR 31	MAY 32	JUN 33					
<b>ROADS - FINISHES</b>																					
1736	TP/Rd - Ptn D2&D3TCSS Dct S&NB ch.4+320 to 4+460	42	20MAR06	13MAY06	0	100	42	-183	-193												
1747	TP/Rd - Ptn D5 - TCSS Dct S&NB ch.4+320 to 4+460	30	21APR06	27MAY06	0	100	30	-109	-143												
1831	TP/Rd - Ptn D5 TCSS Ducts S&NB ch.4+460 to 4+520	24	22MAY06	19JUN06	0		24	-109	-137												
<b>STRUCTURAL STEEL</b>																					
1849	TP/Rd - TCSS Sign ch.4+520 to 4+680	18	11APR06	06MAY06	0	0	18	-31	-43												
<b>TOLL PLAZA COLLECTOR'S SUBWAY</b>																					
<b>STRUCTURE</b>																					
1719	TP/CS - Waterproof & backfill - Ptn B	18	14OCT05A	27JAN06A	100	100	0		-165												
1718	TP/CS - Waterproof & backfill - Ptn A	18	14NOV05A	27JAN06A	100	100	0		-183												
1720	TP/CS - Waterproof & backfill - Ptn C	18	20DEC05A	27JAN06A	100	100	0		-147												
1717	TP/CS - Substructure construction - Ptn D	18	19JAN06A	04MAR06	25	80	12	-37	-25												
1721	TP/CS - Waterproof & backfill - Ptn D	18	06MAR06	25MAR06	0	0	18	-37	-25												
<b>ABWF</b>																					
1471	TP/CS - Internal Finishes Ptn A, B & C	24	27MAR06	27APR06	0	100	24	-37	-207												
1472	TP/CS - Internal Finishes Ptn D	12	28APR06	13MAY06	0		12	-37	-67												
<b>TOLL PLAZA FOOTBRIDGE</b>																					
<b>FOUNDATIONS</b>																					
1495	TP/FB - Pile Cap - Cap FT1	12	04JAN06A	27JAN06A	100	100	0		-27												
<b>RC SUPERSTRUCTURE</b>																					
1694	TP/FB - Column & bearings C2	12	27APR05A	14MAR06	95	100	20	-28	-213												
1707	TP/FB - Column & bearings C1	12	29APR05A	14MAR06	95	100	20	-19	-212												
1494	TP/FB - Column & bearings W2 (FT4)	12	13MAY05A	14MAR06	95	100	20	-28	-240												
1506	TP/FB - Column & bearings W1 (FT1)	56	01FEB06A	14MAR06	0	100	20	-19	-47												
1507	TP/FB - Lift Machine room walls & stair (FT1)	15	01FEB06A	09MAR06	0	100	16	-9	-40												
<b>STRUCTURAL STEELWORKS</b>																					
1502	TP/FB - Stair (FT4)	15	27MAR06	13APR06	0	100	15	-38	-250												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	Gantt Chart											
										DEC 27	JAN 28	FEB 29	MAR 30	APR 31	MAY 32	JUN 33					
<b>STRUCTURAL STEELWORKS</b>																					
1709	TP/FB - Erect & install frame A1	3	27MAR06	29MAR06	0		3	-29	-57												
1710	TP/FB - Erect & install frame A2	3	27MAR06	29MAR06	0	100	3	-29	-223												
1711	TP/FB - Erect & install frame B	3	30MAR06	01APR06	0		3	-29	-57												
1712	TP/FB - Site weld, test & remove temp supports	18	03APR06	27APR06	0		18	-29	-57												
1496	TP/FB - Px Lift (x2) Structural Steelwork Inst.	24	18APR06	17MAY06	0		24	-38	-69												
<b>TOLL PLAZA BOOTHS</b>																					
<b>STRUCTURE</b>																					
1510	TP/B - Construct toll islands - Portion A - 1 no	12	20FEB06	04MAR06	0	100	12	-159	-195												
1713	TP/B - Construct toll islands - Portion B - 5 no	30	27FEB06	01APR06	0	100	30	-159	-183												
1722	TP/B - Construct toll islands - Portion C - 5 no	30	27MAR06	06MAY06	0	100	30	-159	-183												
1723	TP/B - Construct toll islands - Portion D - 6 no	30	11APR06	20MAY06	0		30	-13	-43												
<b>ABWF</b>																					
1511	TP/B - Construct toll kiosks - Portion A - 1 no	12	28APR06	13MAY06	0		12	-29	-57												
1726	TP/B - Construct toll kiosks - Portion B - 5 no	30	15MAY06	19JUN06	0		30	-29	-57												
<b>TOLL PLAZA E&amp;M WORKS</b>																					
<b>FS WORKS</b>																					
<b>AFA DISTRIBUTION</b>																					
7565	TP-FS(1st Fix) AFA dist.	24	23MAY06	20JUN06	0		24	63	0												
<b>ADMIN.BLDG. - WORKSHOP</b>																					
<b>FOUNDATIONS</b>																					
1750	Admin.Bldg. Wk Shop - Raft footing	18	25JAN06A	24FEB06	80	100	5	-84	-102												
<b>STRUCTURE</b>																					
1749	Admin.Bldg. Wk Shop - GF Slab	18	25FEB06	17MAR06	0	100	18	-84	-102												
1768	Admin.Bldg. Wk Shop - Columns & walls GF to Roof	18	11MAR06	31MAR06	0	100	18	-84	-102												
1777	Admin.Bldg. Wk Shop - Roof Slab	18	25MAR06	19APR06	0	100	18	-84	-102												
1779	Admin. Wk Shop - Col & walls Roof to Upper Roof	12	10APR06	26APR06	0	100	12	-84	-102												
1780	Admin.Bldg. Wk Shop - Upper Roof slab	12	27APR06	12MAY06	0		12	-84	-102												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	Month												
										DEC 27	JAN 28	FEB 29	MAR 30	APR 31	MAY 32	JUN 33						
<b>ABWF</b>																						
1783	Admin.Bldg. Wk Shop - Ext. Doors & Windows GF	18	06MAY06	26MAY06	0		18	-66	-102													
<b>ADMINISTRATION BUILDING</b>																						
<b>SUBMITTALS &amp; APPROVALS</b>																						
<b>ABWF &amp; BUILDER'S WORKS</b>																						
1883	Admin.Bldg. - Prep & sub sheet decking details	24	13NOV04A	04MAR06	12	100	12	-195	-355													
1891	Admin.Bldg. - Prep & submit door & window detail	24	13NOV04A	14FEB06A	100	100	0		-339													
1885	Admin.Bldg. - Prep & submit wood ceiling details	24	20NOV04A	04MAR06	50	100	12	-183	-349													
1881	Admin.Bldg. - Prep & sub GRP water tank details	24	12JAN05A	04MAR06	50	100	12	-201	-307													
1892	Admin.Bldg. - Approve door & window details	24	06APR05A	04MAR06	50	100	12	-189	-331													
1894	Admin.Bldg. - Approve louvre details	24	07APR05A	04MAR06	50	100	12	-26	-397													
1819	Admin.Bldg. - Approve stone cladding design	24	15JUN05A	04MAR06	50	100	12	-56	-247													
1820	Admin.Bldg. - Approve slate cladding design	24	15JUN05A	04MAR06	50	100	12	-56	-247													
1890	Admin.Bldg. - Approve curtain wall details	24	22JUN05A	03FEB06A	100	100	0		-343													
1887	Admin.Bldg. - Prep & sub suspend ceiling details	24	12AUG05A	04MAR06	50	100	12	-24	-139													
1900	Admin.Bldg. - Approve fall arrest system	24	14OCT05A	14FEB06A	100	100	0		-285													
1898	Admin.Bldg. - Approve aluminium cladding	24	13DEC05A	04MAR06	0	100	12	-56	-397													
1896	Admin.Bldg. - Approve balustrade & metal works	24	10JAN06A	13FEB06A	100	100	0		-272													
1882	Admin.Bldg. - Approve GRP water tank details	24	06MAR06	01APR06	0	100	24	-201	-307													
1884	Admin.Bldg. - Approve sheet decking details	24	06MAR06	01APR06	0	100	24	-195	-355													
1886	Admin.Bldg. - Approve wood ceiling details	24	06MAR06	01APR06	0	100	24	-183	-349													
1888	Admin.Bldg. - Approve suspended ceiling details	24	06MAR06	01APR06	0	100	24	-24	-139													
<b>E&amp;M EQPT. / MTRL. SUBMITTALS</b>																						
8244	AdmBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	24FEB06	99	100	5	-56	-184													
8240	AdmBldg-Sub.FS wet sys	54	05AUG04A	24FEB06	99	100	5	-62	-328													

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC							JAN				FEB				MAR				APR				MAY				JUN																							
										27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3												
										12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12																								
<b>E&amp;M EQPT. / MTRL. SUBMITTALS</b>																																																												
8242	AdmBldg-Sub.CMCS, TCS & ELV sys	78	26AUG04A	06MAY06	90	100	60	-189	-349																																																			
<b>E&amp;M EQPT. / MTRL. APPROVALS</b>																																																												
8503	AdmBldg-App. building related luminaires	18	18AUG04A	11MAR06	90	100	18	-170	-245																																																			
6388	AdmBldg-App. FS wet sys	18	04SEP04A	11MAR06	80	100	18	-62	-323																																																			
6399	AdmBldg-App. FS AFA & FM200 sys	18	14SEP04A	11MAR06	85	100	18	-56	-179																																																			
6392	AdmBldg-App. of CMCS, TCS & ELV sys	18	20SEP04A	11MAR06	80	100	18	-189	-289																																																			
6389	AdmBldg-App. MVAC mech.vent. sys	18	23SEP04A	11MAR06	80	100	18	-206	-335																																																			
6396	AdmBldg-App. FCUs & PAUs	18	23SEP04A	08MAR06	80	100	15	-203	-392																																																			
6387	AdmBldg-App. PD all fresh & flush water sys	18	04NOV04A	11MAR06	85	100	18	-80	-347																																																			
6478	AdmBldg-App. Chiller & Pumps	18	17JAN05A	11MAR06	90	100	18	-136	-353																																																			
<b>DESIGN &amp; ENGINEERING</b>																																																												
<b>ABWF WORKS</b>																																																												
1802	Admin.Bldg. - Design stone cladding	36	04APR05A	18MAR06	50	100	24	-56	-283																																																			
1803	Admin.Bldg. - Design slate cladding	36	04APR05A	18MAR06	50	100	24	-56	-283																																																			
<b>PROCUREMENT - MATERIAL</b>																																																												
<b>ABWF WORKS</b>																																																												
1904	Admin.Bldg. - Procure wood ceiling	90	19JAN05A	04MAR06	0	100	12	-185	-145																																																			
1909	Admin.Bldg. - Procure balustrade & metal works	90	09MAR05A	04MAR06	0	100	12	-177	-199																																																			
1910	Admin.Bldg. - Procure aluminium cladding	90	09MAR05A	04MAR06	0	100	12	-86	-217																																																			
1916	Admin.Bldg. - Procure slate cladding	90	14MAR05A	04MAR06	50	100	12	-86	-67																																																			
1902	Admin.Bldg. - Procure GRP water tank	90	16MAR05A	04MAR06	0	100	12	-177	-163																																																			
6391	AdmBldg-Proc & Manuf. LV power dist. equip't	120	20MAR05A	12JUN06	40	100	90	-152	-251																																																			
6390	AdmBldg-Proc & Manuf. of HV dist. equip't	120	25MAR05A	06MAY06	90	100	60	-122	-257																																																			
6397	AdmBldg-Proc & Manuf. of CMCS, ELV & TCS sys	180	25MAR05A	25AUG06	15	100	153	-189	-244																																																			
6444	AdmBldg-Proc & Manuf. FS AFA & FM200 sys	120	25MAR05A	04JUL06	40	100	90	-56	-149																																																			

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	Month							
										DEC 27	JAN 28	FEB 29	MAR 30	APR 31	MAY 32	JUN 33	
<b>ABWF WORKS</b>																	
1917	Admin.Bldg. - Procure stone cladding	90	03MAY05A	04MAR06	50	100	12	-86	-67								
1905	Admin.Bldg. - Procure suspended ceiling	120	09MAY05A	01APR06	0	80	36	-54	-19								
6394	AdmBldg-Proc & Manuf. FS wet sys	90	06JUN05A	12JUN06	30	100	90	-62	-275								
6393	AdmBldg-Proc & Manuf. PD fresh & flush water sys	90	30SEP05A	04JUL06	10	100	90	-80	-317								
8504	AdmBldg-Proc & Manf bldg related luminaires	180	23NOV05A	19OCT06	90	100	180	-170	-245								
6415	AdmBldg-Proc & Manuf. FCUs & PAUs	90	06JAN06A	29JUN06	10	100	90	-203	-302								
6479	AdmBldg-Proc & Manuf. Chiller & Pumps	90	01FEB06A	21JUN06	5	100	80	-136	-253								
1938	Admin.Bldg. - Initial delivey glass canopy	0	20FEB06		0	0	0	-177	0								
2055	Admin.Bldg. - Initial delivery curtain wall	0	23FEB06		0	0	0	-162	0								
6395	AdmBldg-Proc & Manuf. MVAC mech.vent. sys	90	13MAR06	04JUL06	0	100	90	-206	-305								
2060	Admin.Bldg. - Initial delivery balust & mtl wks	0	20MAR06		0	0	0	-177	0								
2059	Admin.Bldg. - Initial delivery fall arrest syst	0	22MAR06		0	0	0	-10	0								
2057	Admin.Bldg. - Initial delivery doors & windows	0	03APR06		0	0	0	-189	484								
2054	Admin.Bldg. - Initial delivery louvres	0	11APR06		0	0	0	-26	0								
2056	Admin.Bldg. - Initial delivery sheet decking	0	11APR06		0	0	0	-195	0								
2058	Admin.Bldg. - Initial delivery wood ceiling	0	10MAY06		0	0	0	-185	-572								
2063	Admin.Bldg. - Initial delivery GRP water tank	0	15MAY06		0	0	0	-201	0								
<b>MAJOR EQUIPMENT DELIVERY</b>																	
<b>ADMINISTRATION BUILDING</b>																	
6401	AdmBldg-Del. LV power dist. equip't to 2/F	48	22DEC05A	08AUG06	50		48	-152	-251								
6400	AdmBldg-Del. HV power dist. equip't to 2/F	48	08MAY06	04JUL06	0		48	-122	-257								
<b>INTERFACE DATES</b>																	
<b>ADMINISTRATION BUILDING</b>																	
1827	Int. MS - Admin.Bldg. - E&M 1/F access (partial)	0		04MAR06	0	100	0	-114	-187								
4003	Int. MS - Admin.Bldg. - E&M G/F access (full)	0		04MAR06	0	100	0	661	-181								





Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC							JAN			FEB			MAR			APR			MAY			JUN														
										27			28			29			30			31			1			2			3			4			5									
										12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12										
<b>CRITICAL ROOMS</b>																																														
1748	Admin.Bldg Crit Rm - Int. Blockwork - 3F to Roof	12	15MAY06	27MAY06	0		12	-201	-217																																					
1523	Admin.Bldg Crit Rm - Int. Finishes 2F	18	22MAY06	12JUN06	0		18	-195	-205																																					
1735	Admin.Bldg Crit Rm - Ext. Glazing 3F	18	29MAY06	19JUN06	0		18	-201	-211																																					
<b>REMAINING ROOMS</b>																																														
1792	Admin.Bldg Oth Rm - Int. Blockwork GF	24	06JAN06A	04MAR06	0	100	12	-134	-181																																					
1793	Admin.Bldg Oth Rm - Int. Blockwork 1F	24	06MAR06	01APR06	0	100	24	-134	-181																																					
1805	Admin.Bldg Oth Rm - Ext. Doors & Windows GF	24	06MAR06	01APR06	0	100	24	-134	-181																																					
1794	Admin.Bldg Oth Rm - Int. Blockwork 2F	24	03APR06	06MAY06	0		24	-116	-181																																					
1796	Admin.Bldg Oth Rm - Ext. Glazing 1F	30	03APR06	13MAY06	0		30	-134	-181																																					
1798	Admin.Bldg Oth Rm - Int. Finishes GF	36	03APR06	20MAY06	0		36	-116	-181																																					
1799	Admin.Bldg Oth Rm - Int. Finishes 1F	36	21APR06	05JUN06	0		36	-116	-181																																					
1800	Admin.Bldg Oth Rm - Int. Finishes 2F	36	08MAY06	19JUN06	0		36	-116	-181																																					
1440	Admin.Bldg Oth Rm - Ext. Glazing 2F	30	15MAY06	19JUN06	0		30	-134	-181																																					
1806	Admin.Bldg Oth Rm - Int. Blockwork - 3F to Roof	12	15MAY06	27MAY06	0		12	-116	-187																																					
<b>E&amp;M WORKS - GENERAL</b>																																														
<b>FS WORKS</b>																																														
<b>FS MAJOR EQUIPMENT</b>																																														
6411	AdmBldg-Hydrant Pump & Tank set 1st fix	48	13MAR06	13MAY06	0	100	48	10	-203																																					
<b>ELECTRICAL WORKS</b>																																														
<b>HV POWER DISTRIBUTION MAJOR EQPT.</b>																																														
6408	AdmBldg-HV power dist. sys 1st fix	36	06MAR06	20APR06	0	100	36	-98	-197																																					
<b>LV POWER DISTRIBUTION MAJOR EQPT.</b>																																														
6418	AdmBldg-LV power dist. sys 1st fix	36	21APR06	05JUN06	0		36	-98	-197																																					
<b>P&amp;D WORKS</b>																																														
<b>P&amp;D MAJOR EQUIPMENT</b>																																														
6412	AdmBldg-Water Pumps & Tanks 1st fix	24	06MAR06	01APR06	0	100	24	40	-197																																					
<b>TCSS CONTAINMENT</b>																																														
8483	AdminBldg - TCSS Contain't for KD7	24	29MAY06	26JUN06	0		24	-201	-211																																					



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC		JAN			FEB			MAR			APR			MAY			JUN	
										27	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24
<b>Electrical Works</b>																												
MAIN & SUBMAIN DISTRIBUTION																												
6433	AdmBldg 2F-ES(1st Fix) Main & Sub-main dist.	30	22MAY06	26JUN06	0		30	-120	-175																			
FINAL CIRCUIT																												
6434	AdmBldg 2F-ES(1st Fix) Final Circuit dist.	42	22MAY06	11JUL06	0		42	-86	-175																			
<b>STATUTORY INSPECTIONS</b>																												
<b>FSD INSPECTIONS</b>																												
6468	AdmBldg-All FS design approved by FSD (MHJV)	0	20FEB06		0	100	0	-32	-203																			
6493	AdmBldg-Issue, endorse & submit FSI 314 to FSD	6	06MAR06	11MAR06	0	100	6	-32	-203																			
<b>SHATIN HEIGHTS SOUTH PORTAL BUILDING</b>																												
<b>SUBMITTALS &amp; APPROVALS</b>																												
<b>ABWF &amp; BUILDER'S WORKS</b>																												
2000	SHT SPB - Approve door & window details	24	03JUN05A	04MAR06	0	100	12	28	-141																			
2006	SHT SPB - Prep & sub balustrade & metal wks	24	13JUL05A	04MAR06	50	100	12	-2	-165																			
2007	SHT SPB - Approve balustrade & metal works	24	13DEC05A	04MAR06	0	100	12	-2	-141																			
<b>E&amp;M EQPT. / MTRL. SUBMITTALS</b>																												
8268	ShtSpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	27APR06	95	100	54	-168	-279																			
8270	ShtSpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	24FEB06	99	100	5	-14	-96																			
8269	ShtSpBldg-Sub.FS wet sys	54	05AUG04A	24FEB06	99	100	5	-84	-176																			
8267	ShtSpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	20APR06	95	100	48	-98	-117																			
8263	ShtSpBldg-Sub.CMCS & ELV sys	78	26AUG04A	06MAY06	98	100	60	-76	-219																			
8272	ShtSpBldg-Sub.PD irrig. sys	54	04FEB05A	27APR06	85	100	54	-84	-231																			
<b>E&amp;M EQPT. / MTRL. APPROVALS</b>																												
7209	ShtSpBldg-App. PD cleans. & flush water sys	18	04AUG04A	11MAR06	85	100	18	-60	-177																			
8507	ShtSpBldg-App. building related luminaires	18	18AUG04A	11MAR06	90	100	18	-16	-201																			
7155	ShtSpBldg-App. FS wet sys	18	04SEP04A	11MAR06	80	100	18	-84	-171																			
7205	ShtSpBldg-App. FS AFA & FM200 sys	18	14SEP04A	11MAR06	85	100	18	-14	-91																			
7085	ShtSpBldg-App. of CMCS & ELV sys	18	20SEP04A	11MAR06	88	100	18	-76	-159																			

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC		JAN			FEB			MAR			APR			MAY			JUN														
										27	26	27	28	29	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12								
<b>E&amp;M EQPT. / MTRL. APPROVALS</b>																																									
7116	ShtSpBldg-App. MVAC mech.vent. sys	18	23SEP04A	11MAR06	80	100	18	-144	-165																																
7147	ShtSpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	11MAR06	80	100	18	-168	-225																																
7140	ShtSpBldg-App. MVAC / TVF pneumatic sys	18	07MAR05A	20MAY06	80		18	-104	-123																																
7229	ShtSpBldg-App. PD irrig. sys	18	05MAY05A	11MAR06	30	100	18	-84	-177																																
<b>PROCUREMENT - MATERIAL</b>																																									
<b>E &amp; M WORKS</b>																																									
7047	ShtSpBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	12JUN06	40	100	90	-74	-117																																
2024	SHT SPB - Procure balustrade & metal works	120	24MAR05A	04MAR06	50	90	12	-2	-21																																
7041	ShtSpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	06MAY06	90	100	60	-32	-93																																
7086	ShtSpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	10AUG06	20	80	140	-76	-101																																
7148	ShtSpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	02SEP06	10	100	160	-168	-187																																
7206	ShtSpBldg-Proc & Manuf. FS AFA & FM200 sys	120	25MAR05A	04JUL06	40	40	90	-14	-61																																
7156	ShtSpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	18JUL06	30	100	120	-84	-153																																
7134	ShtSpBldg-Proc & Manuf. TVF,Ductwks & Cont'l sys	180	09JUN05A	18JUL06	40	90	120	-98	-117																																
7210	ShtSpBldg-Proc & Manuf. Cleans & flush water sys	120	30SEP05A	04JUL06	10	100	90	-60	-147																																
8508	ShtSpBldg-Proc & Manf bldg related luminaires	180	23NOV05A	16MAY06	90	90	50	-16	-71																																
7102	ShtSpBldg-Proc & Manuf. MVAC Package AC Units	120	11JAN06A	12JUN06	10	60	90	-20	-63																																
7117	ShtSpBldg-Proc & Manuf. MVAC mech.vent. sys	120	13MAR06	08AUG06	0	100	120	-144	-165																																
7230	ShtSpBldg-Proc & Manuf. PD irrig. sys	120	13MAR06	08AUG06	0	100	120	-84	-177																																
7141	ShtSpBldg-Proc & Manuf. MVAC / TVF pneumatic sys	120	22MAY06	12OCT06	0		120	-104	-123																																
<b>MAJOR EQUIPMENT DELIVERY</b>																																									
<b>E&amp;M WORKS</b>																																									
7048	ShtSpBldg-Del. LV power dist. equip't to 2/F	48	22DEC05A	08AUG06	50		48	-74	-117																																
7042	ShtSpBldg-Del. HV power dist. equip't to 2/F	48	08MAY06	04JUL06	0		48	-32	-93																																
8509	ShtSpBldg-Del. building related luminaires	48	17MAY06	13JUL06	0		48	-16	-71																																

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC			JAN				FEB			MAR			APR			MAY			JUN															
										27	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3					
<b>INTERFACE DATES</b>																																												
1853	Int M/S - SHT Sth Ptal Bldg-E&M access Ext.Elev	0		04MAR06	0	0	0	28	-9																																			
1854	Int M/S - SHT S Ptal Bldg - E&M access 3/F	0		04MAR06	0	0	0	-2	-21																																			
1855	Int M/S - SHT S Ptal Bldg - E&M access G/F	0		04MAR06	0	0	0	-2	-21																																			
1859	Int M/S - SHT S Ptal Bldg - E&M access 2/F	0		04MAR06	0	0	0	-2	-21																																			
1856	Int M/S - SHT S Ptal Bldg - E&M access 1/F	0		11MAR06	0	0	0	4	-21																																			
1857	Int M/S - SHT S Ptal Bldg - E&M access Plenum	0		18MAR06	0	0	0	-2	-21																																			
1858	Int M/S - SHT S Ptal Bldg - E&M access Roof	0		18MAR06	0	0	0	10	-21																																			
7033	ShtSpBldg-E&M access to 3/F	0	03APR06*		0		0	-26	-45																																			
7034	ShtSpBldg-E&M access to 2/F	0	03APR06*		0		0	-26	-45																																			
7035	ShtSpBldg-E&M access to G/F	0	03APR06*		0		0	-26	-45																																			
7036	ShtSpBldg-E&M access to 1/F	0	03APR06*		0		0	-14	-39																																			
7037	ShtSpBldg-E&M access to Plenum	0	03APR06*		0		0	-14	-33																																			
7038	ShtSpBldg-E&M access to Roof (Exhaust Shaft)	0	03APR06*		0		0	-2	-33																																			
7039	ShtSpBldg-E&M access to External Elevation	0	03APR06*		0		0	4	-33																																			
<b>CONSTRUCTION</b>																																												
<b>ARCHITECTURAL &amp; BUILDER'S WORKS</b>																																												
<b>ROOFING &amp; EXTERNAL FACADE</b>																																												
1811	SHT Sth PBldg - Ext. Doors & Windows	33	20FEB06	29MAR06	0	0	33	28	-9																																			
<b>BUILDER'S WORK</b>																																												
1808	SHT Sth PBldg - Wet Trades 1FL	16	06MAR06	23MAR06	0	0	16	4	-21																																			
1815	SHT Sth PBldg - Wet Trades GL	16	06MAR06	23MAR06	0	0	16	-2	-21																																			
1851	SHT Sth PBldg - Wet Trades 2FL	16	06MAR06	23MAR06	0	0	16	-2	-21																																			
1852	SHT Sth PBldg - Wet Trades 4FL	16	06MAR06	23MAR06	0	0	16	-2	-21																																			
1860	SHT Sth PBldg - Wet Trades 3FL	16	06MAR06	23MAR06	0	0	16	-2	-21																																			
1861	SHT Sth PBldg - Wet Trades 5FL	16	06MAR06	23MAR06	0	0	16	10	-21																																			

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC	JAN	FEB	MAR	APR	MAY	JUN	
										27	28	29	30	31	32	33	
<b>E&amp;M - GENERAL</b>																	
<b>MVAC WORKS</b>																	
MCC, POWER & CONTROL																	
7150	ShtSpBldg-MCC, power & control 1st fix	36	03APR06	20MAY06	0		36	-26	-45								
<b>FS WORKS</b>																	
FS MAJOR EQUIPMENT																	
7158	ShtSpBldg-Hydrant Pump & Tank set 1st fix	48	03APR06	05JUN06	0		48	0	-45								
TUNNEL HYDRANT + HOSE REEL																	
7163	ShtSpBldg-ENT Tunnel (Hyd/HR) pumps set 1st fix	24	03APR06	06MAY06	0		24	60	-45								
<b>ELECTRICAL WORKS</b>																	
HV POWER DISTRIBUTION MAJOR EQPT.																	
7043	ShtSpBldg-HV power dist. sys 1st fix	24	03APR06	06MAY06	0		24	-2	-45								
LV POWER DISTRIBUTION MAJOR EQPT.																	
7049	ShtSpBldg-LV power dist. sys 1st fix	18	21APR06	13MAY06	0		18	-2	-45								
EARTHING & LIGHTNING PROTECTION																	
7083	ShtSpBldg-Earth'g & lighn'g protection 2nd fix	54	03APR06	12JUN06	0		54	4	-33								
<b>PLUMBING &amp; DRAINAGE WORKS</b>																	
IRRIGATION SYSTEM																	
7212	ShtSpBldg-Cleansing Water Pumps & Tanks 1st fix	18	03APR06	27APR06	0		18	42	-45								
7232	ShtSpBldg-irrig. Water Pumps & Tanks 1st fix	18	03APR06	27APR06	0		18	48	-45								
8310	ShtSpBldg Ext-PD(1st Fix) irrig. sys	24	03APR06	06MAY06	0		24	73	-45								
<b>TUNNEL VENTILATION SYSTEM</b>																	
7136	ShtSpBldg-AC/TVF TVF, Duct & Control 1st fix	48	03APR06	05JUN06	0		48	-14	-33								
<b>E&amp;M G/F</b>																	
<b>MVAC WORKS</b>																	
MECH. VENT./AIR CONDITIONING																	
7121	ShtSpBldg G/F-AC(1st Fix) mech.vent.	24	03APR06	06MAY06	0		24	-26	-45								
<b>ELECTRICAL WORKS</b>																	
MAIN & SUB-MAIN DISTRIBUTUION																	
7054	ShtSpBldg G/F-ES(1st Fix) Main & Sub-main dist.	24	08MAY06	05JUN06	0		24	-26	-45								
FINAL CIRCUIT																	
7067	ShtSpBldg G/F-ES(1st Fix) Final Circuit dist.	30	08MAY06	12JUN06	0		30	-26	-45								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance	DEC				JAN				FEB				MAR				APR				MAY				JUN									
										27	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	2	9			
<b>E&amp;M 1/F</b>																																											
<b>MVAC WORKS</b>																																											
MECH. VENT./AIR CONDITIONING																																											
7122	ShtSpBldg 1F-AC(1st Fix) mech.vent.	42	03APR06	27MAY06	0		42	-14	-39																																		
<b>FS WORKS</b>																																											
WET DISTRIBUTION																																											
7169	ShtSpBldg 1F-FS(1st Fix) Wet dist. sys	12	15MAY06	27MAY06	0		12	-14	-39																																		
AFA DISTRIBUTION																																											
7186	ShtSpBldg 1F-FS(1st Fix) AFA dist.	18	15MAY06	05JUN06	0		18	-14	-39																																		
FM200 SYSTEM																																											
7200	ShtSpBldg 1F-FM200 sys 1st fix	24	15MAY06	12JUN06	0		24	52	-39																																		
<b>ELECTRICAL WORKS</b>																																											
MAIN & SUB-MAIN DISTRIBUTION																																											
7057	ShtSpBldg 1F-ES(1st Fix) Main & Sub-main dist.	24	29MAY06	26JUN06	0		24	-14	-39																																		
FINAL CIRCUIT																																											
7070	ShtSpBldg 1F-ES(1st Fix) Final Circuit dist.	30	03APR06	13MAY06	0		30	-14	-39																																		
7074	ShtSpBldg 1F-ES(2nd Fix) Final Circuit dist.	24	15MAY06	12JUN06	0		24	-14	-39																																		
<b>PLUMBING &amp; DRAINAGE WORKS</b>																																											
7217	ShtSpBldg 1F-PD(1st Fix) dist. sys	18	29MAY06	19JUN06	0		18	16	-39																																		
<b>E&amp;M 2/F</b>																																											
<b>MVAC WORKS</b>																																											
MECH. VENT./AIR CONDITIONING																																											
7120	ShtSpBldg 2F-AC(1st Fix) mech.vent.	36	03APR06	20MAY06	0		36	-20	-45																																		
<b>ELECTRICAL WORKS</b>																																											
MAIN & SUB-MAIN DISTRIBUTION																																											
7056	ShtSpBldg 2F-ES(1st Fix) Main & Sub-main dist.	30	22MAY06	26JUN06	0		30	-20	-45																																		
FINAL CIRCUIT																																											
7069	ShtSpBldg 2F-ES(1st Fix) Final Circuit dist.	54	03APR06	12JUN06	0		54	-26	-45																																		
<b>E&amp;M 3/F</b>																																											
<b>MVAC WORKS</b>																																											
MECH. VENT./AIR CONDITIONING																																											
7119	ShtSpBldg 3F-AC(1st Fix) mech.vent.	30	03APR06	13MAY06	0		30	-24	-45																																		

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance	Early Finish	DEC				JAN				FEB				MAR				APR				MAY				JUN																							
											12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19																				
<b>FS WORKS</b>																																																										
WET DISTRIBUTION																																																										
7168	ShtSpBldg 3F-FS(1st Fix) Wet dist. sys	24	24MAY06	21JUN06	0		24	-2	-45																																																	
AFA DISTRIBUTION																																																										
7185	ShtSpBldg 3F-FS(1st Fix) AFA dist.	30	24MAY06	28JUN06	0		30	14	-45																																																	
FM200 SYSTEM																																																										
7199	ShtSpBldg 3F-FM200 sys 1st fix	18	24MAY06	14JUN06	0		18	68	-45																																																	
<b>ELECTRICAL WORKS</b>																																																										
MAIN & SUB-MAIN DISTRIBUTION																																																										
7055	ShtSpBldg 3F-ES(1st Fix) Main & Sub-main dist.	42	28APR06	19JUN06	0		42	-8	-45																																																	
FINAL CIRCUIT																																																										
7068	ShtSpBldg 3F-ES(1st Fix) Final Circuit dist.	38	03APR06	23MAY06	0		38	-2	-45																																																	
7073	ShtSpBldg 3F-ES(2nd Fix) Final Circuit dist.	24	24MAY06	21JUN06	0		24	8	-45																																																	
<b>E&amp;M ROOF</b>																																																										
<b>ELECTRICAL WORKS</b>																																																										
FINAL CIRCUIT																																																										
7066	ShtSpBldg R/F-ES(1st Fix) Final Circuit dist.	36	03APR06	20MAY06	0		36	-2	-33																																																	
7071	ShtSpBldg R/F-ES(2nd Fix) Final Circuit dist.	30	22MAY06	26JUN06	0		30	-2	-33																																																	
<b>STATUTORY INSPECTIONS</b>																																																										
<b>FSD INSPECTIONS</b>																																																										
7239	ShtSpBldg-All FS design approved by FSD (MHJV)	0	13MAR06		0	100	0	0	-45																																																	
7240	ShtSpBldg-Issue, endorse & submit FSI 314 to FSD	6	27MAR06	01APR06	0		6	0	-45																																																	
<b>SHT TUNNEL</b>																																																										
<b>SUBMITTALS &amp; APPROVALS</b>																																																										
<b>E&amp;M EQPT. / MTRL. SUBMITTALS</b>																																																										
8281	ShtRtNb-Sub.TVS control sys	54	02JUL04A	27APR06	95	100	54	-86	-216																																																	
8287	ShtRtSb-Sub.TVS control sys	54	02JUL04A	27APR06	95	100	54	-86	-216																																																	
8282	ShtRtNb-Sub.FS AFA & Linear sys	54	05JUL04A	24FEB06	99	100	5	-82	-245																																																	
8288	ShtRtSb-Sub.FS AFA & Linear sys	54	05JUL04A	24FEB06	99	100	5	-82	-245																																																	
8280	ShtRtNb-Sub.CMCS & ELV sys	78	26AUG04A	06MAY06	98	100	60	-102	-239																																																	



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	Calendar																				
										DEC			JAN			FEB			MAR			APR			MAY			JUN		
										27	28	29	27	28	29	27	28	29	27	28	29	30	31	1	2	3	4	5	6	7
<b>E&amp;M EQPT. / MTRL. SUBMITTALS</b>																														
8286	ShtRtSb-Sub.CMCS & ELV sys	78	26AUG04A	06MAY06	98	100	60	-94	-231																					
<b>E&amp;M EQPT. / MTRL. APPROVALS</b>																														
6938	ShtRtSb-App. Tunnel Lgt sys	18	05AUG04A	11MAR06	80	100	18	-68	-180																					
6991	ShtRtNb-App. Tunnel Lgt sys	18	05AUG04A	11MAR06	80	100	18	-89	-198																					
6932	ShtRtSb-App. HV/LV main & submain dist. sys	18	13AUG04A	11MAR06	80	100	18	-32	-210																					
6969	ShtRtSb-App. FS AFA & Linear sys	18	14SEP04A	11MAR06	85	100	18	-82	-240																					
7022	ShtRtNb-App. FS AFA & Linear sys	18	14SEP04A	11MAR06	85	100	18	-82	-240																					
6945	ShtRtSb-App. CMCS & TCS & ELV sys	18	20SEP04A	11MAR06	88	100	18	-94	-171																					
6998	ShtRtNb-App. CMCS & ELV sys	18	20SEP04A	11MAR06	88	100	18	-102	-179																					
6957	ShtRtSb-App. TVS control sys	18	12NOV04A	11MAR06	70	100	18	-86	-162																					
7010	ShtRtNb-App. TVS control sys	18	12NOV04A	11MAR06	70	100	18	-86	-162																					
<b>PROCUREMENT - MATERIAL</b>																														
<b>SHT TUNNEL NORTHBOUND</b>																														
6986	ShtRtNb-Proc & Manuf. ES Main & submain dist.	180	20MAR05A	06JUN06	40	90	85	-69	-97																					
6999	ShtRtNb-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	10AUG06	20	80	140	-102	-121																					
7023	ShtRtNb-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	12JUN06	40	100	90	-82	-132																					
7011	ShtRtNb-Proc & Manuf. TVS control sys	180	25MAY05A	02SEP06	10	80	160	-86	-124																					
7628	ShtRtNb-Proc & Manuf. TVS in Tunnel	180	09JUN05A	12JUN06	60	90	90	-46	-84																					
6992	ShtRtNb-Proc & Manuf. Tunnel Lgt sys	180	20JAN06A	04JUL06	0	90	90	-89	-108																					
<b>SHT TUNNEL SOUTHBOUND</b>																														
6946	ShtRtSb-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	10AUG06	20	70	140	-94	-113																					
6970	ShtRtSb-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	12JUN06	40	100	90	-82	-132																					
6933	ShtRtSb-Proc & Manuf. ES Main & submain dist.	180	20MAY05A	06MAY06	65	95	60	-32	-72																					
6958	ShtRtSb-Proc & Manuf. TVS control sys	180	25MAY05A	02SEP06	10	70	160	-86	-124																					
7625	ShtRtSb-Proc & Manuf. TVS in Tunnel	180	09JUN05A	12JUN06	60	90	90	-46	-84																					

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC	JAN	FEB	MAR	APR	MAY	JUN	
										27	28	29	30	31	32	33	
<b>SHT TUNNEL SOUTHBOUND</b>																	
6939	ShtRtSb-Proc & Manuf. Tunnel Lgt sys	180	20JAN06A	04JUL06	0	90	90	-68	-90								
<b>MAJOR EQUIPMENT DELIVERY</b>																	
<b>SHT TUNNEL NORTHBOUND</b>																	
7629	ShtRtNb-Del. TVS in Tunnel	72	20JAN06A	05SEP06	60		72	-46	-84								
<b>SHT TUNNEL SOUTH BOUND</b>																	
6934	ShtRtSb-Del. HV/LV main & submain dist. sys	72	20FEB06A	18JUL06	50		60	-32	-60								
<b>INTERFACE DATES</b>																	
<b>SHT TUNNEL NORTHBOUND</b>																	
6981	ShtRtNb-E&M Access to SB OHVD	0	20JAN06A		100		0		25								
6980	ShtRtNb-E&M Access to SB Tunnel (under OHVD)	0	10FEB06A		100		0		14								
6982	ShtRtNb-E&M Access to NB Cable Troughs	0	03APR06*		0		0	-11	-30								
6983	ShtRtNb-E&M Access to SB Cross Passages	0	03APR06*		0		0	-11	-30								
6984	ShtRtNb-E&M Access to SB Niches	0	03APR06*		0		0	28	-30								
<b>SHT TUNNEL SOUTHBOUND</b>																	
6927	ShtRtSb-E&M Access to SB Tunnel (under OHVD)	0	03APR06*		0		0	-8	-30								
6928	ShtRtSb-E&M Access to SB OHVD	0	03APR06*		0		0	-2	-30								
6929	ShtRtSb-E&M Access to SB Cable Troughs	0	03APR06*		0		0	-11	-30								
6930	ShtRtSb-E&M Access to SB Cross Passages	0	03APR06*		0		0	-8	-30								
6931	ShtRtSb-E&M Access to SB Niches	0	03APR06*		0		0	28	-30								
<b>CONSTRUCTION</b>																	
<b>SHT NORTHBOUND TUNNEL</b>																	
<b>FS WORKS</b>																	
<b>TUNNEL HYDRANT &amp; HOSE REEL</b>																	
7016	ShtRtNb-Wet dist. (HR/Hyd) 1st fix	36	03APR06	20MAY06	0		36	-11	-30								
7017	ShtRtNb-Wet dist. (HR/Hyd) 2nd fix	36	22MAY06	04JUL06	0		36	56	-30								
<b>ELECTRICAL WORKS</b>																	
<b>MAIN &amp; SUBMAIN DISTRIBUTION</b>																	
6988	ShtRtNb-HV, LV main & submain dist. 1st fix	30	03APR06	13MAY06	0		30	-2	-30								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC	JAN	FEB	MAR	APR	MAY	JUN	
										27	28	29	30	31	32	33	
<b>FINAL CIRCUIT</b>																	
7600	ShtRtNb-Final circuit 1st fix	48	03APR06	05JUN06	0		48	-2	-30								
<b>TUNNEL / EXTERNAL LIGHTING</b>																	
6994	ShtRtNb-Tunnel Lgt sys 1st fix	60	03APR06	19JUN06	0		60	-11	-30								
<b>ELV WORKS</b>																	
7001	ShtRtNb-CMCS, other ELV 1st fix & TCSS Enabling	60	28APR06	11JUL06	0		60	-11	-30								
<b>TUNNEL VENTILATION SYSTEM</b>																	
<b>TUNNEL VENTILATION &amp; SMOKE EXTRACTION</b>																	
7004	ShtRtNb-TVS Tunnel vent. & SE 1st fix	48	10FEB06A	05JUN06	35		48	8	-30								
<b>PNEUMATIC SYSTEM</b>																	
7007	ShtRtNb-TVS pneumatic 1st fix	36	03APR06	20MAY06	0		36	56	-30								
<b>SHT TUNNEL SOUTHBOUND</b>																	
<b>FS WORKS</b>																	
<b>TUNNEL HYDRANT &amp; HOSE REEL</b>																	
6963	ShtRtSb-Wet dist. (HR/Hyd) 1st fix	36	03APR06	20MAY06	0		36	-11	-30								
6964	ShtRtSb-Wet dist. (HR/Hyd) 2nd fix	36	22MAY06	04JUL06	0		36	22	-30								
<b>ELECTRICAL WORKS</b>																	
<b>MAIN &amp; SUBMAIN DISTRIBUTION</b>																	
6935	ShtRtSb-HV, LV main & submain dist. 1st fix	30	03APR06	13MAY06	0		30	-2	-30								
<b>FINAL CIRCUIT</b>																	
7472	ShtRtSb-Final circuit 1st fix	48	03APR06	05JUN06	0		48	-2	-30								
<b>TUNNEL / EXTERNAL TUNNEL</b>																	
6941	ShtRtSb-Tunnel Lgt sys 1st fix	60	03APR06	19JUN06	0		60	-8	-30								
<b>ELV WORKS</b>																	
6948	ShtRtSb-CMCS, Other ELV 1st fix & TCSS Enabling	60	28APR06	11JUL06	0		60	-11	-30								
<b>TUNNEL VENTILATION SYSTEM</b>																	
<b>TUNNEL VENTILATION &amp; SMOKE EXTRACTION</b>																	
6951	ShtRtSb-TVS Tunnel vent. & SE 1st fix	48	03APR06	05JUN06	0		48	8	-30								
<b>PNEUMATIC SYSTEM</b>																	
6954	ShtRtSb-TVS pneumatic 1st fix	36	03APR06	20MAY06	0		36	56	-30								
<b>STATUTORY INSPECTIONS</b>																	
<b>FSD INSPECTIONS</b>																	
6973	ShtRt-All FS design approved by FSD (MHJV)	0	13MAR06		0	0	0	-11	-30								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance	Early Finish	DEC		JAN			FEB		MAR		APR			MAY			JUN											
											12	27	27	29	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	33		
<b>FSD INSPECTIONS</b>																																					
6974	ShtRt-Issue, endorse & submit FSI 314 to FSD	6	27MAR06	01APR06	0		6	-11	-30																												
<b>SHT NORTH PORTAL BUILDING</b>																																					
<b>SUBMITTALS &amp; APPROVALS</b>																																					
<b>ABWF &amp; BUILDER'S WORKS</b>																																					
2001	SHT NPB - Approve door & window details	24	03JUN05A	04MAR06	0	100	12	10	-141																												
2009	SHT NPB - Approve balustrade & metal works	24	13DEC05A	13FEB06A	100	100	0		-124																												
<b>E&amp;M EQPT. / MTRL. SUBMITTALS</b>																																					
8297	ShtNpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	27APR06	95	100	54	-186	-297																												
8299	ShtNpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	24FEB06	99	100	5	-26	-122																												
8298	ShtNpBldg-Sub.FS wet sys	54	05AUG04A	24FEB06	99	100	5	-62	-164																												
8296	ShtNpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	20APR06	95	100	48	-100	-119																												
8292	ShtNpBldg-Sub.of CMCS & ELV sys	78	26AUG04A	06MAY06	98	100	60	-90	-231																												
<b>E&amp;M EQPT. / MTRL. APPROVALS</b>																																					
8511	ShtSpBldg-App. building related luminaires	18	18AUG04A	11MAR06	90	100	18	-122	-183																												
7377	ShtNpBldg-App. FS wet sys	18	02SEP04A	11MAR06	80	100	18	-62	-159																												
7427	ShtNpBldg-App. FS AFA & FM200 sys	18	14SEP04A	11MAR06	85	100	18	-26	-117																												
7307	ShtNpBldg-App. of CMCS & ELV sys	18	20SEP04A	11MAR06	88	100	18	-90	-171																												
7338	ShtNpBldg-App. MVAC mech.vent. sys	18	23SEP04A	11MAR06	80	100	18	-143	-165																												
7431	ShtNpBldg-App. PD cleans. & flush water sys	18	04NOV04A	11MAR06	85	100	18	-62	-177																												
7369	ShtNpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	11MAR06	80	100	18	-186	-243																												
7362	ShtNpBldg-App. MVAC / TVF pneumatic sys	18	07MAR05A	18MAY06	80		18	-104	-123																												
<b>PROCUREMENT - MATERIAL</b>																																					
<b>ABWF WORKS</b>																																					
2016	SHT NPB - Procure doors & windows	120	12JAN05A	04MAR06	50	90	12	10	-21																												
7269	ShtNpBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	12JUN06	40	100	90	-92	-111																												
7263	ShtNpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	06MAY06	90	100	60	-58	-81																												

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance	Early Finish	DEC				JAN				FEB				MAR				APR				MAY				JUN								
											12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3			
<b>ABWF WORKS</b>																																											
7308	ShtNpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	10AUG06	20	80	140	-90	-113		[Gantt bar: 25MAR05A to 10AUG06]																																
7370	ShtNpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	02SEP06	10	100	160	-186	-205		[Gantt bar: 25MAR05A to 02SEP06]																																
7428	ShtNpBldg-Proc & Manuf. FS AFA & FM200 sys	120	25MAR05A	12JUN06	40	70	90	-26	-69		[Gantt bar: 25MAR05A to 12JUN06]																																
7378	ShtNpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	18JUL06	30	100	120	-62	-141		[Gantt bar: 06JUN05A to 18JUL06]																																
7356	ShtNpBldg-Proc & Manuf. TVF,Ductwks&Cont'l sys	180	09JUN05A	18JUL06	40	90	120	-94	-113		[Gantt bar: 09JUN05A to 18JUL06]																																
7432	ShtNpBldg-Proc & Manuf. Cleans & flush water sys	120	30SEP05A	04JUL06	10	100	90	-62	-147		[Gantt bar: 30SEP05A to 04JUL06]																																
8512	ShtSpBldg-Proc & Manf bldg related luminaires	180	23NOV05A	23SEP06	90	80	160	-122	-163		[Gantt bar: 23NOV05A to 23SEP06]																																
7324	ShtNpBldg-Proc & Manuf. MVAC Package AC Units	120	11JAN06A	29AUG06	10	60	120	-70	-123		[Gantt bar: 11JAN06A to 29AUG06]																																
7339	ShtNpBldg-Proc & Manuf. MVAC mech.vent. sys	120	13MAR06	08AUG06	0	100	120	-143	-165		[Gantt bar: 13MAR06 to 08AUG06]																																
7363	ShtNpBldg-Proc & Manuf. MVAC / TVF pneumatic sys	120	19MAY06	10OCT06	0		120	-104	-123		[Gantt bar: 19MAY06 to 10OCT06]																																
<b>MAJOR EQUIPMENT DELIVERY</b>																																											
<b>SHT NORTH PORTAL BUILDING</b>																																											
7270	ShtNpBldg-Del. LV power dist. equip't to 1/F	48	22DEC05A	08AUG06	50		48	-92	-111		[Gantt bar: 22DEC05A to 08AUG06]																																
7264	ShtNpBldg-Del. HV power dist. equip't to 2/F	48	08MAY06	04JUL06	0		48	-58	-81		[Gantt bar: 08MAY06 to 04JUL06]																																
<b>INTERFACE DATES</b>																																											
<b>SHT NORTH PORTAL BUILDING</b>																																											
1866	Int M/S - SHT N Ptal Bldg - E&M access Plenum	0		09MAR06	0	0	0	10	-9		[Gantt bar: 09MAR06]																																
1867	Int M/S - SHT N Ptal Bldg - E&M access Roof	0		09MAR06	0	0	0	22	-9		[Gantt bar: 09MAR06]																																
1862	Int M/S - SHT Nth Ptal Bldg-E&M access Ext.Elev	0		30MAR06	0	0	0	10	-21		[Gantt bar: 30MAR06]																																
7255	ShtNpBldg-E&M access to 3/F	0	03APR06*		0	0	0	-26	-45		[Gantt bar: 03APR06*]																																
7256	ShtNpBldg-E&M access to 2/F	0	03APR06*		0	0	0	-26	-45		[Gantt bar: 03APR06*]																																
7257	ShtNpBldg-E&M access to 1/F	0	03APR06*		0	0	0	-26	-45		[Gantt bar: 03APR06*]																																
7258	ShtNpBldg-E&M access to G/F	0	03APR06*		0	0	0	-20	-45		[Gantt bar: 03APR06*]																																
7259	ShtNpBldg-E&M access to Plenum	0	03APR06*		0	0	0	-10	-29		[Gantt bar: 03APR06*]																																
7260	ShtNpBldg-E&M access to Roof (Exhaust Shaft)	0	03APR06*		0	0	0	2	-29		[Gantt bar: 03APR06*]																																



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	Schedule																																	
										DEC 27	DEC 28	DEC 29	DEC 30	DEC 31	JAN 01	JAN 02	JAN 03	JAN 04	JAN 05	JAN 06	JAN 07																						
<b>TUNNEL VENTILATION SYSTEM</b>																																											
7358	ShtNpBldg-AC/TVF TVF, Duct & Control 1st fix	48	03APR06	05JUN06	0		48	-10	-29																																		
<b>E&amp;M G/F</b>																																											
<b>MVAC WORKS</b>																																											
MECH.VENT./AIR CONDITIONING																																											
7344	ShtNpBldg G/F-AC(1st Fix) mech.vent.	24	03APR06	06MAY06	0		24	-20	-45																																		
<b>ELECTRICAL WORKS</b>																																											
MAIN & SUB-MAIN DISTRIBUTUION																																											
7276	ShtNpBldg G/F-ES(1st Fix) Main & Sub-main dist.	42	08MAY06	26JUN06	0		42	-20	-45																																		
FINAL CIRCUIT																																											
7289	ShtNpBldg G/F-ES(1st Fix) Final Circuit dist.	30	08MAY06	12JUN06	0		30	-20	-45																																		
<b>E&amp;M 1/F</b>																																											
<b>MVAC WORKS</b>																																											
MECH.VENT./AIR CONDITIONING																																											
7343	ShtNpBldg 1F-AC(1st Fix) mech.vent.	42	03APR06	27MAY06	0		42	-26	-45																																		
<b>ELECTRICAL WORKS</b>																																											
MAIN & SUB-MAIN DISTRIBUTUION																																											
7279	ShtNpBldg 1F-ES(1st Fix) Main & Sub-main dist.	24	29MAY06	26JUN06	0		24	-26	-45																																		
FINAL CIRCUIT																																											
7292	ShtNpBldg 1F-ES(1st Fix) Final Circuit dist.	30	29MAY06	04JUL06	0		30	-26	-45																																		
<b>E&amp;M 2/F</b>																																											
<b>MVAC WORKS</b>																																											
MECH.VENT./AIR CONDITIONING																																											
7342	ShtNpBldg 2F-AC(1st Fix) mech.vent.	36	03APR06	20MAY06	0		36	-26	-45																																		
<b>ELECTRICAL WORKS</b>																																											
MAIN & SUB-MAIN DISTRIBUTUION																																											
7278	ShtNpBldg 2F-ES(1st Fix) Main & Sub-main dist.	30	15MAY06	19JUN06	0		30	-26	-45																																		
FINAL CIRCUIT																																											
7291	ShtNpBldg 2F-ES(1st Fix) Final Circuit dist.	54	15MAY06	18JUL06	0		54	-26	-45																																		
<b>E&amp;M 3/F</b>																																											
<b>MVAC WORKS</b>																																											
MECH.VENT./AIR CONDITIONING																																											
7341	ShtNpBldg 3F-AC(1st Fix) mech.vent.	30	03APR06	13MAY06	0		30	-26	-45																																		

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finish	DEC							JAN				FEB			MAR			APR			MAY			JUN										
										27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
<b>ELECTRICAL WORKS</b>																																											
MAIN & SUB-MAIN DISTRIBUTION																																											
7277	ShtNpBldg 3F-ES(1st Fix) Main & Sub-main dist.	24	04MAY06	02JUN06	0		24	-26	-45																																		
FINAL CIRCUIT																																											
7290	ShtNpBldg 3F-ES(1st Fix) Final Circuit dist.	38	04MAY06	19JUN06	0		38	-26	-45																																		
<b>E&amp;M ROOF</b>																																											
<b>ELECTRICAL WORKS</b>																																											
FINAL CIRCUIT																																											
7288	ShtNpBldg R/F-ES(1st Fix) Final Circuit dist.	36	03APR06	20MAY06	0		36	2	-29																																		
7293	ShtNpBldg R/F-ES(2nd Fix) Final Circuit dist.	30	22MAY06	26JUN06	0		30	2	-29																																		
<b>STATUTORY INSPECTIONS</b>																																											
<b>FSD INSPECTIONS</b>																																											
7455	ShtNpBldg-All FS design approved by FSD (MHJV)	0	13MAR06		0	100	0	34	-45																																		
7456	ShtNpBldg-Issue, endorse & submit FSI 314 to FSD	6	27MAR06	01APR06	0		6	34	-45																																		
<b>SHT RC ENCLOSURE &amp; T3 UNDERPASS</b>																																											
<b>CONTRACT DEFINED DATES &amp; SECTIONS</b>																																											
ACS_J6	Access to Portion - J6 (SH-R9 Slip Rd.Over KCRC)	0	10MAY06		0		0	760	0																																		
ACS_L	Access to Portions - L	0	28MAY06		0		0	24	0																																		
<b>SUBMITTALS &amp; APPROVALS</b>																																											
<b>E&amp;M EQPT./ MTRL.SUBMITTALS</b>																																											
8304	Sht-N.R9-Sub.TVS control sys	54	02JUL04A	27APR06	95	100	54	-86	-197																																		
8309	Sht-N.R9-Sub.MCC, power & control sys	54	02JUL04A	27APR06	95	100	54	-121	-212																																		
8305	Sht-N.R9-Sub.FS AFA & Linear sys	54	05JUL04A	24FEB06	99	100	5	-65	-135																																		
8303	Sht-N.R9-Sub.CMCS & ELV sys	78	26AUG04A	06MAY06	98	100	60	-59	-196																																		
<b>E&amp;M EQP. / MTRL. APPROVALS</b>																																											
7487	Sht-N.R9-App. Tunnel Lgt sys	18	05AUG04A	11MAR06	80	100	18	-56	-165																																		
7604	Sht-N.R9-App. LCC, power & control sys	18	18AUG04A	11MAR06	80	100	18	-35	-144																																		
7517	Sht-N.R9-App. FS AFA & Linear sys	18	14SEP04A	11MAR06	85	100	18	-65	-130																																		
7494	Sht-N.R9-App. CMCS & ELV sys	18	20SEP04A	11MAR06	88	100	18	-59	-136																																		



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance Early Finis	DEC	JAN	FEB	MAR	APR	MAY	JUN	
										27	28	29	30	31	32	33	
<b>E&amp;M EQP. / MTRL. APPROVALS</b>																	
7505	Sht-N.R9-App. TVS control sys	18	12NOV04A	27APR06	70	100	54	-86	-179								
7612	Sht-N.R9-App. MCC, power & control sys	18	12NOV04A	11MAR06	80	100	18	-121	-158								
<b>PROCUREMENT - MATERIAL</b>																	
<b>SHT RC FULL ENCLOSURE / T3 UNDERPASS</b>																	
7482	Sht-N.R9-Proc & Manuf. ES Main & submain dist.	180	20MAR05A	12JUN06	40	80	90	-29	-48								
7495	Sht-N.R9-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	10AUG06	20	70	140	-59	-78								
7518	Sht-N.R9-Proc & Manuf. FS AFA & Linear sys	120	25MAR05A	04JUL06	15	80	108	-65	-100								
7613	Sht-N.R9-Proc & Manuf. MCC, power & control sys	180	25MAR05A	30SEP06	10	70	180	-125	-144								
7506	Sht-N.R9-Proc & Manuf. TVS control sys	180	25MAY05A	02SEP06	10	70	160	-86	-105								
7530	Sht-N.R9-Proc & Manuf. TVF, Ductwks & Cont'l sys	180	09JUN05A	18JUL06	40	80	120	-68	-87								
7488	Sht-N.R9-Proc & Manuf. Tunnel Lgt sys	180	20JAN06A	04JUL06	0	80	90	-56	-75								
7605	Sht-N.R9-Proc & Manuf. LCC, power & control sys	180	20JAN06A	04JUL06	0	80	90	-35	-54								
<b>INTERFACE DATES</b>																	
<b>SHT RC FULL ENCLOSURE / T3 UNDERPASS</b>																	
7477	Sht-N.R9-E&M Access to Encl from SHT(ST89/02)	0	14FEB06A		100		0		37								
7478	E&M Access to cable duct & pit (SPB to SP LV/R)	0	03APR06*		0		0	45	26								
7479	E&M Access to Cable Troughs from SHT(ST89/02)	0	03APR06*		0		0	15	-4								
7480	Sht-N.R9-E&M Access to Niches from SHT(ST89/02)	0	03APR06*		0		0	33	-4								
7503	E&M Access to South Portal LV Sw/R from SHT	0	28APR06*		0		0	27	8								
7532	Sht-N.R9-E&M Access to Encl. from T3(ST79/02)	0	29MAY06*		0		0	21	0								
7533	E&M Access to Cable Troughs from T3(ST79/02)	0	29MAY06*		0		0	21	0								
7534	Sht-N.R9-E&M Access to Niches from T3(ST79/02)	0	29MAY06*		0		0	19	0								
7535	E&M Access to North Portal LV Sw/R from T3	0	29MAY06*		0		0	19	0								

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance	DEC							JAN			FEB			MAR			APR			MAY			JUN											
										27	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	33		
<b>CONSTRUCTION WORKS</b>																																											
<b>SHT RC FULL ENCLOSURE / T3 UNDERPASS</b>																																											
<b>KIOSKS</b>																																											
KIOSK 1																																											
2287	Kiosk S1 - Substructure	9	20FEB06	01MAR06	0	0	9	106	62																																		
2289	Kiosk S1 - Steelwork & glazing	12	02MAR06	15MAR06	0	0	12	106	62																																		
2293	Weighbridge S1 - Install	18	02MAR06	22MAR06	0	0	18	190	62																																		
2291	Kiosk S1 - Builders' work	24	16MAR06	13APR06	0	0	24	106	62																																		
2296	Weighbridge S1 - Test and commission	30	23MAR06	02MAY06	0	0	30	190	62																																		
8531	Kiosk S1 - Elect Works	24	18APR06	17MAY06	0	0	24	130	62																																		
8532	Kiosk S1 - MVAC Works	12	18MAY06	01JUN06	0	0	12	130	62																																		
KIOSK 2																																											
2288	Kiosk S2 - Substructure	9	29MAY06	08JUN06	0		9	52	0																																		
<b>SWITCHROOMS</b>																																											
SOUTH SWITCHROOM																																											
3720	Sth.Switchroom - Builders Work	12	20FEB06	04MAR06	0	0	12	81	62																																		
NORTH SWITCHROOM																																											
3730	Nth.Switchroom - Builders Work	12	20FEB06	04MAR06	0	0	12	81	62																																		
<b>MVAC WORKS</b>																																											
MCC, POWER & CONTROL																																											
7536	Sht-N.R9-MCC, power & control 1st fix	30	28APR06	05JUN06	0		30	29	10																																		
<b>FS WORKS</b>																																											
FS MAJOR EQUIPMENT																																											
7511	Sht-N.R9-Wet dist. (HR/Hyd) 1st fix	36	03APR06	20MAY06	0		36	15	-4																																		
7512	Sht-N.R9-Wet dist. (HR/Hyd) 2nd fix	36	29MAY06	11JUL06	0		36	19	0																																		
<b>ELECTRICAL WORKS</b>																																											
MAIN & SUBMAIN DISTRIBUTION																																											
7484	Sht-N.R9-LV main & submain dist. 1st fix	60	08APR06	23JUN06	0		60	27	8																																		
TUNNEL & EXTERNAL LIGHTING																																											
7490	Sht-N.R9-Tunnel Lgt sys 1st fix	60	03APR06	19JUN06	0		60	15	-4																																		
7607	Sht-N.R9-LCC, power & control 1st fix	36	29MAY06	11JUL06	0		36	19	0																																		

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance	DEC		JAN			FEB			MAR			APR			MAY			JUN															
										27	12	19	26	2	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	33				
<b>ELV WORKS</b>																																										
7497	Sht-N.R9-CMCS, TCS 1st fix & TCSS Enabling	60	28APR06	11JUL06	0		60	15	-4																																	
<b>TUNNEL VENTILATION SYSTEM</b>																																										
TUNNEL VENTILATION & SMOKE EXTRACTION																																										
7500	Sht-N.R9-TVS Tunnel vent. & SE 1st fix	60	20FEB06A	19JUN06	1		60	15	-4																																	
<b>MCC, POWER &amp; CONTROL</b>																																										
7508	Sht-N.R9-TVS Control & Power 1st fix	30	29MAY06	04JUL06	0		30	19	0																																	
<b>T&amp;C and Inspections</b>																																										
<b>SHT RC Full Enclosure / T3 Underpass</b>																																										
<b>STATUTORY INSPECTIONS</b>																																										
FSD INSPECTION																																										
7521	Sht-N.R9-All FS design approved by FSD (MHJV)	0	13MAR06		0	0	0	15	-4																																	
7522	7Sht-N.R9-Issue, endorse & submit FSI 314 to FSD	6	27MAR06	01APR06	0		6	15	-4																																	

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**APPENDIX C**  
**MONITORING REQUIREMENTS**

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## Appendix C - Environmental Impact Monitoring Requirements for Eagle's Nest Tunnel and Associated Works

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Air Quality	1-hour TSP	3 times every 6 days	<ul style="list-style-type: none"> <li>AM1 (Yew Chung International School / PLK Choi Kai Yau School)</li> <li>AM3<sup>(3)</sup> (Garden Villa)</li> <li>AM4 (Government Quarters)</li> </ul>	<ul style="list-style-type: none"> <li>AM1 – Rooftop</li> <li>AM3 – On ground</li> <li>AM4 – Ground floor close to the refuse collection station of Government Quarters</li> </ul>
	24-hour TSP	Once every 6 days		
Noise	L <sub>eq</sub> , L <sub>90</sub> & L <sub>10</sub> at 30 minute intervals during (0700 to 1900 on normal weekdays)	Once per week	<ul style="list-style-type: none"> <li>NM1 (Yew Chung International School / PLK Choi Kai Yau School)</li> <li>NM5 (Villa Carlton)</li> <li>NM6 (Government Quarters)</li> <li>NM7 (Garden Villa)</li> </ul>	<ul style="list-style-type: none"> <li>NM1 – Rooftop (Façade measurement)</li> <li>NM5 – Ground Floor<sup>(2)</sup> - (Façade measurement)</li> <li>NM6 – Rooftop of Refuse Collection Station (Free field measurement)</li> <li>NM7 – Rooftop (Façade measurement)</li> </ul>
	L <sub>eq</sub> , L <sub>90</sub> & L <sub>10</sub> at 5 minute intervals during (1900 to 2300) <sup>(1)</sup>	Once per week (include 3 consecutive 5-min measurements)		
	L <sub>eq</sub> , L <sub>90</sub> & L <sub>10</sub> at 5 minute intervals during (2300 to 0700 of next day) <sup>(1)</sup>	Once per week (include 3 consecutive 5-min measurements)		
	L <sub>eq</sub> , L <sub>90</sub> & L <sub>10</sub> at 5 minute intervals during (0700 to 1900 on holidays) <sup>(1)</sup>	Once per week (include 3 consecutive 5-min measurements)		

<sup>(1)</sup> – Conduct noise monitoring only when construction work is carried out.

<sup>(2)</sup> – The measurement was taken at 2.3 m above ground floor of Villa Carlton, where has a line of sight of the construction site in the opposite.

<sup>(3)</sup> – Station AM3 was relocated from Garden Villa to the nearby slope no. 07SW-D/FR4 and the monitoring was resumed on 14 February 2005.

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**APPENDIX D  
ENVIRONMENTAL QUALITY  
PERFORMANCE (ACTION/LIMIT)  
LEVELS**

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## Appendix D - Action and Limit Levels (ENT)

### 1-Hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM1	296	500
AM3	350	
AM4	294	

### 24-Hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM1	168	260
AM3	200	
AM4	170	

### Construction Noise

Period	Action Level for all stations	Limit Level, dB(A)			
		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 reduce to 65 dB(A) during school examination periods.

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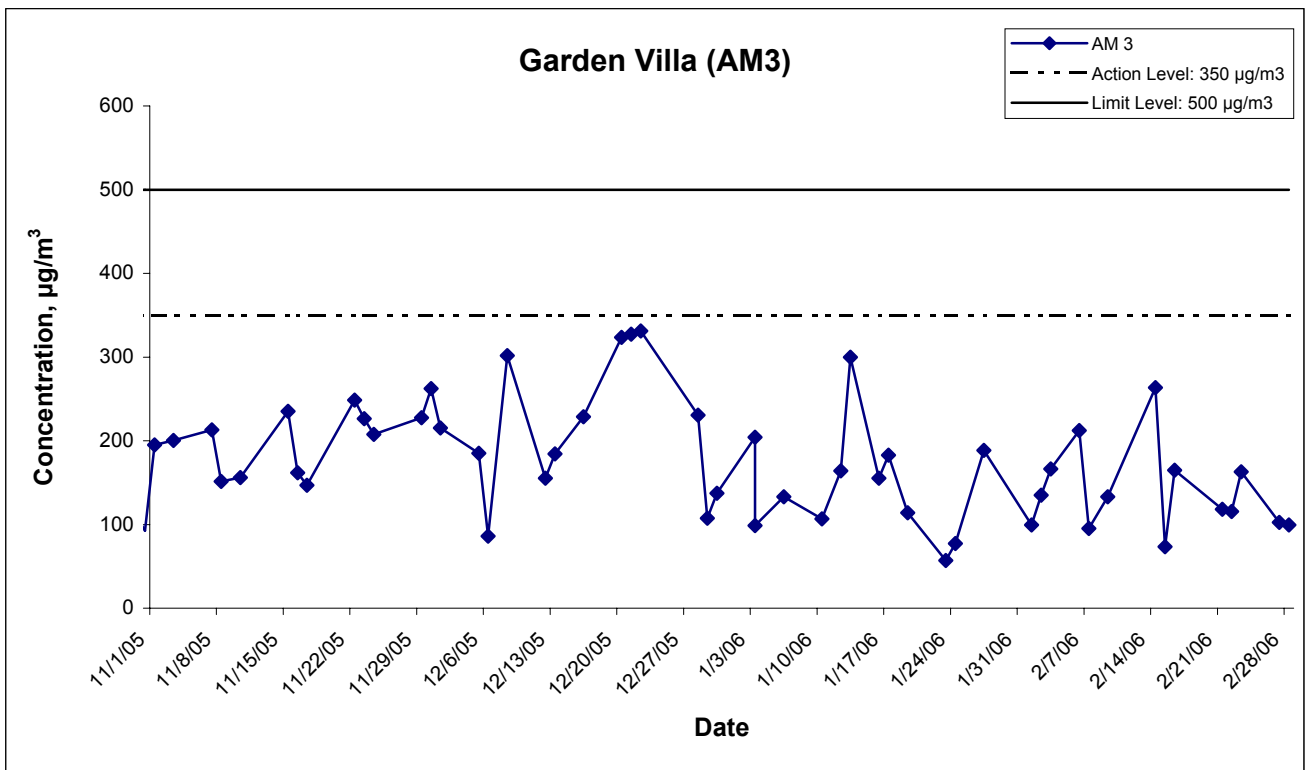
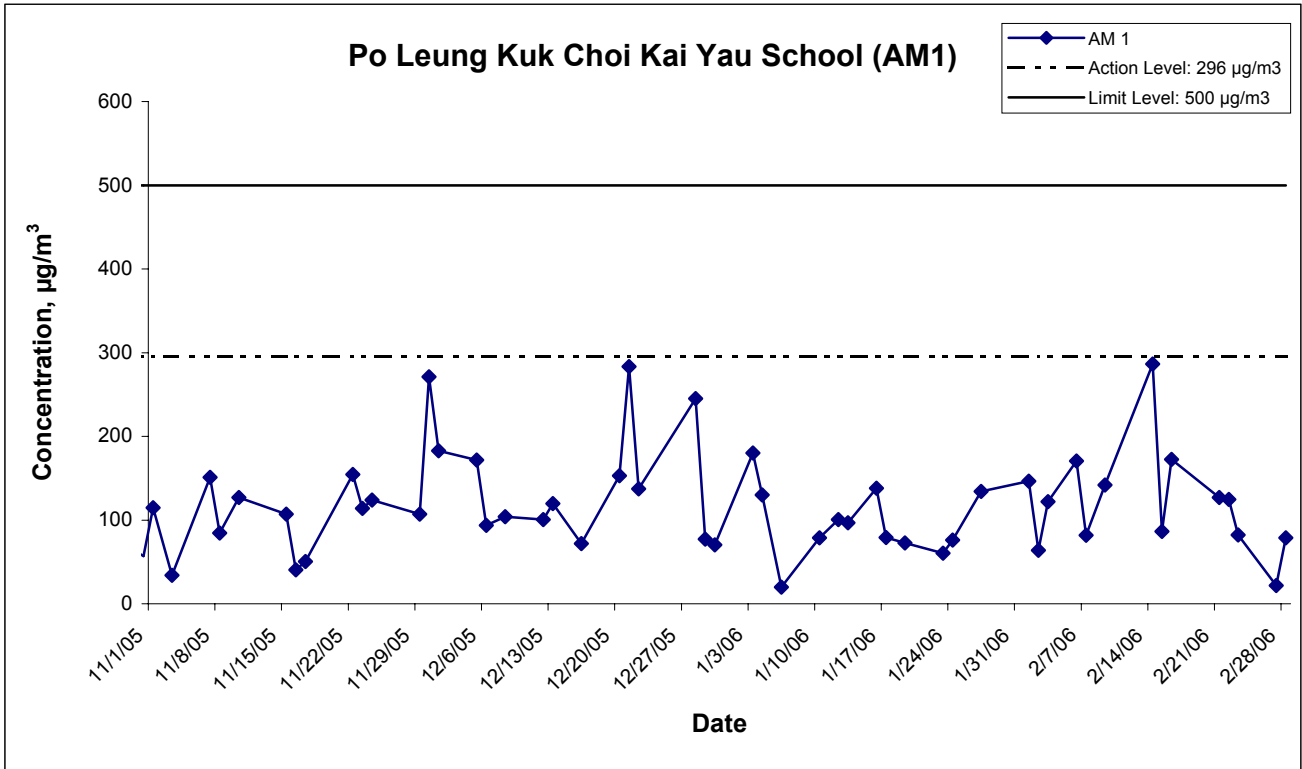
**APPENDIX E  
GRAPHICAL PRESENTATION OF AIR  
QUALITY MONITORING RESULTS**

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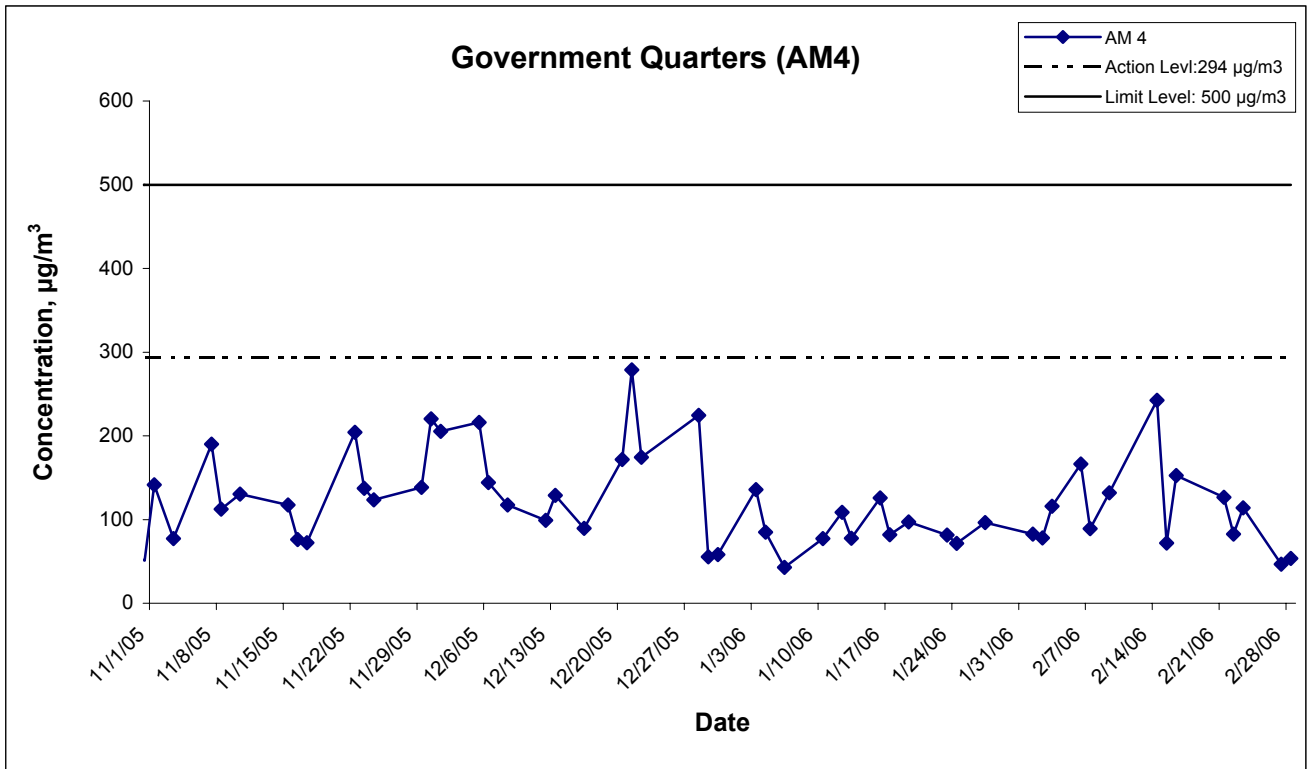


### 1-hr TSP Levels



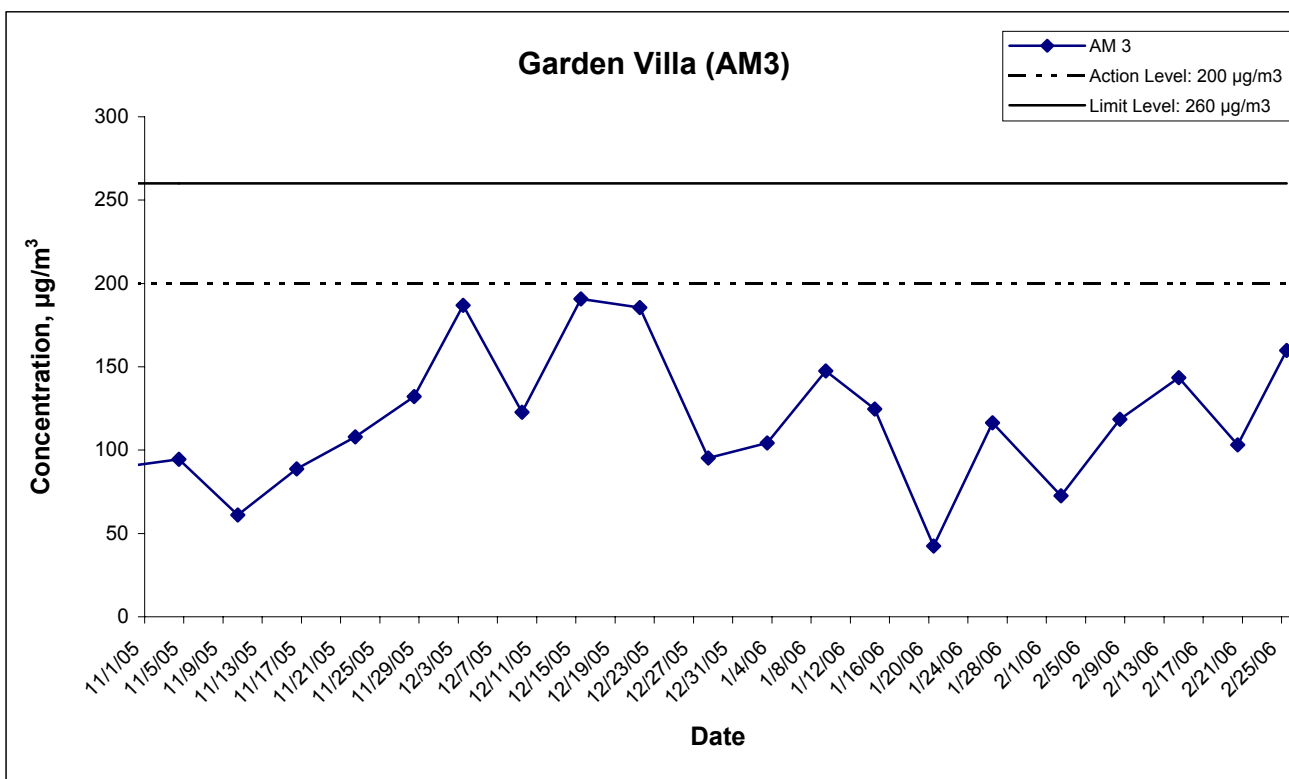
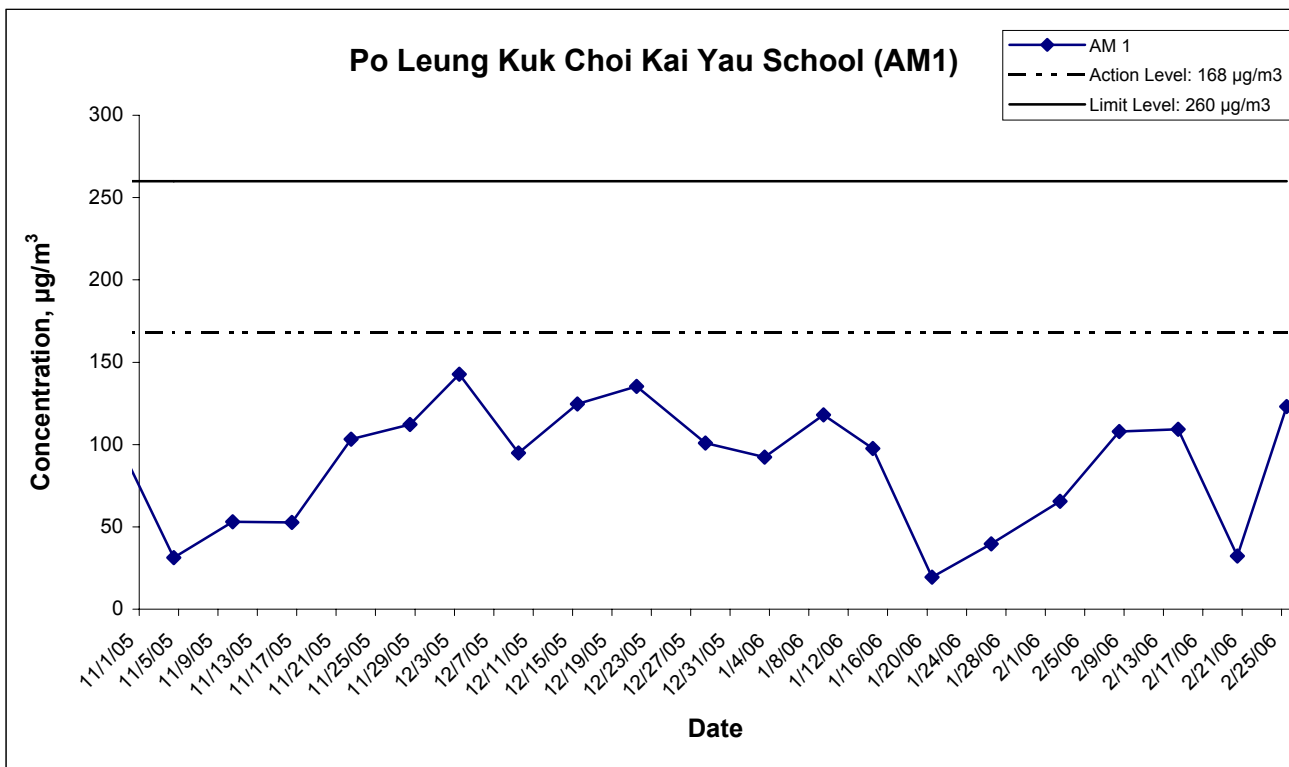
Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 1-hour TSP Impact Monitoring Results	Scale N.T.S	Project No. MA3024	
	Date Feb 06	Appendix E	

# 1-hr TSP Levels



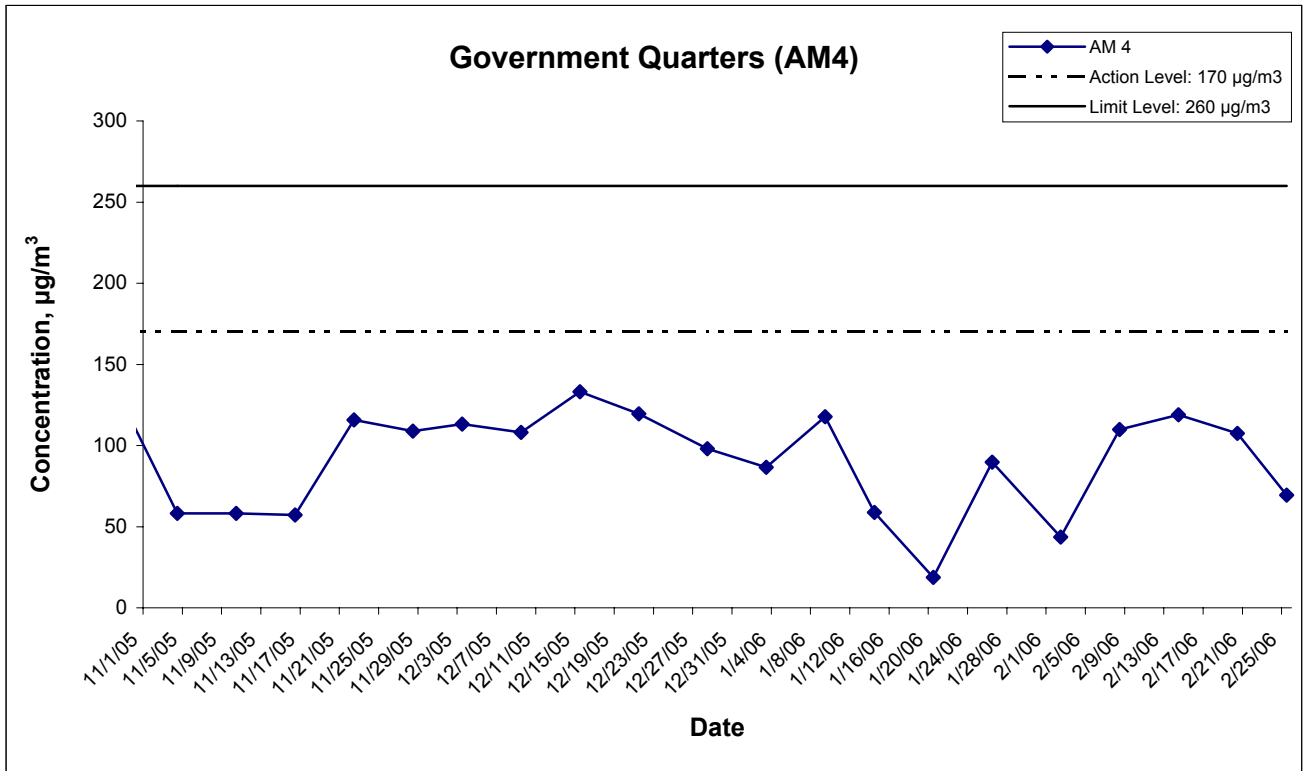
Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 1-hour TSP Impact Monitoring Results	Scale	Project No.	
	Date	Appendix E	
	N.T.S	MA3024	
	Feb 06	E	

### 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	
	Date Feb 06	Appendix E	

## 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	
	Date Feb 06	Appendix E	

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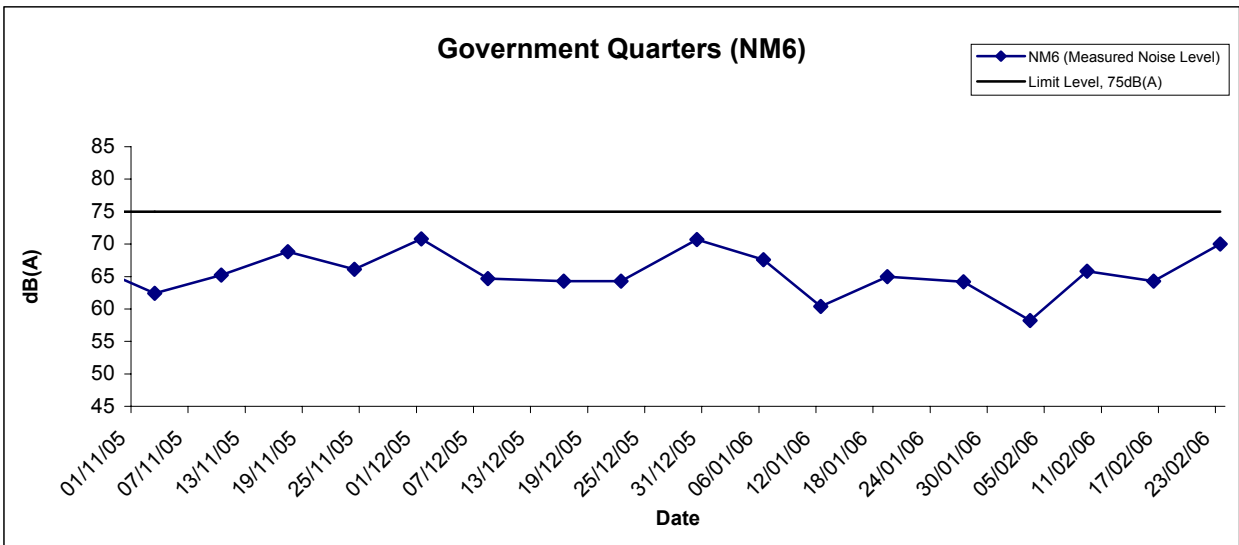
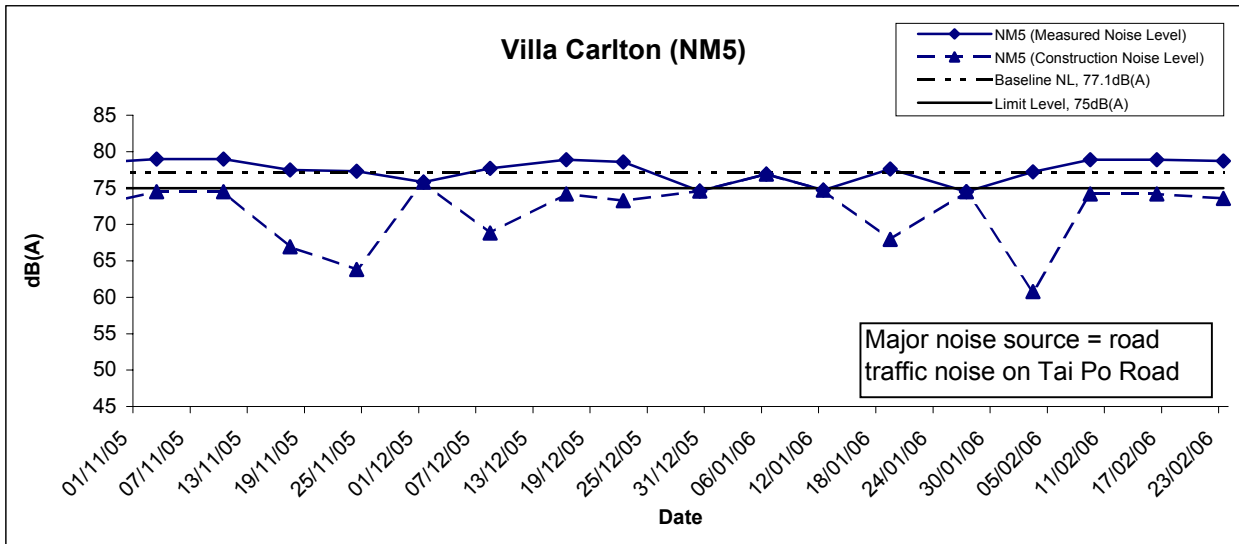
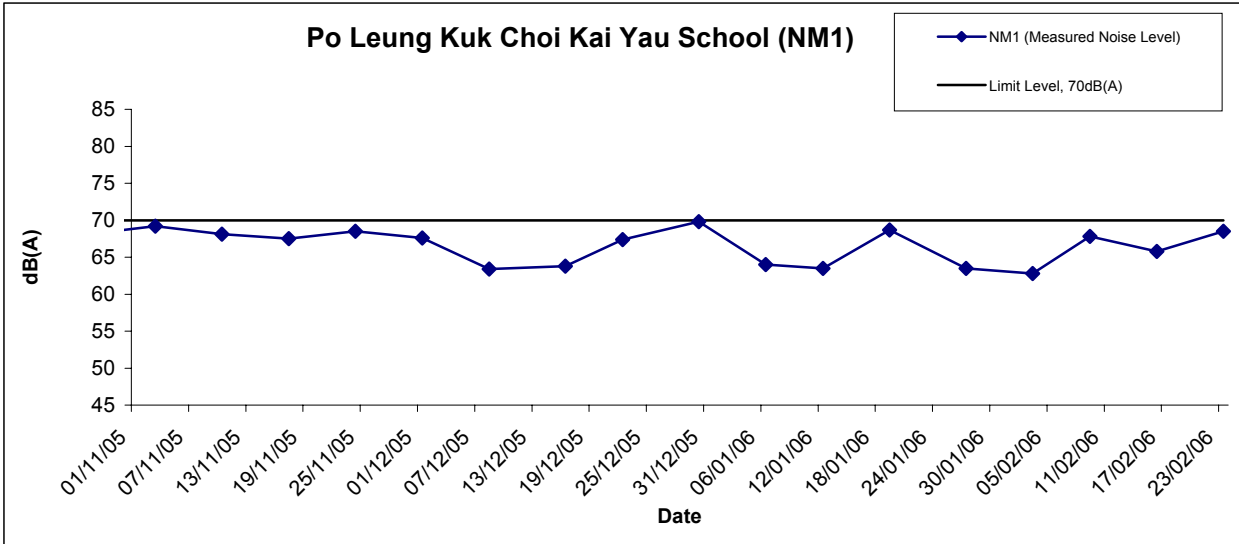
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**APPENDIX F  
GRAPHICAL PRESENTATION OF  
NOISE MONITORING RESULTS**

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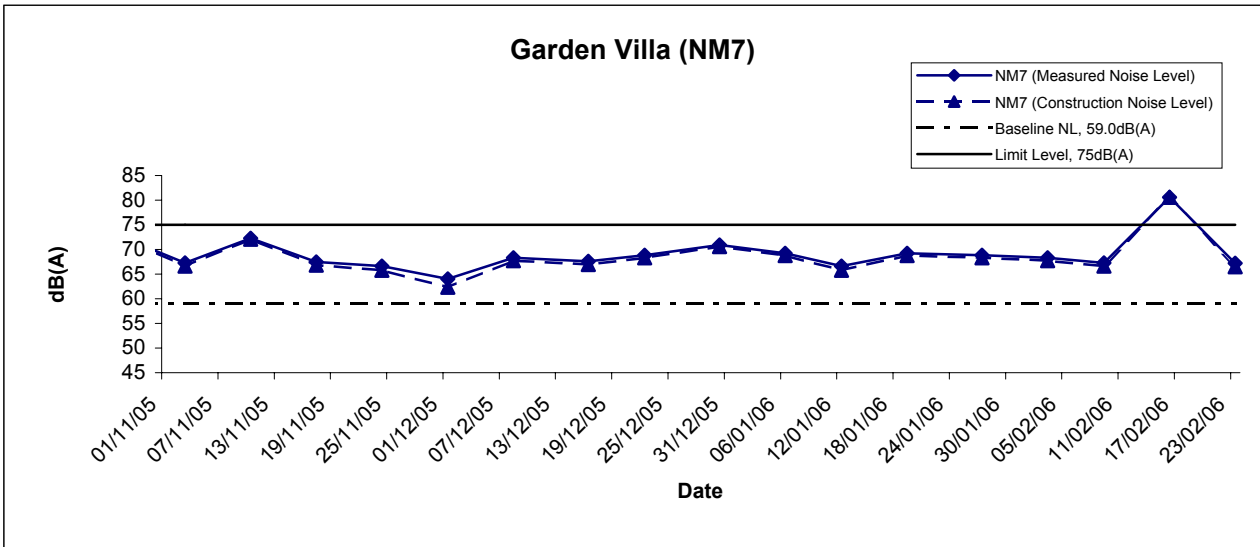
### Noise Levels



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

Title Route 8 (previously known as Route 9) between Cheung Sha Wan & 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 Feb 06	Appendix F	

## Noise Levels

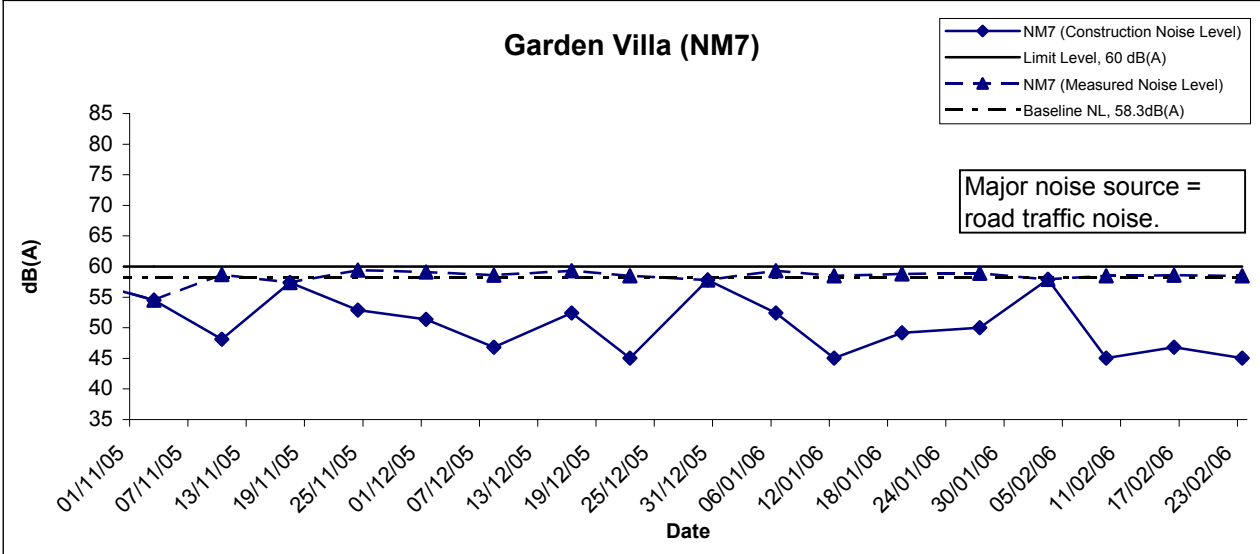
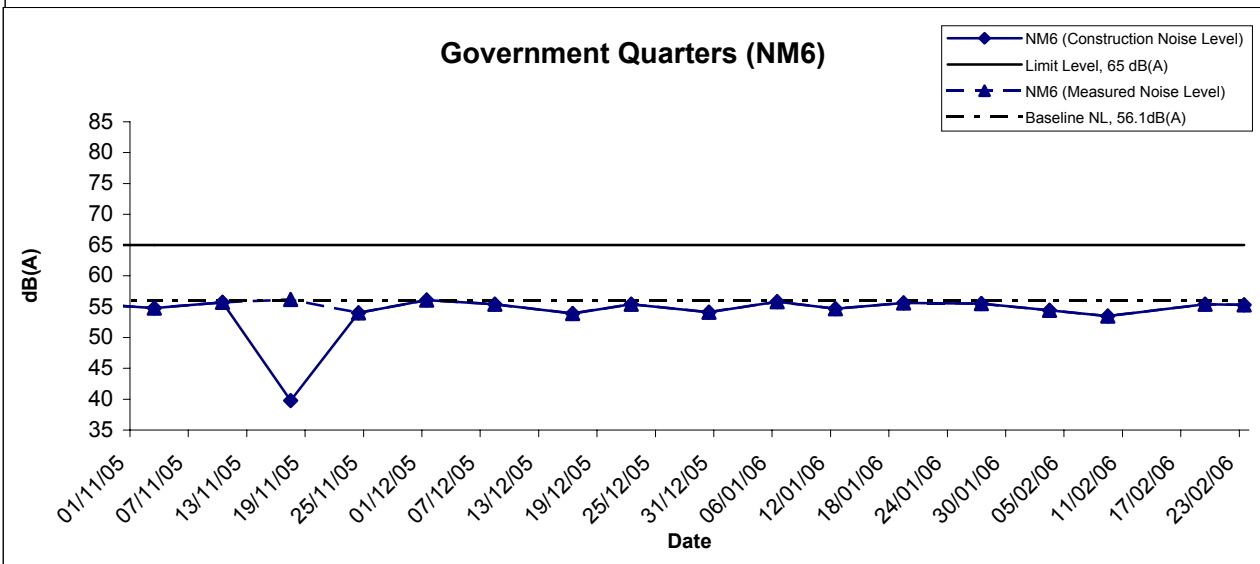
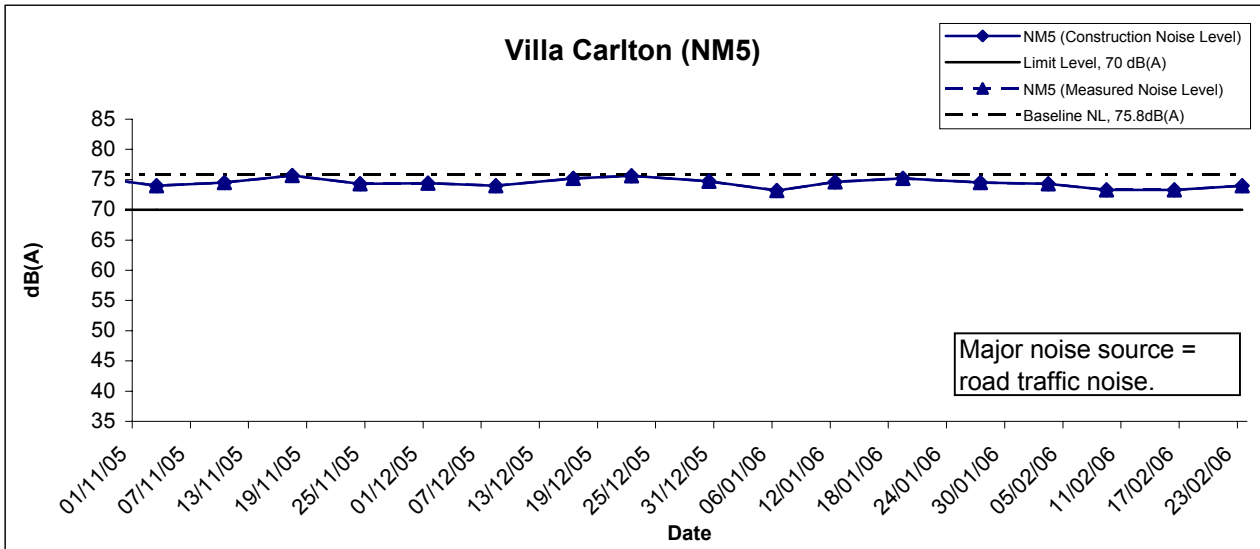


\* Construction Noise Level = Measured Noise Level - Baseline Level

(If the measured noise level is lower than the baseline level, the construction noise level will be taken as the measured one)

Title Route 8 (previously known as Route 9) between Cheung Sha Wan & 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 Feb 06	Appendix F	

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

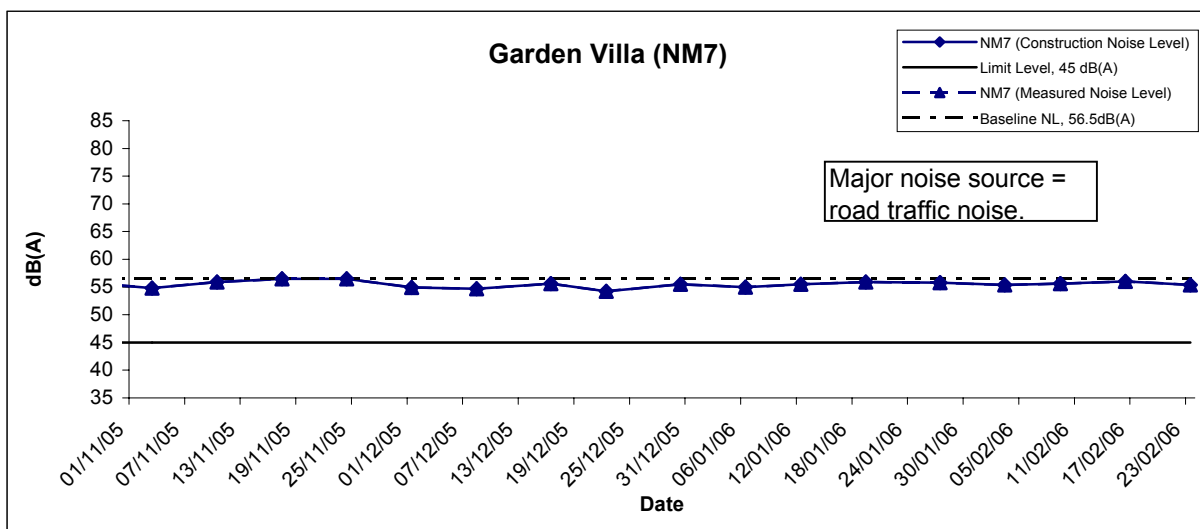
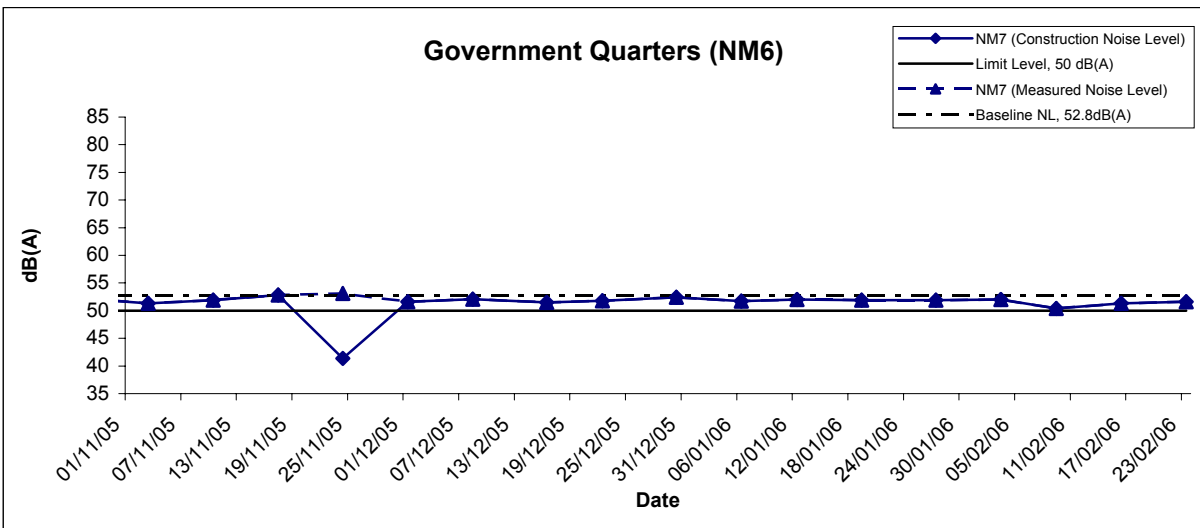
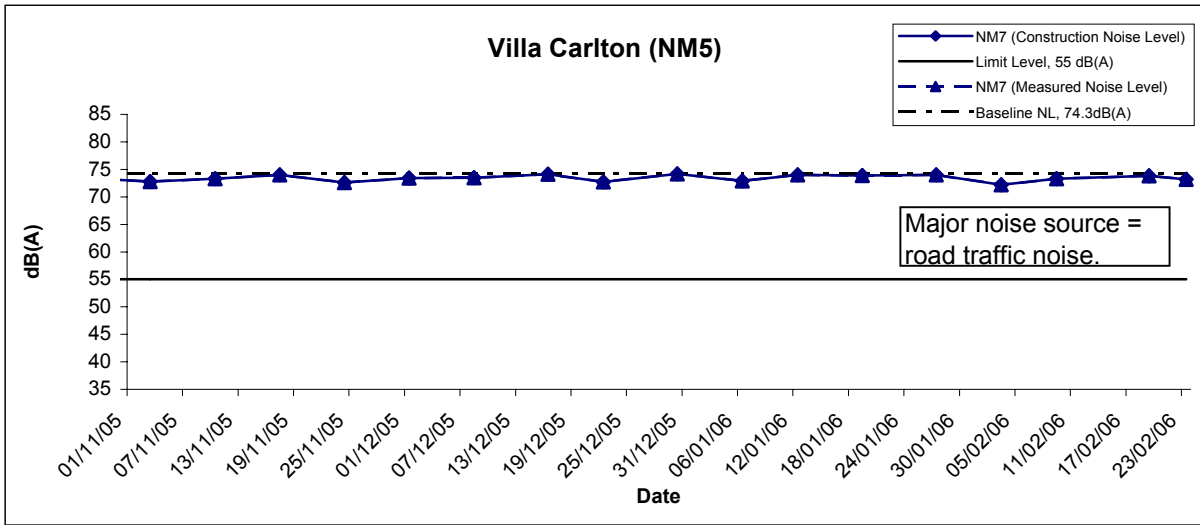


\* Construction Noise Level = Measured Noise Level - Baseline Level  
 (If the measured noise level is lower than the baseline level, the construction noise level will be taken as the measured one)

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	
	Date Feb 06	Appendix F	



## 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 measured 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 Feb 06	Appendix F	

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**APPENDIX G  
IMPLEMENTATION SCHEDULE OF  
ENVIRONMENTAL MITIGATION  
MEASURES (EMIS)**

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## Appendix G - Summary of Environmental Mitigation Implementation Schedule

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

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

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

Types of Impacts	Mitigation Measures	Status
	<ul style="list-style-type: none"> <li>Due to the high risk of loose material being washed into the existing nullah, stockpile materials should be properly compacted and covered from water erosion and located at least 10m away from the nullah wall.</li> </ul>	N/A
	<i>Construction and Demolition (C&amp;D) Waste</i>	
	<ul style="list-style-type: none"> <li>Careful design, planning and good site management shall be adopted to minimise over-ordering and generation of waste materials such as concrete grouts.</li> </ul>	^
	<ul style="list-style-type: none"> <li>The handling and disposal of bentonite slurries shall be undertaken in accordance with Practice Note for Professional Persons – Construction Site Drainage (ProPECC PN 1/94) on construction site drainage.</li> </ul>	N/A
	<ul style="list-style-type: none"> <li>Construction and demolition (C&amp;D) material shall be segregated to inert and non-inert parts. The inert portion shall re-used at areas of reclamation or land formation, or to public filling area shall such allocation is deemed necessary. The non-inert portion shall be disposed of to landfill.</li> </ul>	^
	<i>Chemical Waste</i>	
	<ul style="list-style-type: none"> <li>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.</li> <li>Containers used for the storage of chemical wastes should: <ul style="list-style-type: none"> <li>a. Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;</li> <li>b. Have a capacity of less than 450 litres unless the specifications have been approved by the EPD;</li> <li>c. Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste Regulations.</li> </ul> </li> <li>The storage area for chemical wastes should: <ul style="list-style-type: none"> <li>a. Be clearly labelled and used solely for the storage of chemical waste;</li> <li>b. Be enclosed on at least 3 sides;</li> <li>c. Have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is largest;</li> <li>d. Have adequate ventilation;</li> <li>e. Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary);</li> <li>f. Be arranged so that incompatible materials are adequately separated.</li> </ul> </li> <li>Disposal of chemical waste shall be via a licensed waste collector; and to a facility licensed to receive chemical waste; or a reuser of the waste (under approval from EPD).</li> </ul>	^  ^       ^
<i>General Refuse</i>		
<ul style="list-style-type: none"> <li>General refuse generated on-site shall be stored in enclosed bins or compaction unit separate from C&amp;D and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&amp;D and chemical wastes, on a daily for every second day basis to minimise odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law.</li> </ul>	^	

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

Remarks:

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

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**APPENDIX H  
SUMMARY OF ENVIRONMENTAL  
LICENCES AND PERMITS**

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## Appendix H - Summary of Environmental Licensing and Permit Status (ENT)

Permit No.	Valid Period		Details	Status
	From	To		
<b>Environmental Permit (EP)</b>				
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; (c) 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
<b>Registration of Chemical Waste Producer</b>				
WPN 5213-761-L2595-01	26/01/04	N/A	N/A	Valid
<b>Water Discharge Licence</b>				
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
<b>Construction Noise Permit (CNP)</b>				
GW-RW0643-05	08/10/05	07/04/06	<i>Location:</i> Butterfly Valley <i>Time period:</i> general holiday (including Sundays) between 0700 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid
GW-RW0073-06	07/2/06	4/5/06	<i>Location:</i> Butterfly Valley <i>Time period:</i> General holidays (including Sundays) between 2300 to 0700 hrs	Valid
GW-RW0043-06	6/2/06	5/8/06	<i>Location:</i> Ventilation Adit <i>Time period:</i> general holiday (including Sundays) between 0700 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid

Permit No.	Valid Period		Details	Status
	From	To		
GW-RN0532-05	04/10/05	03/04/06	<i>Location:</i> South Portal <i>Time period:</i> general holiday (including Sundays) between 0900 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid
GW-RN0447-05	04/10/05	03/04/06	<i>Location:</i> South Portal <i>Time period:</i> Any day between 2300 and 0700 hours on next day.	Valid
GW-RN0449-05	04/10/05	03/04/06	<i>Location:</i> North Portal <i>Time period:</i> general holiday (including Sundays) between 0900 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid
GW-RN0448-05	04/10/05	03/04/06	<i>Location:</i> North Portal <i>Time period:</i> Any day between 2300 and 0700 hours on next day.	Valid
GW-RN0537-05	11/11/05	10/05/06	<i>Location:</i> Toll Plaza <i>Time period:</i> general holiday (including Sundays) between 0900 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid
GW-RN0593-05	08/12/05	07/06/06	<i>Location:</i> South and North Portal Buildings <i>Time period:</i> general holiday (including Sundays) between 0900 and 2400 hours, and any other day between 1900 and 2400 hours.	Valid

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**APPENDIX I  
COMPLAINT LOG**

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## Appendix I - Complaint Log

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
40426	Butterfly Valley	26 April 2004	<p>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.</p>	<p><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.</p> <p><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.</p> <p>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.</p>	Closed
40914	Garden Villa	<p>13-Sep-04 (by EPD)</p> <p>14-Sep-04 (by ET Leader)</p>	<p>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.</p> <p>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,</p>	<p><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.</p> <p><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.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			<p>the complainant was particularly concerned of two issues:</p> <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> </ol>	<p>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.</p> <p><u>Use of TAR no.1</u> According to Condition 3d of the above-mentioned CNP, there was restriction on the use of site vehicles traveling on TAR no.1.</p> <p>The usage of site vehicles on TAR no.1 in a 2-week period before the date of complaint, i.e. 30<sup>th</sup> August to 12<sup>th</sup> 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.</p> <p>Regular noise monitoring was undertaken by ET at Garden Villa on 30<sup>th</sup> August and 6<sup>th</sup> 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.</p> <p>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.</p> <p>For the use of TAR no.1, the RSS's records showed that the number of vehicle pass in the period between 30<sup>th</sup> August and 12<sup>th</sup> September 2004 was complied with the CNP's conditions. It should be noted that only a maximum of 3 concrete trucks</p>	

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p>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).</p> <p>Nevertheless, the Contractor was reminded to ensure the compliance of the CNP conditions and adopt good site practice to minimize the construction noise.</p>	
41021	Garden Villa	<p>09-Oct-04 (by EPD)</p> <p>21-Oct-04 (by ET Leader)</p>	<p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Construction works undertaken by the Contractor (Leighton–Kumagai Joint Venture) were noted after 2300 hour.</li> <li>• 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.</li> </ul>	<p>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.</p> <p>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:</p> <ol style="list-style-type: none"> <li>1. Driving the vehicles too fast, which generated excessive engine noise;</li> <li>2. Noise inside the vehicles (such as staff talking or radios) escaping through the open vehicle windows; and</li> <li>3. Vehicle beeping horn to request the guards to open the gate.</li> </ol> <p>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:</p> <ol style="list-style-type: none"> <li>1. to drive slowly in order to reduce the engine noise, especially when approaching Garden Villa;</li> <li>2. to roll up the vehicle windows to contain any noise from talking or radios; and</li> <li>3. to prohibit beeping the vehicle horn for gate opening; instead, to park the car and approach the guard on foot.</li> </ol>	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 20 <sup>th</sup> 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 23 <sup>rd</sup> October 2004.	<p>The complaint was considered valid based on:</p> <ol style="list-style-type: none"> <li>1. ER's site observations;</li> <li>2. ET's weekly site audit; and</li> <li>3. 1-hr TSP exceedance record.</li> </ol> <p>Also, the sources of dust generation were identified as</p> <ol style="list-style-type: none"> <li>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.</li> <li>2. Dust impact due to the haulage of excavated materials at the South Portal.</li> </ol> <p>Enhanced dust suppression measures had been implemented by the Contractor:</p> <ul style="list-style-type: none"> <li>• added rockfill to the haul road between South Portal Tunnel and the Gully fill area;</li> <li>• maintained watering to haul road at Slope BV-S2;</li> <li>• requested the fill material supplier to ensure the material was in a damp condition before leaving quarry;</li> <li>• provided for material not dampened at the Quarry to be directed to the wheel wash for water spray before entering the site;</li> <li>• when cleaning drill holes along slope BV-S4 to ensure adequate water was available for flushing to suppress dust emission; AND</li> <li>• provided damper stockpiles of cleared material at BV-S2 before loading.</li> </ul> <p>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 29<sup>th</sup> Oct 04. No significant fugitive dust emission has been found.</p> <p>During ET's site inspections on 27<sup>th</sup> Oct and 3<sup>rd</sup> Nov 2004, the situation was found improved. No deficiency relating to air quality impact was noted by ET during the two audit sessions.</p> <p>The results of air quality monitoring (1-hr and 24-hr TSP) in the period between 21<sup>st</sup> Oct and 2<sup>nd</sup> Nov 2004 were all found to be complied with the Action / Limit Levels.</p>	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 21 <sup>st</sup> 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 24 <sup>th</sup> November 2004.	According to the ER, the only construction activity at Butterfly Valley undertaken on 21 <sup>st</sup> 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 21 <sup>st</sup> and 28 <sup>th</sup> 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 1 <sup>st</sup> 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
				<p>Contractor.</p> <p>However, owing to the prevailing of the dry season, the Contractor was reminded to ensure the dust control measures are effectively implemented.</p>	
50125	Garden Villa (North Portal)	<p>21-Jan-05 (by EPD)</p> <p>25-Jan-05 (by ET Leader)</p>	<p>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.</p> <p>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:</p> <ol style="list-style-type: none"> <li>1. Noise from tunnel blasting work carrying out at around 7:30am and 10:00pm; and</li> <li>2. Dump trucks without covering of canvas when leaving the construction site.</li> </ol>	<p><b><u>Noise from blasting</u></b> 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:</p> <ul style="list-style-type: none"> <li>• To inform the residents around the area about the time of blasting in advance; and</li> <li>• To re-schedule the blasting time table, if possible, in order to avoid nuisance.</li> </ul> <p><b><u>Uncovered dump trucks</u></b> 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.</p> <p>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.</p> <p>LKJV was reminded to keep closely monitoring on the condition and the effectiveness of the proposed control measures.</p>	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)	<p>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.</p> <p>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:</p> <ol style="list-style-type: none"> <li>1. Nighttime &amp; Sunday construction noise</li> <li>2. Noise from tunnel blasting at early morning and nighttime</li> <li>3. Dust from construction activities</li> </ol>	<p><i>Nighttime &amp; Sunday construction noise</i></p> <ul style="list-style-type: none"> <li>• no exceedance for noise monitoring</li> <li>• restricted hour works were found complied with the CNPs</li> <li>• records of vehicular trips on TAR1 did not show non-compliance of CNP conditions</li> </ul> <p><i>Noise from tunnel blasting at early morning and nighttime</i></p> <ul style="list-style-type: none"> <li>• no exceedance for noise monitoring</li> <li>• valid blasting permit had been obtained from CEDD</li> <li>• blasting work is not under the jurisdiction of EPD</li> </ul> <p><i>Dust from construction activities</i></p> <ul style="list-style-type: none"> <li>• dump trucks with uncovered / inadequately covered materials were observed leaving site</li> <li>• no exceedance for TSP monitoring</li> <li>• enhanced dust suppression measures had been implemented by the Contractor</li> </ul> <p><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.</p>	Closed
50330	Garden Villa (TAR1)	30-Mar-05 (by EPD & ET Leader)	<p>Environmental Protection Department (EPD) received a public complaint on 30<sup>th</sup> 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.</p> <p>The complaint, which was lodged by a resident of Garden Villa on 29<sup>th</sup> 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.</p>	<p>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).</p> <p>The time period of concern was within normal working hours (7am to 7pm) on a weekday not being holidays. According to the EM&amp;A Manual, the criterion of construction noise in term of <math>L_{eq-30min}</math> within this period is 75 dB(A) for domestic premises.</p> <p>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 (<math>L_{eq-30min}</math>) were below the daytime noise</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p>critterion of 75 dB(A).</p> <p>Based on the results of routine noise monitoring and the ad-hoc measurement on 1<sup>st</sup> 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.</p> <p>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).</p>	
50415	Government Quarters	<p>09-Apr-05 (by EPD)</p> <p>15-Apr-05 (by ET Leader)</p>	<p>The complaint, which was lodged by a resident of 7/F, 38B, 8-10 Caldecott Road (Governmental Quarters) on 9<sup>th</sup> 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).</p> <p>EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 15<sup>th</sup> April 2005.</p> <p>The time period of concern was within normal working hours (7am to 7pm) on a weekday not being public holidays. According to the EM&amp;A Manual, the criterion of construction noise in term of L<sub>eq</sub>-30min within this period is 75 dB(A) for domestic premises.</p>	<p>Governmental Quarters (Station NM6) is one of the designated noise monitoring stations in the EM&amp;A programme. Routine monitoring is undertaken on a weekly basis in accordance with the EM&amp;A Manual.</p> <p>Since the commencement of the Project, no exceedance of daytime noise criterion of 75 dB(A) was recorded at this station.</p> <p>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).</p> <p>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.</p>	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)	<p>The complaint was lodged by a resident of 8-10 Caldecott Road (Government Quarters) on 15<sup>th</sup> April 2005 to EPD as well as the Chief Resident Engineer of the Project.</p> <p>EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 19<sup>th</sup> April 2005.</p> <p>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 14<sup>th</sup> April 2005 and at 4am on 15<sup>th</sup> April 2005.</p>	<p>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.</p> <p>According to the information provided by the Resident Site Staff and the Contractor, the construction activities undertaken in the period between 11<sup>th</sup> and 15<sup>th</sup> April 2005 from 1900 to 0700 hours included drilling, breaking, trimming, set up of rock drill, installation of arch-rib and grouting.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Based on the available information, there is not enough evidence to prove whether the complaint against nighttime construction noise generated in the concerned period (11<sup>th</sup> to 15<sup>th</sup> April 2005) is justifiable or not.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50512	Yew Chung International School	12-May-05	<p>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.</p> <p>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.</p> <p>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.</p>	<p>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.</p> <p>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 &lt; 65dB(A)).</p> <p>The complaint lodged was therefore considered not justifiable.</p> <p>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.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
50610	Government Quarters	10-Jun-05	<p>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.</p> <p>The complainant had not specified which construction activities had contributed to the dust generation.</p>	<p><i>Site Observations</i></p> <p>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.</p> <p><i>Corrective Actions</i></p> <p>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).</p> <p>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.</p> <p><i>Environmental Outcome</i></p> <p>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.</p> <p><i>Conclusions</i></p> <p>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.</p>	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	<p>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).</p>	<p><i>Site Activity</i></p> <p>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.</p> <p><i>Environmental Requirements</i></p> <p>In the EP, the EM&amp;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.</p> <p>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.</p> <p>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.</p> <p><i>Contractor's Actions</i></p> <p>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).</p> <p><i>Conclusions</i></p> <p>The subjected blasting operations were carried out by the Contractor under a valid blasting permit. The complaint lodged is therefore considered not justifiable.</p>	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	<p>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.</p> <p>Noise impact arising from the blasting works was one of the issues raised by the complainant.</p>	<p><i>Ad-hoc Noise Measurement</i></p> <p>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.</p> <p>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).</p> <p><i>Conclusion and Recommendation</i></p> <p>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.</p>	Closed
50830	Government Quarters (8-10 Caldecott Road)	30-Aug-05	<p>The RSS received a public complaint from a resident of Government Quarters addressing two noise issues:</p> <ol style="list-style-type: none"> <li>1. Noise nuisance caused by drilling works at Butterfly Valley;</li> <li>2. Noise nuisance due to blasting 0045 hrs of 28 August 2005.</li> </ol>	<p><i>Noise Measurement</i></p> <p>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.</p> <p><i>Conclusion</i></p> <p>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.</p>	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.	<p><i>Environmental Monitoring</i></p> <p>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).</p> <p><i>Conclusion</i></p> <p>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.</p>	Closed
51025	Caldecott Hill (2 Caldecott Road)	25-Oct-05	<p>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.</p> <p>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.</p> <p>According to the photos provided by the complainant, noticeable dust generation was observed during construction vehicles movement on the roads of concern.</p>	<p><i>Site Observations</i></p> <p>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.</p> <p><i>Contractor’s Actions</i></p> <p>Mitigation actions were taken by the Contractor:</p> <ol style="list-style-type: none"> <li>1. One labour was appointed to water spray the concerned road junction and clear up of dusty materials deposited on the WTW access road.</li> <li>2. Regular watering on access road by hose pipe was performed to keep the road wet.</li> <li>3. All vehicles would be wheel-washed and loads of dusty materials would be covered before leaving the site.</li> </ol> <p><i>Conclusions</i></p> <p>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.</p>	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	<p>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.</p> <p>The complainant was concerned about the following environmental issues:</p> <ol style="list-style-type: none"> <li>1. Noise nuisance due to tunnel blasting works undertaken at midnights and in early mornings (3am to 5am);</li> <li>2. Noise nuisance due to operation of a generator after 11pm;</li> <li>3. Construction dust and daytime noise due to processing and stockpiling of crushed rocks at Butterfly Valley;</li> <li>4. Noise nuisance due to works outside tunnel in the early morning of 2 Nov 05.</li> </ol>	<p><u>Item 1: Noise nuisance due to tunnel blasting</u> 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.</p> <p><u>Item 2: Noise due to operation of a generator after 11pm</u> 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.</p> <p><u>Item 3: Dust and noise due to handling of crushed rocks</u> 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.</p> <p><u>Item 4: Noise from works out of tunnel in morning of 2 Nov 05</u> 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.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				<p><u>Conclusion</u></p> <p>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.</p>	
51205	Caldecott Road junction	5-Dec-05	<p>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.</p>	<p><u>Complaint Record</u></p> <p>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.</p> <p>With implementation of enhanced dust mitigation measures, the situation was found improved and satisfactory.</p> <p><u>Site Observations</u></p> <p>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.</p> <p>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.</p> <p>Sufficient dust mitigation measures had been implemented by the Contractor. The condition was found satisfactory. Therefore, this complaint was considered not justifiable.</p> <p>However, it is noted that the Contractor had stepped up dust mitigation measures to further improve the condition at Caldecott Road junction.</p>	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
60204	Garden Villa	4-Jan-06 (by ETL)	<p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Time of concern: 1-2 January 2006 (Daytime)</li> <li>• Suspected site area of concern: ENT’s Toll Plaza and Administration Building.</li> <li>• Dust and noise nuisance was noted by the complainant when he passed Garden Villa.</li> <li>• Noise from wood saw and crane or alike was noted.</li> </ul>	<p><b>A. Construction Noise Impact</b></p> <p>According to the Contractor’s information, construction activities were carried out on 1 and 2 Jan 06, including:</p> <ul style="list-style-type: none"> <li>• Erection and dismantling of formwork</li> <li>• Fixing water pipe</li> </ul> <p>All the equipment operated by the Contractor on 1-2 Jan 06 complied with the permissible equipment stated in the CNP.</p> <p>On 1 Jan 06, noise monitoring was carried out. All the results complied with the noise criterion.</p> <p><b>B. Construction Dust Impact</b></p> <p>Erection and dismantling of formwork and fixing water pipe were considered not dust emissive in nature.</p> <p>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.</p> <p>Since December 2005, all TSP monitoring results complied with the Action / Limit Level.</p> <p><b>Conclusion</b></p> <p>Based on the information given, site observations and environmental monitoring results, this complaint was considered not justifiable.</p> <p>Nevertheless, the Contractor was reminded to adopt good site practice to minimize the environmental impacts at the nearby sensitive receivers</p>	Closed

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**APPENDIX J**  
**SUMMARY OF EXCEEDANCES**

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**Summary of Exceedances Recorded in the Reporting Quarter****a) Exceedance Report for 1-hr TSP (NIL)****b) Exceedance Report for 24-hr TSP (NIL)****c) Exceedance Report for Construction Noise**

- One Action Level exceedance was recorded due to a complaint received on 4 January 2006. The details can refer to **Appendix I**.
- One Limit Level exceedance was recorded on 16 February 2006.

Station No.	Parameter	Measured Level (Leq dB(A))	Baseline Level (Leq dB(A))	Construction Noise Level (Leq dB(A))	Action Level	Limit Level (Leq dB(A))	Level exceeded
NM7 (Garden Villa)	Construction Noise	80.6*	59.0	80.6	When one documented complaint is received	75.0	Limit
(a) Statement of exceedance(s) Construction noise at NM7 (Garden Villa) exceeded the Limit level.							
(b) Cause of exceedance(s)  During the noise measurement, the following observations were made: 1. Noise from concrete breaking works by the Contractor of another Project (R8-SHT) was identified as the major noise source. 2. Construction noise from R8-ENT Contractor and road traffic noise from Tai Po Road were also noted. However, they were insignificantly as compared to the noise from the breaking activities of R8-SHT.							
(c) Action required under the action plan  N/A							
(d) Action taken under the action plan  N/A							
(e) ET's conclusions and recommendations for mitigation  The exceedance was not due to the R8-ENT Project and no further action is required.							