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)

March to May 2007

Approved By Chy N (Environmental Team Leader)	
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REMARKS:

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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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TABLE OF CONTENTS

E	XECUTIVE SUMMARY	1
	ENVIRONMENTAL MONITORING WORKS ENVIRONMENTAL LICENSING AND PERMITTING KEY INFORMATION IN THE REPORTING QUARTER	2
1.	INTRODUCTION	4
2	PROJECT CHARACTERISTICS	6
	PROJECT ORGANIZATION AND CONTACTS OF KEY MANAGEMENT CONSTRUCTION PROGRAMME AND SYNOPSIS OF WORK	
3	ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS	7
	MONITORING PARAMETERS AND MONITORING LOCATIONS MONITORING METHODOLOGY AND CALIBRATION DETAILS ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS) ENVIRONMENTAL MITIGATION MEASURES	8 8
4	MONITORING RESULTS	9
	WEATHER CONDITIONS AIR QUALITY CONSTRUCTION NOISE	9
5	ENVIRONMENTAL AUDIT	10
	IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES SITE AUDIT SUMMARY STATUS OF ENVIRONMENTAL LICENSING AND PERMITTING	10
6 P	NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALIT ERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)	
	SUMMARY OF EXCEEDANCES Review of the Reasons for and the Implications of Non-compliance	
7	ENVIRONMENTAL COMPLAINTS	13
8	NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS	14
9	COMMENTS, CONCLUSIONS AND RECOMMENDATIONS	15

LIST OF TABLE

Table I	Summary Table for Exceedances Recorded in the Reporting Quarter
Table II	Summary Table for Key Information in the Reporting Quarter

Table 5.1Observations and Recommendations of Site Audit

LIST OF FIGURES

Figure 1a	Location of monitoring stations
Figure 1b	Location of monitoring stations
Figure 2	Project Organization Chart

LIST OF APPENDICES

Appendix A	Contact Details of the Project Organisation
Appendix B	Construction Programme
Appendix C	Monitoring Requirements
Appendix D	Environmental Quality Performance (Action/Limit) Levels
Appendix E	Graphical Presentation of Air Quality Monitoring Results
Appendix F	Graphical Presentation of Noise Monitoring Results
Appendix G	Implementation Schedule of Environmental Mitigation Measures (EMIS)
Appendix H	Summary Status of Environmental Licences and Permits
Appendix I	Complaint Log
Appendix J	Summary of Exceedances

EXECUTIVE SUMMARY

- This is the 14th 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 March and May 2007 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 quarter included:
 - Louvre / Cladding, Door & Hand Rail Installation;
 - Vent Shaft Construction (Lourve / Cladding & Heat Resisting Period);
 - Screeding;
 - Earth works;
 - Rendering;
 - Shotcreting;
 - Vent Shaft erection;
 - Tunnel Ventilation System;
 - T&C for HV, LV cable & switchboard;
 - Plumbing & Drainage;
 - Mechanical Ventilation Air Conditioning; and
 - Drainage Works & Road works.
- The major site activities for Traffic Control and Surveillance System (TCSS) works undertaken in the reporting quarter included:
 - Cable Laying;
 - Field Equipment Installation;
 - Control Equipment Installation;
 - Antenna Installation;
 - PA Installation; and
 - Emergency Telephone Installation.

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**.

Parameter	No. of	Events	No. of Events	Action Taken	
Furumeter	Action Level	Limit Level	Due to the Project	Action Taken	
March 2007					
1-hr TSP	0	0	0	N/A	
24-hr TSP	0	0	0	N/A	
Noise	0	0	0	N/A	
April 2007					
1-hr TSP	0	0	0	N/A	
24-hr TSP	0	0	0	N/A	
Noise	0	0	0	N/A	
May 2007					
1-hr TSP	0	0	0	N/A	
24-hr TSP	0	0	0	N/A	
Noise	0	0	0	N/A	

Table I Summary Table for Events Recorded in the Reporting Quarter

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 the reporting quarter is tabulated in **Table II**.

Table II Summary Table for Key Information in the Reporting Quarter

Event	Ev	vent Details	Action Taken	Status	Remark
Event	Number	Nature	Action Taken	Status	Keinai K
Complaint received	0		N/A	N/A	
Changes to the assumptions and key construction / operation activities recorded	0		N/A	N/A	
Status of submissions under EP	0		N/A	N/A	
Notifications of any summons & prosecutions received	0		N/A	N/A	

Future Key Issues:

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

- Door & Hand Rail Installation;
- Tunnel Ventilation System;
- T&C for Tunnel Ventilation System;
- Plumbing & Drainage;
- Slope Stabilization;
- Construction of Car Park Shelter no. 2-4;
- Mechanical Ventilation Air Conditioning; and
- Drainage Works & Road works.

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

- Cable Laying;
- Field Equipment Installation;
- Control Equipment Installation;
- Antenna Installation;
- TCSS Cabinet Installation;
- PA Installation; and
- Emergency Telephone Installation.

The anticipated environmental issues will be mainly on surface runoff during rainy season, dust impact from drainage and road works.

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 15th 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. Kenneth LUK of CH2M HILL Hong Kong Ltd. was appointed as the IEC under Condition 2.1 of the EP. This is the 14th quarterly EM&A report summarizing the EM&A works for the ENT Project between March and May 2007.

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**.
- 2.3 The site activities for Civil Works undertaken in the reporting quarter included: *ENT Tunnel*
 - VE panel, niche door installation, E&M cabling dampers, dampers, tunnel ventilation system, fire services, testing of circuitry for tunnel lighting and cable trough covering

Butterfly Valley

• Haul road, road and drainage works, DN200 & DN200 twin water-main, recreated stream, shotcreting, hydro-mulching, high mast erection, irrigation pipe & system, gabion wall, erection of sign gantries and step/u-channel

South Portal Building

• Louvre/ Cladding, Door & Hand Rail installation, screeding, plumbing & drainage, vent shaft erection, fire services, mechanical ventilation air condition, Tunnel Ventilation System and T&C for HV and LV cable & switchboard

North Portal Building

• Door & Hand Rail installation, Vent shaft construction, Loop Road no. 2 Construction, fire services, mechanical ventilation air condition, Tunnel Ventilation System, T&C for HV, LV cable & switchboard.

Toll Plaza's Structures and Administration Building

• Footbridge(metal cladding), utility (draw pit/ ducting), road works, construction of car park shelter no.1, curtain wall & glazing installation, rendering, fire services, mechanical ventilation air condition, plumbing & drainage, cabling, lift installation, T&C for HV, LV cable & switchboard

Ventilation Building & Tai Po Road

• Louvre /cladding, door & handrail installation, vent shaft construction, rendering, earth works, plumbing & drainage, fire service, mechanical ventilation air condition, T&C for HV, LV cable & switchboard and Tunnel Ventilation System.

SHT – South Portal Building

• Louvre installation, screeding, painting, rendering, tunnel ventilation system, plumbing & drainage, fire services, mechanical ventilation air conditioning, T&C for HV, LV cable & switchboard.

SHT – North Portal Building

• Louvre installation, screeding, painting, tunnel ventilation system, plumbing & drainage, fire services, mechanical ventilation air conditioning, T&C for HV, LV cable & switchboard.

SHT Tunnel & Remaining SHT/T3 Area

- Lighting installation, fire services ,tunnel ventilation system, cabling works and high mast erection
- 2.4 The site activities for TCSS works undertaken in the reporting quarter included:
 - Cable laying, field equipment installation, control cabinet installation and emergency telephone installation at Tunnel
 - Cable laying, field equipment installation and control cabinet installation at Butterfly Valley
 - Cable laying, equipment cabinets installation, control equipment at Kiosk K3, K4
 - Cable laying, control equipment installation, antenna installation and PA installation at South Portal Building
 - Cable laying, control equipment installation, antenna installation and PA installation at North Portal Building
 - Cable laying, field equipment installation and PA installation at Toll Plaza
 - Cable laying, control equipment installation and antenna pole installation at Administration Building
 - Cable laying, control equipment installation and antenna pole installation at Ventilation Building

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 and 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 quarter.
- 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 March to May 2007. 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 quarter. Restricted-hour monitoring was also conducted at NM5, NM6 and NM7.
- 4.8 No Action/Limit Level exceedance was recorded in the reporting quarter.
- 4.9 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.
- 4.10 The monitoring data of construction noise are attached in the appendices of the Monthly Reports for March to May 2007. The graphical presentations of the monitoring results are shown in **Appendix F**.
- 4.11 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 for Civil works were conducted on 1st, 7th, 14th, 19th and 29th March 2007, 2nd, 11th, 18th and 25th April 2007, 2nd, 8th, 16th, 23rd and 31st May 2007.
- 5.3 The joint site audit for Civil works and TCSS works was conducted on 1st and 29th March 2007, 8th and 31st May 2007 with representatives from HyD, IEC, ER, the Contractor and ET.
- 5.4 During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations are summarized in **Table 5.1**.

Parameters	Date	Observations / Recommendations	Remedial Actions
Water Quality	01/03/07	<i>Reminder</i> - During the site inspection, it was observed that water was dripping from OHVD down to the south bound of the SHT. It was understand that the contractor has removed the sandy materials around the dripping area to avoid the generation of sandy wastewater, and it was observed during the inspection that the water concerned was clean and a bund was constructed to prevent the water from being contaminated. However, the contractor was still reminded to maintain proper drainage for the ripping water and to ensure that it would not mix with waste/sandy materials	Rectification / improvement was observed during the site inspection on 7 March 07.
	29/03/07	<i>Reminder</i> - Insufficient of temporary drainage system was observed at Mui Kong Tsuen. The Contractor was reminded to review the temporary drainage system at Mui Kong Tsuen before wet season	Rectification / improvement was observed during the site inspection on 2 April 07.
	02/05/07	<i>Reminder</i> - Accumulation of silt was observed in the u-channel near the Aquased in Toll Plaza. The Contractor was reminded to remove the accumulated silt.	Rectification / improvement was observed during the inspection on 8 May 07.

Table 5.1 Observations and Recommendations of the Site Audits

Parameters	Date	Observations / Recommendations	Remedial Actions
	02/05/07	<i>Reminder</i> - Standing water was observed at the footing of the long sign gantry in the Toll Plaza. The Contractor was reminded to spray larvicide oil on the footing of the sign gantry.	Rectification / improvement was observed during the inspection on 8 May 07.
	08/05/07	<i>Reminder</i> - Broken tarpaulin was observed at Slope SPS3. The Contractor was reminded to cover the exposed slope properly.	Rectification / improvement was observed during the inspection on 16 May 07.
	16/05/07	<i>Reminder</i> – Accumulated sand and sediment were observed on the step channel. The Contractor was reminded to clean it up as soon as possible.	Water discharge from the reservoir upstream of the step channel is processing by Water Services Department (WSD). For the safety reason, Contractor was not able to clear the accumulated silt and sediment due to the high flow rate in the step channel. The Contractor was reminded to clear the accumulated silt and sediment as soon as possible.
Air Quality	01/03/07	<i>Reminder</i> - Visible white smoke emission from the operating excavator was observed at ventilation adit site. Good maintenance should be provided for excavator.	Rectification / improvement was observed during the site inspection on 7 March 07.
	14/03/07	<i>Reminder</i> - Dark smoke emission from the operating air compressor was observed at BVS2. Good maintenance should be provided to avoid dark smoke produced.	Rectification / improvement was observed during the site inspection on 29 March 07.
Waste/Chemica I Management	19/03/07	<i>Reminder</i> - Drip tray was not provided for oil drum at Toll Plaza. The Contractor was recommended to provide drip tray for the oil drums	Rectification / improvement was observed during the site inspection on 29 March 07.
	19/03/07	Reminder - Accumulation of general refuse was found near workshop of Toll Plaza and North Portal Building. The contractor was reminded to clean it.	Rectification / improvement was observed during the site inspection on 2 April 07.

Status of Environmental Licensing and Permitting

5.5 Environmental licenses and permits including the Environmental Permit for the Project were in place and valid during the reporting quarter. The status of these 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 in the reporting quarter.

Construction Noise Monitoring

6.2 No Action/Limit Level exceedance was recorded in the reporting quarter.

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

6.3 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 No environmental complaints were received in the reporting quarter.
- 7.2 The details of the complaints, the investigation results and the mitigation actions are summarized in **Appendix I**. There were 22 environmental 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 Civil works in the coming months include: *ENT Tunnel*

• VE panel, E&M cabling, T&C for Tunnel ventilation system, fire services, and T&C for equipment.

Butterfly Valley

• Road and drainage works, diverted DN200, recreated stream, slope stabilization (e.g. hydro mulching stone pitching), gabion wall, and step/u-channel

South Portal Building

• Door & Hand Rail installation, Tunnel Ventilation System, mechanical ventilation air condition, T&C for equipment, and fire services.

North Portal Building

• Door & Hand Rail installation, Plumbing & Drainage, Tunnel Ventilation System, mechanical ventilation air condition, fire services, and T&C for equipment.

Toll Plaza's Structures and Administration Building

• Road works (including EVA Road & Loop Road No.2), Footbridge (metal cladding), construction of car park shelter no.2- 4 (concrete pavement), tiles (external wall & internal floor), false ceiling, mechanical ventilation air condition, plumbing & drainage, T&C for equipment, lift installation, fire services, and installation of toll collection system.

Ventilation Building & Tai Po Road

• Drainage works, utility, mechanical ventilation air condition, Tunnel Ventilation System, T&C for equipment, and fire services.

SHT – South Portal Building

• Hand rail installation, fire services, mechanical ventilation air conditioning, tunnel ventilation system, and T&C for equipment.

SHT – North Portal Building

• Hand rail installation, mechanical ventilation air conditioning, tunnel ventilation system, fire services, T&C for equipment.

SHT Tunnel & Remaining SHT/T3 Area

- Lighting installation, fire services, tunnel ventilation system, and cabling works.
- 9.2 The major site activities for TCSS works in the coming months include:
 - Cable laying, field equipment installation, TCSS cabinet installation and emergency telephone installation at Tunnel
 - Cable laying, field equipment installation and TCSS cabinet installation at Butterfly Valley
 - Cable laying, equipment cabinets installation, control equipment at Kiosk K3, K4

- Cable laying, equipment cabinets installation, antenna installation and PA installation at South Portal Building
- Cable laying, equipment cabinets installation, antenna installation and PA installation at North Portal Building
- Cable laying, field equipment installation and PA installation at Toll Plaza
- Cable laying, equipment cabinets installation, antenna pole installation and PA installation at Administration Building
- Cable laying, equipment cabinets installation, antenna pole installation and PA installation at Ventilation Building
- 9.3 The anticipated environmental issues will be mainly on surface runoff during rainy season, dust impact from drainage and road works.
- 9.4 According to the environmental audit performed in the reporting quarter and anticipated environmental issues, the following recommendations were made:

Water Impact

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

Dust Impact

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

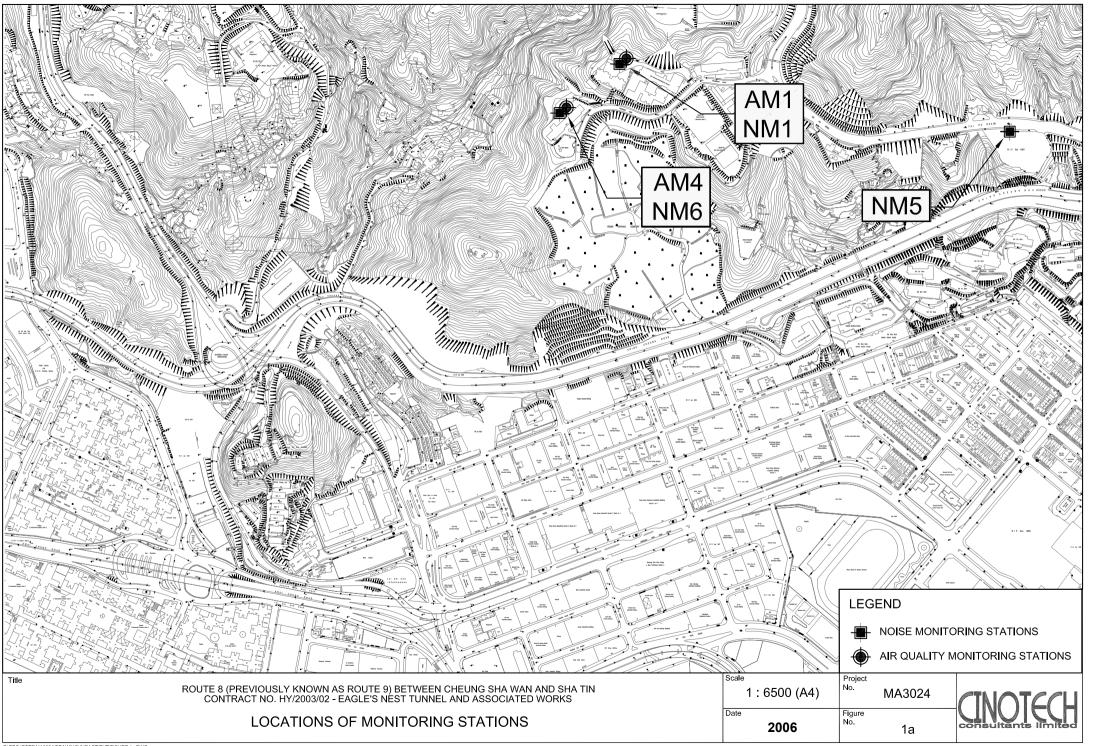
Noise Impact

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

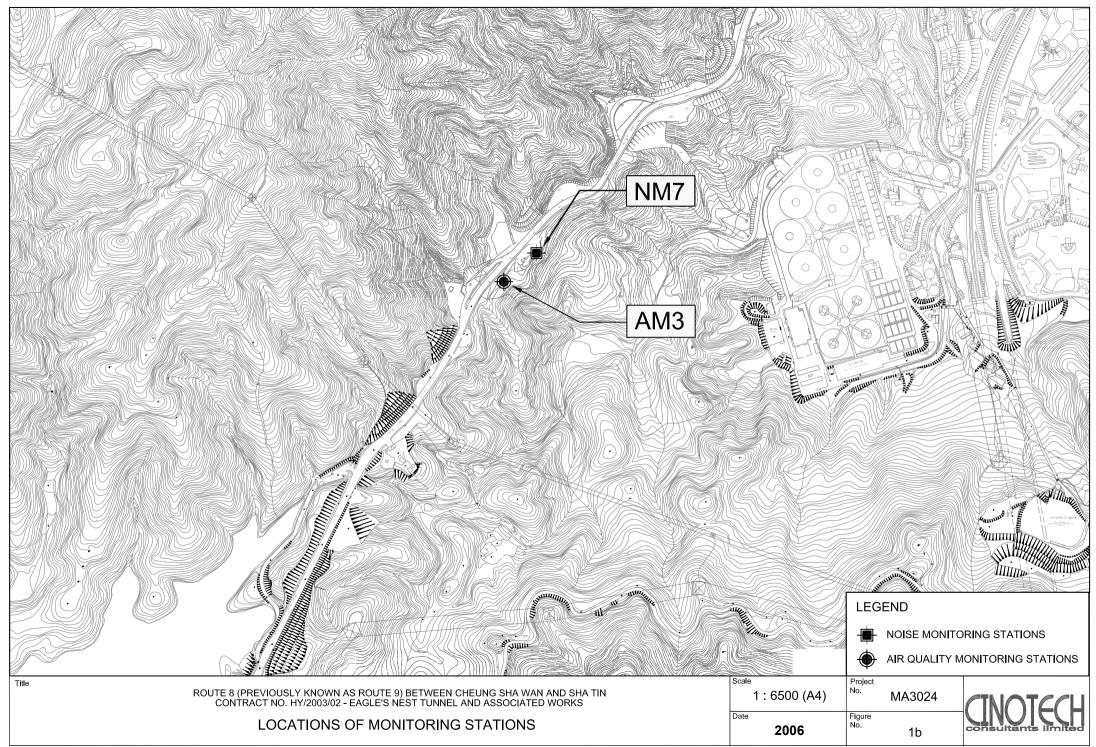
Waste/Chemical Management

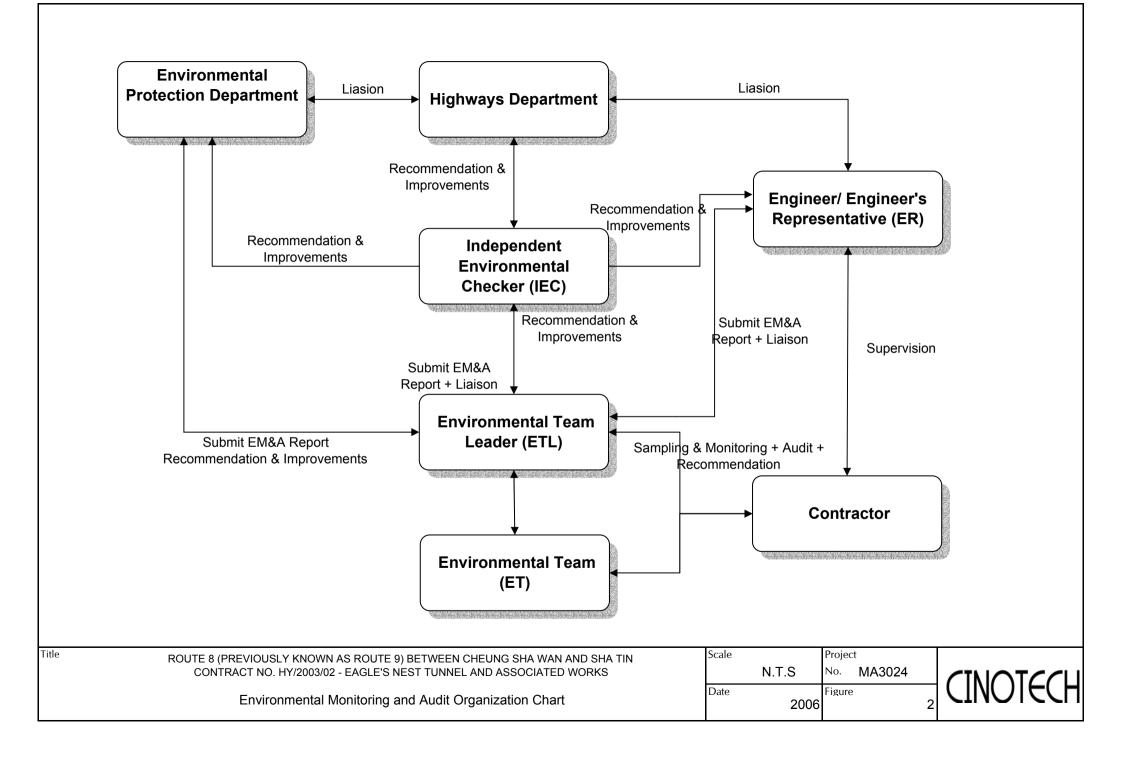
- To ensure proper storage of chemical and chemical waste on site.
- To check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly.

FIGURES



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





APPENDIX A CONTACT DETAILS OF THE PROJECT ORGANISATION

Party	Role	Name	Position	Phone No.	Fax No.
	Permit Holder	Mr. Kroc Leung	SE2/R8K	2762 3662	2714 5198
HyD	Permit Holder	Mr. George Law	E4/R8K	2762 3675	2/14 3198
	Engineer	Mr. Conrad Ng	Project Manager	2605 6262	2691 2649
MHJV	Engineer's	Mr. Peter Poon	CRE	3552 2500	
IVITIJ V	Engineer's Representative	Mr. Eric Wong	RE (S & EP)	3552 2551	2743 9200
	Representative	Ms. Sammie Chan	TO (EN)	3552 2605	
		Dr. Priscilla Choy	ET Leader	2151 2089	
	Environmental	Mr. Jesse Yuen	Project Manager	2151 2091	
Cinotech	Team	Mr. Edmond Wu	Audit Team Leader	2151 2092	3107 1388
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
CH2M	Independent Environmental	Mr. Kenneth Luk	Independent Environmental Checker	2507 2209	2507 2293
CH2M	Environmental Checker	Mr. Billy Yu	Deputy Independent Environmental Checker	2872 2949	2307 2293
LKJV	Contractor	Mr. Ray Brewster	Project Director	9092 6128	2743 1600
LKJV	Contractor	Mr. Danny Cheng	QA/E Manager	3552 2113	2743 1000
	Engineer's	Mr. Donald Leung	RE	2436 7489	
ARUP	Representative (TCSS)	Mr. Ivy Kong	ARE	2436 7435	2436 1803
DIGJV	Contractor (TCSS)	Ms. Joyce Chan	Quality Manager	2123 0845	2123 0889
Enquiries	Hotline		-	3552 2226	-
Complaint	Hotline			3552 2380	-

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

APPENDIX B CONSTRUCTION PROGRAMME

Data Date Run Date	20MAY07 26MAY07 12:11								3 MO	NTH RO	LLING	G PR(OGRA	MME		[De De	onthly Up etailed W ogress B itical Acti	/orks Pr 3ar
Act.	Activity		Early	Early	%	Target 1	Rem		Variance	MAI 42				3		MA 44	l			JUN 45	
	Description	Dur	Start	Finish	Compl.	% Comp	Dur	Float	Early Finish	₁ 12 ₁ 19	26	₁ 2	9	16 <mark>,</mark> 23	30	7 14	21	28	f4î1	1 ₁ 18	25
	t defined dates, stages and sections																				
	s of the Works																				
KD14	KD14 - Compl the Works in Portions J2 & J3 (SHT)	0		19JUN07	0	0	0	-207	-140	_										4	•
KD12	KD12 - Complete all Toll Plaza Works	0		26JUN07	0	0	0	-119	-152												•
KD09	KD09 - Complete All BV (Ex KD17 & 20) (25Nov06)	0		30JUN07	0	0	0	-80	-203												
KD10	KD10 - Complete All Works in F2	0		30JUN07	0	0	0	-156	-141												
KD11	KD11 - Complete All Works in F3,F5,G and H4)	0		30JUN07	0	0	0	-217	-173												
	als & Approvals	· ·			· ·																
	Submittal & Approval																				
	Prep.& Sub. Independ't Serv. Dwgs for SHT&T3&LCK	48 04A		04JUN07	98	98		120	-310									_			
	Engineer Comment / Approve ENT ISD Submissions	18 06A	AUG04A	30MAY07	85	85	8	-31	-310										_		
8030	Res-sub. & Approv of ENT ISD	24 065	SEP04A	04JUN07	70	70	12	-31	-310												
8035	Engineer Comment / Approve SHT&T3LCK ISD Sub.	24 135	SEP04A	04JUL07	85	85	36	120	-310												
8032	Engineer Comment / Approve SHT&T3&LCK CSD Sub.	18 250	OCT04A	07JUN07	90	90	15	120	-310												
8036	Re-sub. & Approv of SHT & T3 & LCK ISD	36 31N	/AR05A	04JUL07	70	70	36	120	-310								-				
8033	Re-sub. & Approv. of SHT & T3 & LCK CSD	24 28	JUN05A	18JUN07	60	60	24	120	-310												
8022	Engineer Comment / Approve ENT CSD Submissions	12 21	MAY07	04JUN07	0	0	12	120	-310												
8029	Re-sub. & Approv. of ENT CSD	24 05	JUN07	04JUL07	0	0	24	120	-310												
Testing	& Commissioning																				
EM1240	Submit FSI 501 to FSD (SP Bldg)	0		30APR07A	100	0	0		-71												
EM2460	Submit FSI 501 to FSD (Vent Bldg)	0		07JUN07*	0	0	0	-173	-108										•		
EM3840	Submit FSI 501 to FSD (NP Bldg)	0		30MAY07*	0	0	0	-166	-94									•			
EM3890	Submit FSI 501 to FSD (Admin Bldg)	0		06JUN07*	0	0	0	-166	-101										•		
EM6520	Submit FSI 501 to FSD (SHT SP)	0		30MAY07*	0	0	0	-166	-94									•			
EM7740	Submit FSI 501 to FSD (SHT NP)	0		09MAY07A	100	0	0		-84												
EM5060	Submit Form 501 to FSD (RC Enc. & T3)	0		04JUL07	0	0	0	-194	-169	1											
EM5020	ENT Tunnel FSD Insp(Tunnel System) <anticipated></anticipated>	6 24	JUL07	30JUL07	0	0	6	-198	-116												
EM5030	SHT Tunnel Issue, endorse & submit Form 501 to F	3 07	AUG07	09AUG07	0	0	3	-225	-203	-											
EM3900	Submit FSI 501 to FSD (TP, Ft Bridge, Subway)	0		27JUL07	0	0		-196	-146												
	ACT DEFINED DATES, STAGES & SECTIONS	;																			
	N ACCESS & VACATION																				
ACS_M2	Access to Portions - M2	0		25MAY07*	0	0	0	183	-387								<	>			
ACS_M3	Access to Portions - M3	0		25MAY07*	0	0	0	-403	-387												
ACS_M1	Access to Portions - M1	0		09JUN07*	0	0	0	-152	-402										•		
ACS_M12	Forecast Delay in Access to Portion M2	30 28A	APR06A	25MAY07	0	0	4	152	0												
CS_M13	Forecast Delay in Access to Portion M3	30 28A	APR06A	25MAY07	0	0	4	-327	0												
					1		1														



LEIGHTON - KUMUGAI JV

Proj. Name: W31E Layout: 3 MONTHS ROLLING PROGRAMME Filter: 3 MONTH ROLLING PROGRAMME Current Proj: W31E Target 1 Proj: BE02

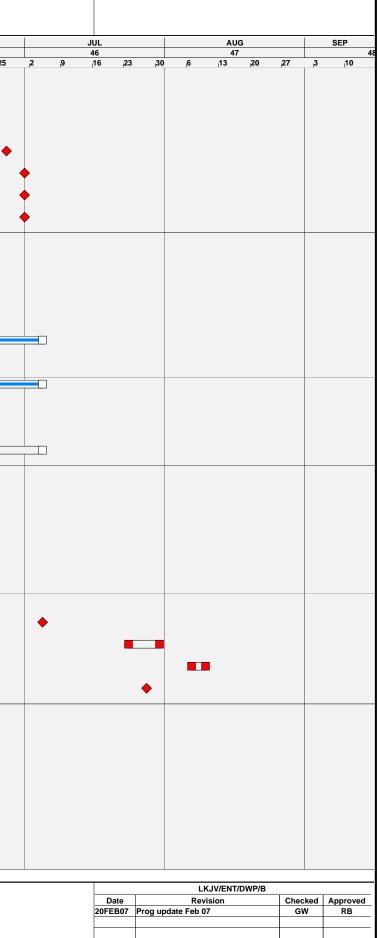
Sheet 1 of 14

CONTRACTORS TARGET PROGRAMME REV.1

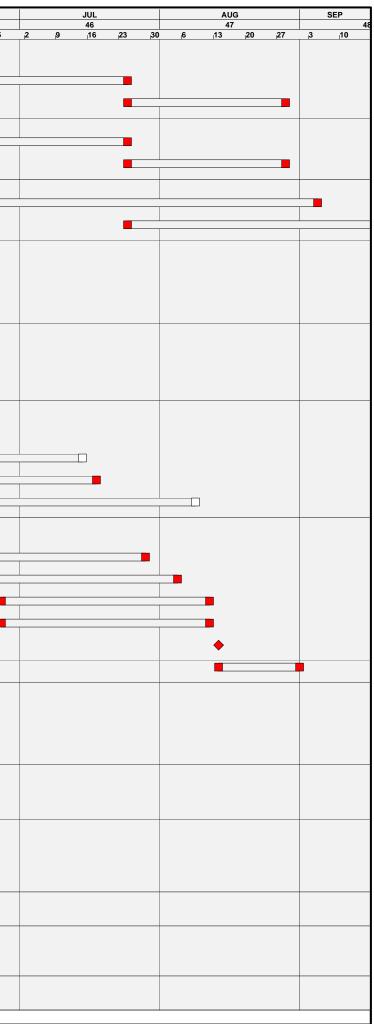
R8 - EAGLES'S NEST TUNNEL

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Act.	Activity	Orig		Early	%		Rem		Variance	MAR 42	43	MAY 44		JUN 45
ID	Description	Dur	Start	Finish	Compl.	% Comp	Dur	Float	Early Finish	_12 _19 _26		30 ₁ 7 <u>1</u> 4	21 <mark>28</mark>	,4 ₁ 11 18 25
	iction Works													
	duct Noise Enclosure 1													-
8322	LckVd NE1-Elect Works 1st Fix	36	11JUN07*	24JUL07	0	0	36	-93	-327					
8332	LckVd NE1-Elect Works 2nd Fix	30	25JUL07	28AUG07	0	0	30	-93	-327					
LCK Via	duct Noise Enclosure 2													
7400	LckVd NE2-Elect Works 1st Fix	36	11JUN07*	24JUL07	0	0	36	-93	-327					
7410	LckVd NE2-Elect Works 2nd Fix	30	25JUL07	28AUG07	0	0	30	-93	-327					
LCK Via	duct Noise Enclosure 3				1		I							
6737	LckVd NE3 & Elect Works 1st Fix	72	11JUN07*	04SEP07	0	0	72	-122	-327					
6747	LckVd NE3 Elect Works 2nd Fix	60	25JUL07	04OCT07	0	0	60	-122	-327	-				
	eased Lines at Pump Houses		2000201	0100101	Ű		00		021					
	E&M at Wai Man Tsuen Pump House	6	26MAR07A	25MAY07	80	0	4	30	-282					
										_				
	E&M at Lai Wan Overpass Pump House	6	15MAY07A		80	0	4	30	-294	_				
6817	E&M at Lai Po Rd Pump House	6	15MAY07A	25MAY07	80	0	4	30	-288					
BUTTE	RFLY VALLEY													
Contrac	t Key Dates & Milestones													
Area Ac	cess & Vacation Dates			1										
ACS_A	Access to Portions - A	0	200CT03A		100	100	0		-381					
Constru	iction Works			I.	1	,	1							
BUTTER	RFLY VALLEY 3RD PARTY WORKS													
Noise Ba	rrier Works by ACCIONA			1	T									
S2562	Access for 7m N.B. Works by Acciona at BV South	77	23JUN06A	14JUL07	30	0	45	111	-244					
S2612	Access for S-Enclosure Works (Primary Elements)	90	08JUL06A	17JUL07	0	0	47	-225	-225	-				
S2662	1Access for 5m N.B. Works by Acciona at BV South	90	27SEP06A	08AUG07	0	0	66	90	-220					
	RFLY VALLEY E&M WORKS		2.02.00.0											
	nclosure 6 at South Portal Area													
	LckVd NE6 - Elect Works 1st Fix	30	21MAY07*	28JUL07	0	0	30	-225	-215					
	LckVd NE6 - Elect Works 2nd Fix	24	05JUN07	04AUG07	0	0	24	-225	-215					
					-	_								
8392	LckVd NE6 - Elect Cabling ENT SPB to N.E.	9	27JUN07	11AUG07	0	0	9	-225	-215					
8402	LckVd NE6 - Elect Works Fin Fix	12	27JUN07	11AUG07	0	0	12	-225	-215					
8412	LckVd NE6 - Ready for Energization	0		13AUG07	0	0	0	-225	-215					
108347	NE 6 (Excision) - Elect T&C	18	14AUG07	31AUG07	0	0	18	-279	-268					
	Valley Miscellaneous E&M Works													
	Butterfly valley - Elect Works Fin Fix	24	22JAN07A	04JUN07	60	0	12	-57	-168					
	Butterfly Valley - Cabling		25JAN07A	23MAY07	98	0	3	-48	-159					
			LUCANUIA							-				•
	Butterfly Valley - Ready for Energization	0		05JUN07	0	0	0	-57	-168					•
	VORKS & SLOPEWORKS													
	SP-S2 & SP-S3		40 11 11 00 1	40 11 11 10			00	50	000					
	Remaining Works to Slopes SP-S3 & SP-S2	24	19JUL06A	13JUN07	4	0	20	-52	-288					
SLOPE E 20.500.130														
	BV-S2 Berm 9 hydro-seeding & tensar mat	12	240CT06A	18MAY07A	100	0	0		-285					
	BV-S2 Berm 10 hydro-seeding & tensar mat			18MAY07A					-273					
	DRAINAGE	12	240CT06A	ΙοινιΑΥΟΛΑ	100	0	0		-213					
	BV-S2 Berm 10 Surface drainage	14	01MAR06A	06JUN07	70	0	14	-46	-300					
SLOPE E	-	1 ' -	5			J 7								
SLOPE FIN														
102380	BV-S4/3a-4a & 5 hydro-seeding & tensarmat	12	12SEP05A	22JUN07	90	70	17	-211	-307					
	DRAINAGE			I		· · · · · ·								
103706	BV-S4/4 Surface Drainage	12	07SEP05A	07JUN07	95	5	15	-211	-307					
					•	·		· · · · · ·						



	A				0(N/ '	MAR	APR	MAY		JUN	JUL	AUG	SEP
Act.	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.		Rem Total Dur Float	Variance Early Finish	42	43	44 0 7 14	21 28	45	46 2 9 16 23 30	47	48
SLOPE SP-S1								,								
SURFACE DRAINAGE	Draine	-	00 11 11 0 4 4	07.0007	05	40	45 47	040								
103711 Sp-S1/4 Surfa		/	06JUL04A	07JUN07	95	40	15 -47	-318								
ROADWORKS - Nort Stormwater Drainage	n End of BV															
S2430 West Loop Rd	. Drainage	20	19JAN06A	04JUN07	90	30	12 -62	-265				-				
Road Pavement & Asso																
S2252 BV North - Bitu	Pavement to Sth Bnd Carrig'way	24	29SEP06A	22MAY07	95	0	2 -56	-161	-			† ∎				
S2540 BV North - Kei	rbs & CPB to Nrth Bound Carriageway	36	13NOV06A	07MAY07A	A 100	0	0	-154	_							
S2242 BV North - Bitu	J. Pavement to Nrth Bnd Carrig'way	24	20JAN07A	29MAY07	75	0	7 -63	-166	-							
	East Loop Rd Typ III (EVA)		15FEB07A	01JUN07	30	0		-271				-				
	West Loop Road Typ III (EVA)		10APR07A	26JUN07	50		12 -62	-240	-							
	Road Signage (Sign Plates Only)			18JUN07		0		-171				_				
									-			_				
	& White Lining (Staged for Access)		30MAY07	27JUN07	0	0		-178								
	Y - Road Pavement Friction Course	12	30MAY07	12JUN07	0	0	12 -51	0				-				
Miscellaenous Works	Drip Feed Irrigation System	40	24MAR07A	01JUN07	80		10 -42	-163								
					_											
S3000 Construct Rec		25	01JUN07*	30JUN07	0	0	25 -66	-257								
ROADWORKS - Sout Road Pavement & Asso																
	Pavement to Sth Bnd Carrig'way	20	20SEP06A	01JUN07	90	0	10 -60	-166				-				
	Pavement to Nrth Bnd Carrig'way		06NOV06A				10 -78	-161	_			-				
	& White Lining (Staged Access)	18		23JUN07		0		-161	-							
	Road Signage (Sign Plates Only)			23JUN07	0	0		-161	-							
	Y - Road Pavement Friction Course											1				
Miscellaneous Works	r - Road Pavement Friction Course	12	02JUN07	15JUN07	0	0	12 -54	0								
S2780 Install & Comm	nission Weighbridge	24	02JUN07	30JUN07	0	0	24 -78	-161	_							
DSD MAINTENANCE			02001101				21 10	101								
	DSD1-1 (Acciona Interface)															
S3570 WSD Slope R	einstatement	18	21MAY07	11JUN07	0	0	18 -50	-268	-			•				
S2380 Complete DSE	01-1 Surface Drainage & CP's	18	20MAR07A	08JUN07	50	0	16 -66	-194								
S3140 Complete Sub	-base & kerbs at DSD1-1	12	14APR07A	21JUN07	25	0	12 -66	-192	-							
S3150 Complete Surf	acing at DSD1-1 (Type IV)	8	22JUN07	30JUN07	0	0	8 -66	-192	-							
	DSD1 (Parallel to Channel)			1												
	d Pipes & Roadside Gullies	12	01MAR06A	17MAY07A	A 100	80	0	-304								
S3390 Complete Forr	nation at DSD1	6	02DEC06A	22MAY07	70	0	2 -59	-263								
S2730 Construct Rec	reated Stream	45	27MAR07A	22JUN07	40	0	25 -59	-184								
S3120 DN 200 Water	main Diversion EB18 - EB70	40	10APR07A	22JUN07	40	0	25 -59	-248	-							
S2700 Access rd DSI			21MAY07	04JUN07			12 -56	-267	-							
S3220 Subbase & Ke			15DEC06A	26MAY07			5 -44	-165				-				
S2720 Access rd DSI			05JUN07	18JUN07			12 -56	-267	-							
			0000107						-							
S3160 REINSTATE E		0	04143	30JUN07	0	0		-192	-							
S3230 Surfacing (Typ	pe IV)	12	21MAY07	04JUN07	0	0	12 -44	-166								
Terrain Mitigation NTMM - BV-S2																
102350 NTMM - Affore	estation of Area	60	22MAR06A	11JUN07	60	5	18 -50	-302	-							
Landscaping & Esta																
101476 BV - Soft Land		100	03JUN06A	22JUN07	70	0	20 -98	-54								

						MAR	APR	MA	v	JUN	JUL	AUG	SEP
Act. Activity ID Description	Orig Early Dur Start	Early Finish	% Compl	Target 1 Rem Tota % Comp Dur Floa		42	43	44		45	46	47	4
Landscaping & Establishment	Dui Otari		Compi.			12 <u>19 26</u>	_i2 _i9 _i16 _i23 _i3	80 ₁ 7 <u>14</u>	21 28	<u>,4 11 18 25</u>	<u>,2</u> ,9, <u>16</u> ,23,30	6 <u>13</u> 20 27	,3 ₁ 10
101475 BV - Hard Landscaping	90 03JAN07	A 28MAY07	60	0 6 -160	-196								
101477 BV - Establishment works	365 23JUN0		0	0 365 -210									
	303 2330110	2130100	0	0 303 -210	-03								
ENT SOUTH PORTAL VENTILATION BUILDING													
SUBMITTALS & APPROVALS													
E&M EQPT.& MATERIAL APPROVALS	04 071443/05	A 000 44 X 07	00	00 5 44	000								
1919 SP.Bldg Approve doors details	24 07MAY05	A 26MAY07	80	80 5 -146	-306								
PROCUREMENT - MATERIAL													
ABWF WORKS	0 041443/0	*		0 0 40	000	_							
2018 SP.Bldg Initial deliver fall arrest roof syst	0 21MAY0		0	0 0 -49		-							
2019 SP.Bldg Initial deliver of slate cladding	0 21MAY0	*	0	0 0 -20	-238								
2030 SP.Bldg Initial deliver balust & metal works	0 21MAY0	*	0	0 0 -49	-263				•				
2025 SP.Bldg- Initial deliver exp metal mesh cladding	0 07MAY07	A	100	0 0	-213								
CONSTRUCTION													
South Portal Bldg CIVIL & ABWF WORKS													
ABWF WORKS													
SB Bldg - Internal Works GF	40 001/01/07	A 401443/07	100		001								
SP Bldg - Internal Works 1F & LP	12 22NOV06		100	0 0	-221								
T2770 1F & LP - Paint touch up & Doors	12 11DEC06	A 12MAY074	100	0 0	-252								
SP Bldg - Internal Works 2F				• •					-				
T2780 2F - Paint touch up & Doors	12 29NOV06	A 16MAY07A	100	0 0	-178				1				
SP Bldg - Internal Works 3/F													
T2800 3F - Paint touch up & Doors	12 06FEB07	A 14MAY07A	100	0 0	-214								
SP Bldg - Internal Works 4F & Above						_							
T2790 4F - Paint touch up & Doors	7 21MAY0	7 29MAY07	0	0 7 -39	-148								
Roof & External Facade T2710 Ent SPB - Install Aluminum louvres & doors	90 26JUL06	A 20APR07A	100	0 0	-135								
						_							
T2400 Ent SPB - Alum. Comp Panel Cladding to Ext Walls	60 20JAN07		95	0 12 -44									
T2360 Ent SPB - GMS,S/S Channel, Balustrade & Railing	24 24MAR07	A 09JUN07	50	0 17 -49	-197	_				_ _			
T2365 Ent SPB - Removed Ext Scaffolding (excl slate)	12 03APR07	A 04MAY07A	100	0 0	-127								
T2390 Ent SPB - Expanded metal cladding to Ext Walls	30 25JUN0	30JUL07	0	0 30 -48	-247								
T2540 Ent SPB - Slate Cladding above NB/SB Carriageway	36 25JUN07	* 06AUG07	0	0 36 -48	-266								
ENT South Portal Bldg BUILDING SERVICES					l 								
E & M WORKS													
Testing and Commissioning													
EM1130 Genset Termination + T&C	12 21FEB07			0 2 -148	-210								
EM1190 Integrated E&M System T&C	52 22MAR07	A 09MAY07A	100	0 0	-78								
Statutory Inspection & Issued Certificates	00 17117				077								
EM1320 Submit Form WWO46 for Water Supply to WSD	30 17MAR07		50	0 15 -173		_							
EM1340 Water Supply Certificate issued	0	07JUN07	0	0 0 -173	-252	-							
EM1260 Bldg FSD insp. (Excl. Tunnel System) (SP Bldg)	3 21MAY0	7 23MAY07	0	0 3 -146	-62								
EAGLES NEST TUNNEL													
Contract defined dates, stages & sections													
Area access & vacation dates						_							
ACS_F1 Access to Portions - F1 (U/Gnd Sth Portal)	0 20OCT03	A	100	100 0	-381								
ACS_F2 Access to Portions - F2 (U/Gnd Sth Tunnel)	0 20OCT03	A	100	100 0	-381								
Construction Works													
Tunnel Drive North Bound													
Tunnel Finishing Works													
1443 NB Cleaning/Inspection & Install Induction Loop	12 16JUN0	7 30JUN07	0	0 12 122	-123								
·····													

Act. Activity	Orig Early	Fork	0/	Torgot 1 Dom	Toto	I Variance	MAR	APR	MAY		JUN	JUL	AUG SEP
Act. Activity ID Description	Orig Early Dur Start	Early Finish			Tota Float	t Early Finish	42 12 19 26	43 2 9 16 23 3	44 30 7 14	21 28	45 (4)11)18 ,25	46 2 9 16 23 30	47 6 13 20 27 3 10
Bituminous Pavement							-						
3601 NB Base Course - RHS 650m Ch 1730->1080	4 28NOV06A		98	0 1	-121		_						
3605 NB Base Course - LHS 650m Ch 1730->1080	4 28NOV06A		98	0 1	-121		-						
1349 NB Wearing Course - RHS 650m Ch3030->2380	2 23MAY07	28MAY07	0	0 2	_		-						
1359 NB Wearing Course - RHS 650m Ch2380->1730	2 29MAY07	30MAY07	0	0 2	_		-						
1369 NB Wearing Course - RHS 650m Ch1730->1080	2 31MAY07	01JUN07	0	0 2	-								
1379 NB Wearing Course - LHS 650m Ch3030->2380	2 02JUN07	04JUN07	0	0 2	-		-						
1389 NB Wearing Course - LHS 650m Ch2380->1730	2 05JUN07	06JUN07	0	0 2	-124	-125	-						
1399 NB Wearing Course - LHS 650m Ch1730->1080	2 07JUN07	08JUN07	0	0 2	-124	-123	-					_	
1339 NB Road Marking 1950m	18 09JUN07	30JUN07	0	0 18	122	-123							
VE Panel Installation 3636 NB - VE Panel Installation	55 02JAN07A	22MAY07	85	0 2	-122	0							
3656 NB - Niche Cabinets	50 09JAN07A	26MAY07	85	0 5	-								
3646 NB - Bespoke Panels (Niches)	20 21MAY07	13JUN07	0	0 20	-		_			-			
ENT NB TUNNEL - (E&M) BUILDING SERVICES				5 20	1.13								
MVAC / Tunnel Ventilation Syst Above OHVD													
277963 Ent NB - Install Motorised Smoke & Fire Dampers				45 0		-265							
277966 Ent NB - Comp Air Pipes/ Condts to E/P1to E/P7				0 0		-217	_		•				
277968 Ent NB - MVAC/TVF Testing and T&C Fire Protection System	36 15MAY07A	09JUL07	0	0 40	-201	-195							
277990 Ent NB - Install FS Conduit for Niches	54 07FEB06A	10MAY07A	100	40 0		-270	-						
277995 Ent NB - 100d FH / HR Pipeworks & Fittings @ G/L	60 100CT06A	05MAY07A	100	0 0		-192	-						
277996 Ent NB - FS Wiring and Terminations	30 100CT06A	28MAY07	95	0 6	-191	-180	-						
277997 Ent NB - FS Testing and T&C	24 21MAY07	26JUN07	0	0 24	-191	-180	-						
Electrical Works Below OHVD													
278013 Ent NB - Lighting / Equipt Testing and T&C	60 19MAR07A		98	0 10	-171	-188	_			· · · · · ·			
278083 Place Covers on C, Trough	18 03APR07A		75	0 6	-124		-						
278011 Ent NB-Install CCTV,Camera,Eqpt @C/Lvl (By TCSS)	72 21MAY07	15AUG07	0	0 72	-171	-292							_
Tunnel Drive South Bound Tunnel Finishing Works													
2172 SB Cleaning/Inspection & Install Induction Loop	12 17JUL07	30JUL07	0	0 12	98	-135	_						
Bituminous Pavement		1											
1350 SB Wearing Course - RHS 650m Ch3030->2380	3 09JUN07	12JUN07	0	0 3	-124	-140	_						
1370 SB Wearing Course - RHS 650m Ch2380->1730	3 13JUN07	15JUN07	0	0 3	-124	-139	_						
1390 SB Wearing Course - RHS 650m Ch1730->1080	3 16JUN07	20JUN07	0	0 3	-124	-138	-						
1360 SB Wearing Course - LHS 650m Ch3030->2380	3 21JUN07	23JUN07	0	0 3	-124	-137	-						
1380 SB Wearing Course - LHS 650m Ch2380->1730	3 25JUN07	27JUN07	0	0 3	-								
1400 SB Wearing Course - LHS 650m Ch1730->1080	3 28JUN07	30JUN07	0	0 3	_		-						
1340 SB Road Marking	18 03JUL07	23JUL07	0	0 18	98	-135							
VE Panel Installation 3663 SB - Niche Cabinets	50 28NOV06A	26MAY07	90	0 5	-113	0							
3653 SB - Bespoke Panels (Niches)	20 18APR07A		80	0 12	-								
ENT SB TUNNEL - (E&M) BUILDING SERVICES			"	~ 'E	1.07								
MVAC / Tunnel Ventillation System Above OHVD													
278014 Ent SB - Install Motorised Smoke & Fire Dampers	72 31DEC05A			40 0		-263							
278017 Ent SB - Comp Air Pipes/ Condts to E/P1 to E/P7	36 13JUN06A			0 0		-227							
278018 Ent SB - Cabling, Wiring and Termination	60 13JUN06A			0 0	-	-167							
278019 Ent SB - MVAC/TVF Testing and T&C	35 15MAY07A	09JUL07	10	0 40	-201	-191							

Act Activity		Forby	0/	Torget 1 D	T	otol Varia	MAR	APR	MAY	JUN	JUL	AUG	SEP
Act. Activity ID Description	Orig Early Dur Start	Early Finish	% Compl.		em To ur Fl			43 2 9 16 23	44 30 7 14 21 28	45 A 11 18 25	46 2 9 16 23 30	47	48 ,3 ,10
Fire Protection System		1											
278035 Ent SB - Install detection system @ Ceiling Lvl	42 20SEP06A		100	0 (-208							
278039 Ent SB - FS Wiring and Terminations	30 10OCT06A	01JUN07	95	0 1	0 -2	201 -198							
278040 Ent SB - FS Testing and T&C	24 21MAY07	09JUL07	0	0 2	4 -2	201 -204							
Electrical Works Below OHVD	CO 45 10 1070	20 11 10 10 7	70	0 0	0 1	105 10							
278056 Ent SB - Lighting / Equipt Testing and T&C	60 15JAN07A		70		0 -1								
278096 Place Covers on C. Trough	18 10APR07A			0 (-13							
278054 Ent SB-Install CCTV,Camera,Eqpt @C/Lvl (by TCSS)	72 21MAY07	15AUG07	0	0 7	2 -1	191 -27						_	
Vent Adit Tunnel / Cross Passage 7 ENT CROSS PASSAGE CP07 - (E&M) BUILDING SERVICES													
Fire Protection System													
278063 CP7 - FS Termination & Test	24 07FEB07A	30APR07A	100	0)	-17							
ENT Cross Passages													
CROSS PASSAGES (CP1-CP6 & CP8-CP21) - (E&M) WORK Electrical Works													
278075 (CP1-CP21) - Conduit,light,Signage fixt,Switches	60 17JUL06A	30APR07A	100	0)	-234			•				
278076 (CP1-CP21) - Cabling, Wiring, Termination & Test	36 15AUG06A			0		-198			•				
278080 (CP1-CP21) - Cables Testing and T&C	36 01NOV06A			0 (-12							
VENTILATION ADIT & BUILDING				-									
PROCUREMENT													
ARCHITECTURAL													
2026 VA Bldg Procure expanded metal mesh cladding	60 06JUN05A	31MAY07	50	50	9 -	84 -31				•			
2031 VA Bldg Initial delivery slate cladding	0 21MAY07*		0	0 () 1	24 -22			\diamond				
2034 VA Bldg Initial delivery fall arrest roof sys	0 21MAY07*		0	0 0) -1	-25			♦				
2035 VA Bldg Initial delivery balust & metal works	0 21MAY07*		0	0 () -1	-25			♦				
2043 VA Bldg Initial deliv exp metal mesh cladding	0 09JUL07		0	0 (84 -264					•		
CONSTRUCTION WORKS				-									
EXTERNAL WORKS													
Drainage		T	, ,										
S1960 Storm Drain at West Side	24 01MAR07A	25MAY07	85	0	4 -1	174 -273							
S1970 Storm Drain & Gullies at Access Apron	24 14APR07A	04JUN07	10	0 1	2 1	23 -25							
Ducting & Drawpits		1	1							<mark>_</mark>			
S1910 Ducting & Drawpits	18 26MAY07	15JUN07	0	0 1									
S1980 HGC Ducting & Drawpits	18 16APR07A	11JUN07	20	0 1	8 -1	180 -203							
Watermain Works		10.000			.								
S1950 Watermain & Valve Chambers at Building Apron	24 21MAY07	18JUN07	0		4 1								
S1990 Irrigation Pipework	14 21MAY07	06JUN07	0	0 1	4 -1	172 -21							
Road Pavement & Associated Work		20 11 10 10 7			2 4	190 47							
S1920 Preparation and Block Paving	22 05JUN07	30JUN07	0		2 -1								
S1930 Signage, furniture and finishes	24 20JUN07	18JUL07	0	0 2	4 -1	145 -16							
VENTILATION BUILDING VA Building - Structure													
T3130 Installation of Earth mat	24 30JAN07A	30MAY07	70	0	3 -1	166 -24							
VA Building - ABWF													
T3050 ABWF - Fan Rooms & Plenums Touch Up & Doors	12 20MAR07A	01JUN07	90	0 1	0 -1	149 -178							
T3030 ABWF - GL Paint Touch Up & Doors	12 14APR07A	04JUN07	80	0 1	0 -1	151 -18							
T3040 ABWF - 1FL Paint Touch Up & Doors	12 14APR07A		80		0 -1								
VA Building - External Finishes					·								
T3110 VA Bldg Install Aluminum louvres & doors	60 11NOV06A	02JUN07	85	0 1	1 -1	-21							
T3070 VA Bldg External Wall Painting	22 18DEC06A	30MAY07	95	0	3 -1	-25							
	· · ·	·		1		L. L.			• •	-			

Act.	Activity Description	Orig Early Dur Start	Early Finish	% Compl.	Target 1 % Comp		Total Float	Variance Early Finish
••• ¹	ng - External Finishes	Bui Stait	1 111511	oompi.	70 Comp	Dui	TUal	
T3120	VA Bldg Alum Comp Panel Cladding to Ext Walls	60 21FEB07	4 13JUN07	50	0	20	-172	-188
T310	VA Bldg Removed Ext Scaffolding (excl slate)	12 04JUN07	26JUN07	0	0	12	-176	-186
	VA Bldg GMS,S/S Channel, Balustrade & Railing	18 05JUN07		0	0			-242
	VA Bldg Slate Cladding	32 25JUN07		0	n	32	96	-241
					-			
11	VA Bldg Expanded metal cladding to Ext Walls	22 09JUL07	02AUG07	0	0	22	-84	-264
	WORKS n Adit Bldg (GF/Lwr Plen) - E & M Work							
	E&M Works in Corridors G/F	24 01AUG06	A 15MAY07A	100	n	0		-252
	BS Works in TVS Plenums					-		-241
	n Adit Bldg (1F) - E & M Work	30 14AUG06		100	0	0		-241
	Bar Bigg (1F) - E & M Work E&M Works in Corridors 1/F	24 04AUG06	A 15MAY07A	100	n	0		-254
	nd Commissioning				0			_01
	Genset Termination + T&C	12 21FEB07	22MAY07	90	0	2	-151	-218
	Integrated E&M System T&C	18 31MAY0		0		18		-119
	Inspection & Issued Certificates		21001007	U	0		100	113
· · · ·	Submit Form WWO46 for Water Supply to WSD	30 17MAR07	A 29JUN07	30	0	9	123	-144
	Water Supply Certificate issued	0	29JUN07	0	0	-	123	-144
	Bldg FSD insp. (Excl. Tunnel System) (VB)	6 03JUL07	09JUL07	0	0	6	-180	-105
	NAL AREAS							
	CAPING & ESTABLISHMENT WORKS							
	Planting Works	18 02SEP06	A 06JUN07	95			-154	-199
T3200	Establishment Works	365 07JUN0	05JUN08	0	0	365	-194	-250
ENT N	ORTH PORTAL VENTILATION BUILDING							
	JREMENT - MATERIAL							
	WORKS							
	NP.Bldg Procure expanded metal cladding	180 06JUN05	A 31MAY07	50	50	9	81	-310
	NP.Bldg Initial deliv expanded metal cladding	0 09JUL07		0		0	81	-264
		0000207		U U	0		~ 1	207
	Portal Bldg CIVIL & ABWF WORKS							
ABWF								
Internal V								
	GF - paint touch up & doors	12 27NOV06	A 25MAY07	95	0	4	-69	-170
NP Bldg	Internal Works 1F	- I I	1	, I		1		
T1920) 1F - paint touch up & doors	12 20NOV06	A 23MAY07	95	0	3	-68	-169
	Internal Works 2F		1	· ·		•		
	2F - paint touch up & doors	12 11DEC06	A 23MAY07	95	0	3	-68	-169
	nternal Works 3/F					-		
	3F - paint touch up & doors	12 20NOV06	A 23MAY07	95	0	3	-68	-235
	ng - Internal Works	10 100000	00140107	05	~	0	74	470
	4F - paint touch up & doors	12 13APR07	A Z8MAY07	95	0	6	-71	-172
	Roofing & External Facade	18 17JUL06	22MAY07	95	0	2	-160	-286
	Ent NPB - Install Aluminum louvres & doors	90 14AUG06		95	0			-204
T1800	Ent NPB - Roof Waterproofing & Test	12 20OCT06	A 28MAY07	85	0	6	-83	-278
T1750	Ent NPB - Alum. Comp Panel Cladding to Ext Walls	60 09NOV06	A 08JUN07	60	0	16	-162	-168
T1780	Ent NPB - Slate cladding above NB/SB carriageway	36 25NOV06	A 04JUL07	40	0	36	120	-251
	Ent NPB - 25thk Roof Screed & Roofing Tiles				0			
		18 08DEC06		60	0	8	-83	-260
T1730	Ent NPB - External Wall Painting	34 27FEB07	A 04JUN07	95	0	12	-164	-256
T170	Ent NPB - GMS,S/S Channel, Balustrade & Railing	24 05MAR07	A 11JUN07	50	0	12	-41	-236
11790		1 1		+		1		
	Ent NPB - Removed Ext Scaffolding (excl slate)	12 27MAR07	4 11JUN07	50	0	6	-164	-158

Act. Activity	Orig Early	Early	%	Target 1	Rem 1	Total Variance	MAR	APR	MAY		JUN	JUL	AUG	SEP
ID Description	Dur Start			-		Float Early Finish	42 12 19 26	43 2 9 16 23 3	44 0 ₁ 7 ₁ 14	21 28	45 4 11 18 25	46 2 9 16 23 30	47 6 13 20 27	4 3 10
NP Bldg - Roofing & External Facade							_							
T1770 Ent NPB - Expanded metal cladding to Ext Walls	36 09JUL07	18AUG07	0	0	36	81 -264								
ENT North Portal Bldg BUILDING SERVICES														
E & M WORKS ENT North Portal Bldg (2F/Silencer) - E & M Work														
EM2860 E&M Works in Corridors 2/F	24 17JUL06A	10MAY07A	100	0	0	-266								
ENT North Portal Bldg (3F/ Fan Rm) - E & M Works				-	-									
EM2880 E&M Works in Corridors 3/F	24 17JUL06A	10MAY07A	100	0	0	-264								
Testing and Commissioning														
EM2680 MCC, LCC Termination + T&C	30 06JAN07A	15MAY07A	100	0	0	-226								
EM2840 Genset Termination + T&C	12 01MAR07A	23MAY07	95	0	3 ·	-151 -235								
EM2960 Integrated E&M System T&C	18 02JUN07	23JUN07	0	0	18 ·	-158 -114								
Statutory Inspection & Issued Certificates							_							
EM3100 Bldg FSD insp. NP Bldg (Excl. Tunnel System)	6 14JUN07	21JUN07	0	0	6 ·	-166 -84								
TOLL PLAZA & ANCILLIARY STRUCTURES														
Construction Works														
TOLL PLAZA EAST SIDE														
S1420 Road Pavement Surfacing (Flex & Rigid)	56 18OCT06A	02JUN07	60			127 -180								
K1192 East Loop Road - Formation & Roadworks	36 12JAN07A	04JUN07	90	0	12	-77 -156				T				
S1140 Furniture, signage (face only), white lining	18 04JUN07	25JUN07	0	0	18	127 -180								
TOLL PLAZA WEST SIDE														
S1510 FW Waterminam Centre to Admin Bldg & FH12, FH13	24 10JUL06A	23MAY07	99	0	3 ·	-196 -242								
K1221 Main Carriageway - West Subbase & kerbs	54 14OCT06A	04JUN07	90	0	9.	-196 -164								
S1310 Road Pavement Surfacing	57 07MAR07A	23JUN07	45	0	12	110 -164								
K1171 West Loop road - Roadworks	36 12MAR07A	11JUN07	25	0	18	-83 -253								
S1410 Furniture, signage (face only), white lining	18 25JUN07	16JUL07	0	0	18	110 -164	-							
TOLL PLAZA - works adjacent to building	1 1													
S1427 Admin Blg & Wshop - Drainage & ducting	36 07MAR06A	22MAY07	95	25	2	-79 -295								
S1400 ENT NPB - Kerbs & Rwks & misc Finishes	12 15NOV06A	23MAY07	80	0	3	-68 -293	_							
S1417 SHT SPB - Kerbs & Rwks & misc finishes	12 06MAR07A	01JUN07	50	0	10	-75 -298	_							
S1437 Admin Blg & Wshop - kerbs, Rwks & misc finishes	30 22MAR07A	-	25		12						_			
		00501107	25	0	12	-79 -230								
TOLL PLAZA COLLECTOR'S SUBWAY ABWF														
S1290 Toll Subway - E&M	54 20NOV06A	30APR07A	100	0	0	-190		[[
TOLL PLAZA FOOTBRIDGE				-		1								
ABWF														
S1264 Installation of Aluminium Cladding	38 01MAR07A	11JUN07	50	0	18 ·	-188 -282								
S1250 Toll Ftbrdge - Finishes	54 12JUN07	15AUG07	0	0	54	84 -252								
E & M WORKS														
S1200 Toll Plaza Footbridge - Lift Installation	72 24MAR07A	31MAY07	90	0	9.	-170 -223								
S1450 Toll Plaza Footbridge - Lift Commissioning	24 01JUN07	24JUN07	0	0	24 ·	-212 -274								
S1470 E&M Installation at Footbridge	30 14APR07A		75		18 ·		-							
S1500 E&M Footbridge T&C	18 27JUN07	18JUL07	0			-188 -264	-							
TOLL PLAZA BOOTHS			-	°	-									
S1300 Toll Booths All E&M, CMCS & TCS	54 05MAY07A	28JUN07	70	0	32 ·	-196 -146								
S1460 Toll Booths E&M - T&C	24 29JUN07	27JUL07	0			-196 -146	-							
ADMIN.BLDG WORKSHOP		2,00101		V		-140								
S1350 Workshop - External Finishes	60 03AUG06A	11JUN07	95	0	18	-83 -226								
S1320 Workshop - Remaining internal Finishes	36 20AUG06A		95			-72 -215								
	30 20A0G00A	2311/410/	30	U	ı	-12 -213								

Act	A otivity	Oria	Early	Forby	0/	Torgot 1	Rem Tota	al Variance	MAR	APR	MAY		JUN	JUL		AUG	SEP
Act. ID	Activity Description	Orig Dur	Start	Early Finish	% Compl.	Target 1 % Comp		t Early Finish	42 12 19 26	43 2 9 16 23 3	44 0 7 14	21 28	45	2 9 16	23 30 6	47 13 20 27	3 i ¹⁰
LANDSCA	APING & ESTABLISHMENT WORKS																
S1480 P	Planting Works at Toll Plaza	24 1	10APR07A	16JUN07	10	(0 24 -93	-69									
S1490 E	stablishment Works at Toll Plaza	365	17JUN07	15JUN08	0	(365 -20	4 -80	_								
	STRATION BUILDING																
	TALS & APPROVALS																
	TRL SUBMITTALS																
	Admin.Bldg Prep & submit wood ceiling details		20NOV04A	04JUN07	50		0 12 96										
	Admin.Bldg Prep & sub GRP water tank details		12JAN05A	04JUN07	50		0 12 90		_								
	Admin.Bldg Approve suspended ceiling details	24 0	02APR07A	30MAY07	0		8 88	-282]				
1882 A	Admin.Bldg Approve GRP water tank details	24	05JUN07	04JUL07	0		0 24 90	-310									
1886 A	Admin.Bldg Approve wood ceiling details	24	05JUN07	04JUL07	0	(0 24 96	-310									
	PT. / MTRL. SUBMITTALS				1 1												
	AdmBldg-Engineer to provide Cater'g equip detail	0 0	07APR05A		100	10	0 0	-310									
	REMENT - MATERIAL																
			21MAY07*) 0 -17	2 200	_			•					
	Admin.Bldg Initial delivery glass canopy				0				_			\diamond					
	Admin.Bldg Initial delivery sheet decking		21MAY07		0		0 0 150		_			Č.					
	Admin.Bldg Initial deliv fall arrest roof syst		21MAY07*		0		0 0 -44		_								
	Admin.Bldg Initial deliver balust & metal wks	0 2	21MAY07*		0	(0 0 -44	-263									
	Cess at Admin Bldg	140 1	15SEP06A	23JUL07	0) 52 -19	3 -173									
	ALL TCSS COMPLETE FOR FSD INSPECTION	0		23JUL07	0		0 0 -19		-						•		
	ABWF WORKS			23JUL07	0		0 -19	-173							•		
ABWF																	
Admin Bldg (G/F) - Internal Work @ Grid 1 to 21				1		1 1	1									
	AB (G/F to 1/F) - Staircase Finishing Works		18APR06A	31MAY07	90		5 9 -16										
T1685 A	AB G/F (Grid 1-21) - Wall Plaster & Flr Screed	20 1	19APR06A	22MAY07	99	10	0 2 -16	6 -298									
T1680 A	AB G/F (Grid 1-21) - Windows & door frames	18 2	24APR06A	22MAY07	95	50	6 2 -16	6 -304									
T2990 A	AB G/F (Grid 1-21) - Tileworks & Sanitary Fixt	30 1	15SEP06A	30MAY07	80	(0 6 -16	4 -288									
T2150 A	AB G/F (Grid 1-21) - Door Leaf & Final Paints	12 0	02JAN07A	18JUN07	85	() 3 -89	-231									
T1970 A	AB G/F (Grid 1-21) - Install Ceiling Grids	18 1	10APR07A	06JUN07	80	(0 6 -89	-256									
T2160 A	AB G/F (Grid 1-21) - Install Ceiling Panels	10	07JUN07	18JUN07	0	(0 10 -89	-245									
	1/F) - Internal Work @ Grid 1 to 18		·		· · ·												
	AB (1/F to 2/F) - Staircase Finishing Works		18APR06A	31MAY07	90		5 9 -74					L I					
	AB 1/F (Grid 1-18) - Wall Plaster & Flr Screed		18APR06A				5 0	-295				ſ					
T1980 A	AB 1/F (Grid 1-18) - Wdws & Door Frames		24APR06A	28MAY07	95		6 6 -18										
T2165 A	AB 1/F (Grid 1-18) - Install Skirting	14 1	15JUN06A	04JUN07	90	() 2 -77	-206									
T2010 A	AB 1/F (Grid 1-18) - Tileworks & Sanitary Fixt	21 2	20SEP06A	04JUN07	75	(9 -18	2 -301									
T2170 A	AB 1/F (Grid 1-18) - Door Leaf & Final Paints	12 0	02JAN07A	04JUN07	80) 4 -77	-208									
T3000 A	AB 1/F (Grid 1-18) - Install Ceiling Grids	18 1	18APR07A	11JUN07	80	() 6 -87	-248									
T2012 A	AB 1/F (Grid 10-18) - Proprietary Toilet Cubicle	18 2	21MAY07	11JUN07	0	(0 18 -18	2 -295				-					
T2185 A	AB 1/F (Grid 1-18) - Install Ceiling Panels	10	06JUN07	16JUN07	0	(0 10 -88	-243									
	AB 1/F (Grid 1-18) - Floor Carpets		12JUN07	26JUN07	0) 12 12										
	2/F) - Internal Work @ Grid 1 to 18		 														
T2060 A	AB 2/F (Grid 1-18) - Wdws & Door Frames	12 1	11APR06A	22MAY07	99	50	0 2 -18	5 -306									
T2062 A	AB (2/F to Rf/LvI) - Staircase Finishing Works	30 1	18APR06A	31MAY07	90		5 9 -18	5 -291									
T2065 A	AB 2/F (Grid 1-18) - Wall Plaster & Flr Screed	24 0	01JUN06A	19MAY07A	100	(0 0	-286				7					
		1 1															

							MAR APR MAY		JUN	JUL	AUG	SEP
Act. Activity ID Description	Orig Early Dur Start	Early Finish	% Compl.	Target 1 % Comp	Rem Total Dur Float	Variance Early Finish	42 43 44 12 19 26 2 9 16 23 30 7 14	21 28	45	46 2 9 16 23 30	47	48 3 /10
Admin Bldg (2/F) - Internal Work @ Grid 1 to 18			00p.i	70 0 0 mp		2011) 1 11011		21 20	<u>4</u> 11 <u>18</u> 25	<u> 2 9 10 23 30</u>		01 ק
T2020 AB 2/F (Grid 1-18) - Tileworks & Sanitary Fixt	18 01OCT06A	28MAY07	70	0	6 -164	-274						
T1865 AB 2/F (Tel, Comp, Cont) - Door Lf & Final Paint	12 08JAN07A	25JUN07	90	0	2 -94	-185						
T2220 AB 2/F (Grid 1-18) - Door Leaf & Final Paints	12 10JAN07A	26JUN07	80	0	4 -95	-192						
T3045 AB 2/F (Tel, Comp, Cont Rm) - Ceiling Grids	18 26MAR07A	28MAY07	90	0	6 -89	-225						
T2045 AB 2/F (Grid 1-18) - Install Ceiling Grids	18 17APR07A		90) 10 -95	-236						
T2028 AB 2/F (Grid 1-18) - Proprietary Toilet Cubicle	10 29MAY07	08JUN07	0		0 10 -164	-274						
T2058 AB 2/F (Grid 1-18) - Install Ceiling Panels	18 31MAY07	21JUN07	0	0	18 -95	-200						
T3065 AB 2/F (Corridor & Cont Rm) - Ceiling Panels	18 04JUN07	25JUN07	0	0	18 -94	-197						
T2068 AB 2/F (Grid 1-18) - Floor Carpets	12 07JUN07	25JUN07	0	0	12 -94	-215						
T3068 AB 2/F (Corridor & Cont Rm) - Floor Carpets	12 14JUN07	28JUN07	0	0	12 124	-206						
Admin Bldg (Roof/Flr) - Inter Works Grid 3 to 16		· 1	· ·					L				
T3280 AB R/F (Grid 3-16) - Wall Plaster & Flr Screed	18 28APR06A	19MAY07A	100	50	0	-301						
T2235 AB R/F (Grid 3-16) - Door Leaf & Final Paints	6 22DEC06A	09JUN07	85	0	2 -82	-248						
Admin Bldg - Upper Roof & External Facade		44 11 11 07	00		45 444	00.4						
T2340 AB Ext (GL 11-21) - Slate Cladding	30 03APR06A		99		45 111	-334						
T2850 AB Ext (GL 1-11) - Install Louvres & Wdw Glazing	60 03APR06A		99	70	12 -176	-304						
T2860 AB Ext (GL 11-21)- Install Louvres & Wdw Glazing	60 03APR06A	04JUN07	95	70	6 -176	-304						
T2230 AB Ext (GL 6-11) - Curtain Wall & Glass Canopy	30 03JUL06A	11JUN07	90	0	3 -176	-256						
T2841 AB Ext UR/LR - Render&wall paint to Open Area Rf	12 25JUL06A	22MAY07	98	0	2 -55	-258						
T2330 AB Ext (GL 1-11) - Slate Cladding	45 15OCT06A	14JUL07	99	0	45 111	-289		-				
T2900 AB Ext UR/LR - Insulation & Conc Roof Tile	30 06NOV06A	07JUN07	50	0	15 -55	-241		-				
T2350 AB Ext (GL 1-11) - Ceramic Wall Tiles	30 18DEC06A		95		0 6 -164	-245						
T2830 AB Ext (GL 11-21) - Ceramic Wall Tiles	30 20MAR07A		95		21 -173	-290						
T2270 AB Ext (GL 3-11) - Expanded metal mesh cladding	18 29MAY07	18JUN07	0		18 -89	-214						
T2915 AB Ext UR/LR- Install GMS, Balustrades & Railing	21 04JUN07	28JUN07	0		21 -55	-219						
T2280 AB Ext (GL 11-16) - Expanded metal mesh cladding	18 08JUN07	29JUN07	0		18 -173							
T2245 AB Ext (GL 1-21) - Remove External Scaffolding	12 12JUN07	26JUN07	0	0	12 -176	-214						
BUILDING SERVICES												
Admin Bldg (G/F) - E & M Works												
EM3540 BS Works in G/F	90 01JUN06A	26MAY07	97	12	2 5 -169	-236		—				
Admin Bldg (1/F) - E & M Works		44 11 10 10 7	05	4.0	0 100	0.40						
EM3560 BS Works in 1/F	90 08JUN06A		95	12	9 -182	-249						
Admin Bldg (2/F) - E & M Works EM3580 BS Works in 2/F	90 08JUN06A	14 II IN07	95	0	9 -185	-213						
Admin Bldg (Int. & Ext. Roof Lvl) - E & M Works			33	U	, <u> </u>	210						
EM3600 BS Works in R/F	78 06JUN06A	07JUN07	80	1	15 -179	-252						
EM3190 Admin Bldg - Lift Installation	72 19JUN06A				7 125	-161						
Admin Bldg - Testing and Commissioning	/ 2 1000100A		33	U	, , 125	101						
EM3460 Genset Termination + T&C	12 23FEB07A	23MAY07	95	0	3 -167	-227						
EM3520 MCC Termination + T&C	30 24FEB07A		-		0 0	-202						
EM3740 Integrated E&M System T&C	18 15JUN07	0730107	0	0	18 -185	-126						
Admin Bldg - Statutory Inspection and Handover EM3370 Admin Bldg - Lift Commissioning	24 30MAY07	27JUN07	0		24 125	-161						
EM3880 Bldg FSD insp. (Excl. Tunnel System) (ADB)	6 09JUL07	14JUL07	0	0	6 -185	-107						

Act.	Activity	Orig I	Early	Early	%	Target 1 Re	em Total	al Variance
ID	Description	Dur S	Start				ur Float	
	N HEIGHTS SOUTH PORTAL BUILDING							
	RACT DEFINED DATES & SECTIONS							
	ACCESS & VACATION DATES 2 Access to - J2 (T.Plate & above) SH-S.Vent.Bldg.	0 100)FC054		100	100 0	1	-381
	8 Access to Portion - D8	0 03J			100	100 0		-381
Ш	UREMENT - MATERIAL	0 03			100			-001
	WORKS							
	5 SHT SPB - Initial deliv expanded metal cladding	0 07M	MAY07A		100	0 0)	-226
CONST	TRUCTION							
	& ABWF WORKS							
ABWF		05 155		001403/07	05		40.1	000
AB6022	2 Remedy SHT Contractor Defects	25 120	DEC05A	23MAY07	95	90 3	3 -191	1 -308
	2 G/F Paint Touch Up & Doors	12 225	JAN07A	01JUN07	80	0 10	0 -150	0 -178
ABWF at	t 1F & LP							
AB5995	5 Initial Finishes to Lower Plenum	12 104	APR06A	31MAY07	95	15 5	5 -158	8 -302
AB6032	2 1F & LP Paint Touch Up & Doors	12 031	NOV06A	28MAY07	90	0 6	6 -146	6 -174
ABWF at 2		40 441		29141/07	05		140	. 474
AB6052	2 2/F Paint Touch Up & Doors	12 111	NOV06A	28MAY07	85	0 6	6 -146	6 -174
	2 3/F Paint Touch Up & Doors	12 11N	NOV06A	28MAY07	85	0 6	6 -146	6 -174
ABWF at 4	I 4F and above				 			
AB6004	4 Initial Finishes to 4/F and above	24 13A	APR06A	31MAY07	95	10 9	9 -151	1 -284
AB6072	2 4/F and above Paint Touch Up & Doors	12 21F	FEB07A	04JUN07	85	0 1:	2 -152	2 -180
		75 45			00		1 407	1 040
	7 Sht SPB - Install Aluminum louvres & doors			07JUN07	90	0 14		
	7 Sht SPB - Alum. composite cladding to ext walls	60 07A		07JUN07	90	0 9		
	7 Sht SPB - GMS, S/S Channel, Balustrade & Railing	18 14A		27JUN07	50	0 14		
AB6037	7 Sht SPB - Roof Waterproofing & Test	12 150	DEC06A	31MAY07	60	0 7	7 -161	1 -293
AB6057	7 Sht SPB - 25thk Roof Screed & Roofing Tiles	18 25.	JAN07A	14JUN07	20	0 6	6 -161	1 -275
AB6007	7 Sht SPB - Slate Cladding above NB/SB Carriageway	36 12F	FEB07A	14JUL07	10	0 3	6 111	-281
AB6027	7 Sht SPB - External Wall Painting	30 13N	MAR07A	12JUN07	95	0 4	4 -165	5 -267
AB6034	4 Sht SPB - Expanded metal cladding to ext walls	30 01	IJUN07	07JUL07	0	0 30	0 -137	7 -247
AB6048	8 Sht SPB - Removed Ext Scaffolding (excl slate)	12 08	JUN07	22JUN07	0	0 1:	2 -173	3 -183
SHT So	outh Portal Bldg BUILDING SERVICES	1 1						
E & M	WORKS							
	uth Portal Bldg (2F/Silencer) - E & M Work 0 E&M Works in Corridors 2/F	24 17.	JUL06A 1	10MAY07A	100	0 0	1	-249
	th Portal Bldg (3F/Fan Rm) - E & M Work	=.					·	
	0 E&M Works in Corridors 3/F	24 14.	JUL06A	10MAY07A	100	0 0)	-249
				001411/5=				
	0 Genset Termination + T&C			22MAY07	95	0 2		
	0 Integrated E&M System T&C	18 08	3JUN07	29JUN07	0	0 18	8 -163	3 -119
· · · · ·	/Inspection & Issued Certificates 0 Bldg FSD insp. (Excl. Tunnel System) (SHT SP)	6 23	JUN07	29JUN07	0	0 6	6 -173	3 -91
	TRUCTION							
SHT NC	ORTHBOUND TUNNEL							
	BUILDING SERVICES							
	Tunnel Ventillation System Above OHVD 8 Sht NB - MVAC/TVF Testing and T&C	53 04	JUN07*	06AUG07	0	0 5	3 -225	5 -280
	g and Drainage	0			-			
214030	0 Sht NB - Pipe Testing & T&C	12 15N	MAY06A	22MAY07	95	0 2	2 -181	1 -272
					<u> </u>			

Act. Activity	Orig Early	Early	% Ta	arget 1	Rem	Total V:	ariance	MAR APR	MA		JUN	JUL	AUG	SEP
ID Description	Dur Start						ly Finish	42 43 12 19 26 2 9 16	44 23 30 7 14		45 _4 _11 _18 _25	46 _2 _9 _16 _23 _30	47 6 13 20 27	,3 ₁ 10
Plumbing and Drainage	10 000443/07	10 11 10 107	0	0	10	101	202							
214028 Sht NB - Pipe Connectn, pumps, tanks to SP / NP Fire Protection System	18 23MAY07	13JUN07	0	0	18	-181	-302							
221057 Sht NB - Hose Reel Cabinets & Equipts	40 08MAY06A	22MAY07	98	0	2	-177	-242							
221059 Sht NB - FS wiring & termination	24 09NOV06A	25MAY07	98	0	2	-177	-218							
221061 Sht NB - FS Testing and T&C	12 26MAY07	08JUN07	40	0	12	-177	-218							
Electrical Works Below OHVD		1												
235165 Sht NB - Cabling, Wiring and Termination	36 30MAY06A		98	0			-233							
235166 Sht NB - Lighting Test and T&C	12 02MAR07A	01JUN07	60	0			-227							
235163 Stn NB Access to Civil Contractr for Rd Pavement	0 21MAY07		0	0	0	-169	-253							
235167 Stn NB Access to Civil Contractor for Top Layer	0	01JUN07	0	0	0	-66	-227			_	•			
(E & M) BUILDING SERVICES MVAC / Tunnel Ventilation System Above OHVD														
242274 Sht SB - MVAC/TVF Testing and T&C	53 04JUN07*	06AUG07	0	0	53	-225	-266							
Plumbing and Drainage		001411	00			401	0.42							
249393 Sht SB - Pipe Testing and T&C	12 22JUN06A	22MAY07	90		2		-248							
249392 Sht SB - Pipe Connectn, pumps, tanks to SP / NP Fire Protection System	18 23MAY07	13JUN07	0	0	18	-181	-278			-				
256518 Sht SB - Hose Reel Cabinets & Equipts	40 30JUN06A	26MAY07	98	0	5	-170	-191							
256520 Sht SB - FS Wiring & Termination	24 10NOV06A	29MAY07	95	0	2	-170	-167			-				
256521 Sht SB - FS Testing and T&C	12 02MAR07A		40	0			-157							
Electrical Works Below OHVD		1												
270803 Sht SB - Cabling, Wiring and Termination	36 01OCT06A	25MAY07	95	0	4	-195	-187							
270804 Sht SB - Lighting Test and T&C	12 02MAR07A	01JUN07	60	0	8	-171	-181							
270801 Stn SB Access to Civil Contractr for Rd Pavement	0 21MAY07		0	0	0	-169	-249			•				
270805 Stn SB Access to Civil Contractor for Top Layer	0	01JUN07	0	0	0	-66	-181				•			
SHT CROSS PASSAGES (CP1 to CP10)														
(E & M) BUILDING SERVICES Electrical Works														
277960 (CP1-CP10) - Conduit, light Fixture, Swt & Test	36 15AUG06A	15MAY07A	100	0	0		-227							
277962 (CP1-CP10) - Switchboard, CMCS, Eqpt, Testing	48 21FEB07A	15MAY07A	100	0	0		-165							
STATUTORY INSPECTIONS														
FSD INSPECTIONS														
EM5040 SHT Tunnel FSD Insp.	6 24AUG07	30AUG07	0	0	6	-225	-203							
SHT NORTH PORTAL BUILDING														
CONSTRUCTION CIVIL & ABWF WORKS														
ABWF Works														
ABWF at GF						1=0								
AB7330 G/F paint Touch Up & Doors ABWF at 1F & LP	12 22JAN07A	01JUN07	80	0	10	-150	-157							
ABVY at the a LP AB7120 Initial Finishes to Lower Plenum	12 22APR06A	30MAY07	95	0	8	-150	-297			-				
AB7320 1F & LP Paint Touch Up & Doors	12 18JAN07A		90				-150							
ABWF at 2F		l 1				 								
AB7340 2/F Paint Touch Up & Doors	12 18JAN07A	23MAY07	90	0	3	-143	-150							
ABWF at 3F AB7350 3/F Paint Touch Up & Doors	12 18JAN07A	23144107	90	0	3	-143	-150							
ABWF at 4F		201017107	30	0	5	עדי	100							
AB7180 Initial Finishes to 4/F and above	24 02MAY06A	30MAY07	90	0	8	148	-285							
AB7360 4/F and above Paint Touch Up & Doors	12 01FEB07A	01JUN07	85	0	10	-150	-157							
Roofing & External Facade		1												
AB7290 Sht NPB - Install Aluminum louvres & doors	75 06MAY06A	11JUN07	85	0	18	-158	-252							

				T 14	D + /		MAR APR	MAY	JUN	JUL	AUG SEP
Act. Activity ID Description	Orig Early Dur Start	Early Finish	% Compl.		Rem Tot Dur Floa		42 43	44 60 ₁ 7 <u>1</u> 4 <u>21</u> <u>28</u>	45	46 2 9 16 23 30	47 4
Roofing & External Facade			· · ·	•							
AB7280 Sht NPB - Alum. composite cladding to ext walls	60 16OCT06A	28MAY07	80	0	6 -14	6 -174					
AB7270 Sht NPB - Roof Waterproofing & Test	12 22DEC06A	31MAY07	90	0	9 -16	-292			•		
AB7300 Sht NPB - 25thk Roof Screed & Roofing Tiles	18 25JAN07A	14JUN07	75	0	6 -16	-274					
AB7260 Sht NPB - External Wall Painting	30 01FEB07A	28MAY07	95	0	6 -14	6 -250					
AB7310 Sht NPB - Slate Cladding above NB/SB Carriageway	36 12FEB07A	04JUL07	25	0	36 -16	4 -263					
AB7250 Sht NPB - GMS, S/S Channel, Balustrade & Railing	18 16APR07A	04JUL07	5	0	18 12	0 -245					
AB7220 Sht NPB - Expanded metal cladding to Ext Walls	30 21MAY07	26JUN07	0	0	30 -16		_				
AB7255 Sht NPB - Removed Ext Scaffolding (excl slate)	12 12JUN07	26JUN07	0	0	12 11		_				
Sht North Portal Bldg BUILDING SERVICES		20001107	0		12 11	/ 100					
E & M WORKS											
Testing and Commissioning											
EM7500 Genset Termination + T&C	12 21FEB07A	04JUN07	95	0	12 14	4 -240					
EM7640 Integrated E&M System T&C	52 20APR07A	09MAY07A	100	0	0	-84					
Statutory Inspection & Issued Certificates	6 10AUG07	16411007	0		6 83	3 -138	-				
EM7780 Bldg FSD insp. (Excl. Tunnel System) (SHT NP)	0 TUAUGU7	16AUG07	0	0	6 83	-138					
SHT RC ENCLOSURE & T3 UNDERPASS INTERFACE DATES											
SHT RC FULL ENCLOSURE / T3 UNDERPASS											
EM4030 Integrated T&C	30 27JUN07	01AUG07	0	0	30 -20	6 -133					•
CONSTRUCTION WORKS				-		-					
SHT RC FULL ENCLOSURE / T3 UNDERPASS											
Koisk S1 at Shatin North Control Point		1									
EM3960 Wighbridge S1 - Install	12 14APR07A	28MAY07	40	0	6 -80	-304					
EM3954 Kiosk S1 - E&M Testing and T&C	6 21MAY07	28MAY07	0	0	6 -50	-268					
EM3970 Weighbridge S1 - Test and T&C	30 29MAY07	04JUL07	0	0	30 -80	0 -304					
RC Full Enclosure - LV Switch Room		1									
280074 LV SW Rm - SWGR, MCCB/ MCB Board, FS Panels	24 28FEB07A	15MAY07A	100	0	0	-246					
280080 LV SW Rm - Connect HV / LV Cables from SHT NPB	24 14MAR07A	15MAY07A	100	0	0	-216					
280076 LV SW Rm - Elect Lightings & Conduits	18 05APR07A	10MAY07A	100	0	0	-260					
280078 LV SW Rm - Lightings wiring, term & test	6 14APR07A	15MAY07A	100	0	0	-258					
280079 LV SW Rm - MCCB,MCB,LV Sw,FS panels Term & Test	18 20APR07A	04JUN07	80	0	12 14	4 -244					
STN RC FULL ENCLOSURE (North Bound) - E&M WORKS			1								
MVAC / Tunnel Ventillation System											
280006 RCFE NB - Cabling, wiring and termination	24 25NOV06A		95		5 -19						
280008 RCFE NB - MVAC Testing and T&C	12 28MAY07	09JUN07	0	0	12 -19	-150					
Fire Protection System 280026 RCFE NB - FS Conduit, Hose Reel Cabinets & Eqpt.	16 31JUL06A	22MAY07	95	0	2 -20	6 -236					
280030 RCFE NB - FS Wiring & Termination	24 28FEB07A		80		8 -20						
280029 RCFE NB - Install Smoke detector @ N1-N3	10 23MAY07	04JUN07	0	0	10 -20						
				0			-				
280032 RCFE NB - FS Testing and T&C	12 12JUN07	26JUN07	0	0	12 -20	-163					
280046 RCFE NB - Conduits Works @ Ceiling Level	36 11DEC06A	23MAY07	95	0	3 -19	-217					
280038 RCFE NB - HV & LV Cabling Works @ C Trough	36 21FEB07A		95		6 -19						
280040 RCFE NB - Install Power Distn Panels & Test	30 13MAR07A		90	0							
280054 RCFE NB - Tunnel Signage, Wiring, Term & Test	30 29MAY07	04JUL07	0	0	30 -19		-				
				0			_			•	
280058 RCFE NB Access to Civil Cont'r for Top Layer	0	04JUL07	0	0	0 -19	-180				-	
STN RC FULL ENCLOSURE (South Bound) - E&M WORKS MVAC / Tunnel Ventillation System											
280088 RCFE SB - Cabling, wiring and termination	24 21FEB07A	28MAY07	95	0	6 -19	4 -227					
	1 1	1	1		I	1					

D Description Dur Start Finish Compl. % Compl. <th>Act. Activity</th> <th>Orig</th> <th>Early</th> <th>Early</th> <th>%</th> <th>Target 1 Re</th> <th>Tota</th> <th>l Variance</th> <th>MAR</th> <th>APR</th> <th>MAY</th> <th></th> <th>JUN</th> <th>JUL</th> <th>AUG</th> <th>SEP</th>	Act. Activity	Orig	Early	Early	%	Target 1 Re	Tota	l Variance	MAR	APR	MAY		JUN	JUL	AUG	SEP
Nuclei Trade Vordinate System 12 2 MAV V0 11 LUN07 0 0 12 194 -161			•	-		-					44		45	46	47	48
280008 RCFE SB - MAC Testing and T&C 12 29MAV07 11,UIN07 0 0 12 149 -151 Min memory Symmin 20008 RCFE SB - FS Conduit, Hose Real Cabinets & Egnt. 16 (NNV06 21MAV07 95 0 1 -05 -272 20008 RCFE SB - FS Conduit, Hose Real Cabinets & Egnt. 10 22MAV07 02UN07 0 0 1 205 2200 200100 RCFE SB - FS Conduit, Hose Real Cabinets & Egnt. 10 22MAV07 02UN07 0 0 12 205 2200 200100 RCFE SB - FS Conduit Mong Carters and T&C 12 11UN07 0 0 12 205 162 200101 RCFE SB - FS Conduit Mong Carters and T&C 12 140 162		Dur	Start	Finish	Compi.	% Comp Du	r Floa	t Early Finish	12 19 26	2 <u>9 16 23 5</u>	30 ₁ 7 ₁ 14	21 28	4 11 18 25	2 <u>9 16 23 30</u>	<u>6 13 20 27</u>	3 10
The Function Determination V	MVAC / Tunnel Ventillation System				1				-							
The Function Determination V	280090 RCFE SB - MVAC Testing and T&C	12 2	29MAY07	11JUN07	0	0 12	-194	-151								
280008 RCFE SB - FS Conduit, Hose Real Cabinets & Equ. 16 01N0V06A 21MAY07 95 0 1 -205 -272 280108 RCFE SB - FS Wing & Termination 24 28FEB07A 05UUNV 0 0 0 0 205 -272 280108 RCFE SB - FS Wing & Termination 24 28FEB07A 05UUNV 0 0 0 10 205 -272 280108 RCFE SB - FS Testing and T&C 12 11JUN07 25JUN7 0 0 10 205 -272 280108 RCFE SB - FS Testing and T&C 12 1JUN07 25JUN7 0 0 12 -205 -62 280112 RCFE SB - Install Fower Diatr Panels & Test 30 21FEB07A 28MAY07 95 0 6 -194 -226 280112 RCFE SB - Install Fower Diatr Panels & Test 30 21MAY07 93 0 19 -226 -226 -226 -226 -226 -226 -226 -226 -226 -226 -226 -226 -226 -226 -226 -226 -226 </td <td></td> <td>1 1</td> <td></td> <td></td> <td>I</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		1 1			I		1									
280102 RCFE SB - FS Wining & Termination 24 28 28EB07A 08JUN07 60 0 8 206 280100 RCFE SB - Install Smoke detector @ S1-S4 10 22MAV07 02JUN07 0 0 10 206 -272 280104 RCFE SB - FS tracking and T&C 12 1JUN07 2SJUN07 0 0 16 -162 280112 RCFE SB - Install Smoke detector @ S1-S4 36 21FEB07A 28MAV07 95 0 6 -142 -162 280112 RCFE SB - Install Power Diain Panels & Test 30 10MAR7A 11JUN07 95 0 6 -144 -226 280112 RCFE SB - Install Power Diain Panels & Test 30 10MAR7A 11JUN07 9 0 6 144 -226 280128 RCFE SB - Install Power Diain Panels & Test 30 2MAV07 0 0 9 144 140 280128 RCFE SB - Coluic Oxinf for Top Layer 0 0 0 14 140 280128 RCFE SB - Stanels (Sim Colui Covinf or Top Layer 0 0 0 2-2																
RCFE SB - Instail Smoke detector @ S1-S4 10 22MAY07 0 <	280096 RCFE SB - FS Conduit, Hose Reel Cabinets & Eqpt.	16 0	1NOV06A	21MAY07	95	0 1	-205	-272								
RCFE SB - Instail Smoke detector @ S1-S4 10 22MAY07 0 <	280102 PCEE SP ES Wiring & Termination	24 2			60	0 0	204	260	-							
20014 RCFE SB - FS testing and T&C 12 11,UIN07 25,UIN07 0 0 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 200 12 12 200 200 200 200 200 12 12 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200		24 2	OFEDUIA	09301007	00	0 0	-200	-200	_							
20014 RCFE SB - FS testing and T&C 12 11,UIN07 25,UIN07 0 0 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 12 12 200 200 12 12 200 200 200 200 200 12 12 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200 200	280100 RCFE SB - Install Smoke detector @ S1-S4	10 2	22MAY07	02JUN07	0	0 10	-205	-272								
Besterial Works C					_				-							
280112 RCFE SB - HV & LV Cabling Works @ C Trough 36 21FEB07A 28MAY07 95 0 6 -244 280118 RCFE SB - Conduits Works @ Ceiling Level 36 21FEB07A 25MAY07 95 0 6 -44 -244 280114 RCFE SB - Conduits Works @ Ceiling Level 36 21FEB07A 25MAY07 95 0 6 -44 -224 280114 RCFE SB - Install Power Distn Panels & Test 30 10MAR07A 11JUN07 90 0 6 -44 -226 280124 RCFE SB - Tunnel Signage, Wiring, Term & Test 30 29MAY07 04 0 30 -14 -180 280126 RCFE SB Access to Civil Contr for Top Layer 0 0 0 -14 -180 280126 RCFE SB Access to Civil Contr for Top Layer 0 0 0 -14 -180 CM4000 Kiosk S2 - Install E&M Works 18 07FEB07A 30APR07A 100 0 -243 -243 -244 -244 -244 -244 -244 -244 -244 -244 -244 -244	280104 RCFE SB - FS Testing and T&C	12	11JUN07	25JUN07	0	0 12	-205	5 -162								
280118 RCFE SB - Conduits Works @ Celling Level 3e 21 FEB07 25MAY07 95 0. 4 192 -218 280114 RCFE SB - Install Power Distn Panels & Test 3o 10MAR07 11JUN07 90 0. 6 194 -228 280124 RCFE SB - Install Power Distn Panels & Test 3o 29MAY07 0.JUL07 0 0. 194 -180 280126 RCFE SB - Conduits Works 0. 0. 0. 194 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -228 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -282 -180 -180 -180 -282 -180 -180 -180 -282 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180 -180	Electrical Works				1	I I		1								
280118 RCFE SB - Conduits Works @ Celling Level 3e 21 FEB07 280 AV07 95 0. 4 192 -218 280114 RCFE SB - Install Power Distn Panels & Test 3o 10MAR07 11JUN07 90 0. 6 194 -226 280124 RCFE SB - Install Power Distn Panels & Test 3o 29MAY07 04JUL07 0 0 194 -1680 280126 RCFE SB - Conduits Works 0 9 0.0 194 -1680 -2260 -<		26 2	155074	201107	05	0 6	10	1 244		-						
28014 RCFE SB - Install Power Distn Panels & Test 30 10MAR07A 11JUN07 90 00 6 94 -226 28012 RCFE SB - Install Power Distn Panels & Test 30 29MAY07 04JUL07 0 0 9	200112 RCFE 3B - HV & LV Cabiling Works @ C Hough	30 2	IFEDUIA	201VIA 1 07	95	0 0	-194	+ -244	_							
28014 RCFE SB - Install Power Distn Panels & Test 30 10MAR07A 11JUN07 90 0 6 194 -226 28012 RCFE SB - Install Power Distn Panels & Test 30 29MAY07 04JUL07 0 0 194 -180 28012 RCFE SB - Civil Contr for Top Layer 0 0 0 194 -180 -<	280118 RCFE SB - Conduits Works @ Ceiling Level	36 2	1FEB07A	25MAY07	95	0 4	-192	-218								
280124 RCFE SB - Tunnel Signage, Wiring, Term & Test 30 29MAY0 04JUL07 0 <td< td=""><td>~</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	~															
280126 RCFE SB Access to Civil Cont'r for Top Layer 0 0 0 0 0 194 -180 0	280114 RCFE SB - Install Power Distn Panels & Test	30 1	0MAR07A	11JUN07	90	0 6	-194	4 -226								
280126 RCFE SB Access to Civil Cont'r for Top Layer 0 0 0 0 0 194 -180 0	000404 DOFF OD Transl Gime as Mining Toms & Test	00 0		04 11 11 07	0	0 00	10	400	-			-		<u> </u>		
T3 UNDERPASS Kiosk 52 at T3 Underpass Portal Kiosk 52 - Instail E&M Works 18 07FEB07A 30APR07A 100 0 0 -232 Kidoks 52 - E&M Testing and T&C 6 21MAY07 28MAY07 0 0 6 -503 -248 -248 -	280124 RCFE SB - Tunnel Signage, Wiring, Term & Test	30 4	29IVIA Y 07	04JUL07	0	0 30	-194	+ -180								
T3 UNDERPASS Kiosk 52 at T3 Underpass Portal Kiosk 52 - Instail E&M Works 18 07FEB07A 30APR07A 100 0 0 -232 Kidoks 52 - E&M Testing and T&C 6 21MAY07 28MAY07 0 0 6 -503 -248 -248 -	280126 RCFF SB Access to Civil Cont'r for Top Laver	0		04,101,07	0	0 0	-194	-180						•		
Kiosk S2 at T3 Underpass Portal Kiosk S2 - Install E&M Works 18 07FEB07A 30APR07A 10 0 0 -232 EM4002 Kiosk S2 - Install E&M Works 6 21MAY07 0 0 6 -232 EM4002 Kiosk S2 - E&M Testing and T&C 6 21MAY07 0 0 6 -248 - <t< td=""><td></td><td></td><td></td><td>0.00101</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>				0.00101												
EM400 Kiosk S2 - Install E&M Works 18 07FEB07A 30APR07A 100 0 0 -232 EM4002 Kiosk S2 - E&M Testing and T&C 6 21MAY07 28MAY07 0 0 6 -50 -248 -	T3 UNDERPASS															
EM4002 Kiosk S2 - E&M Testing and T&C 6 21MAY07 0 0 6 -248 T&C and Inspections SHT RC Full Enclosure / T3 Underpass SHT RC Full Enclosure / T3 Underpase SHT RC Full En	Kiosks S2 at T3 Underpass Portal															
EM4002 Kiosk S2 - E&M Testing and T&C 6 21MAY07 0 0 6 -248 T&C and Inspections SHT RC Full Enclosure / T3 Underpass SHT RC Full Enclosure / T3 Underpase SHT RC Full En	EM4000 Kioak S2 Install ERM Works	19 0		20400074	100	0 0		222								
T&C and Inspections SHT RC Full Enclosure / T3 Underpass Statutory Inspection and Certs.		10 0	TEDUTA	JUAPRUTA	100	0 0		-232								
T&C and Inspections SHT RC Full Enclosure / T3 Underpass Statutory Inspection and Certs.	EM4002 Kiosk S2 - E&M Testing and T&C	6 2	21MAY07	28MAY07	0	0 6	-50	-248								
SHT RC Full Enclosure / T3 Underpass Statutory Inspection and Certs.	Ů Č						1									
Statutory Inspection and Certs.	T&C and Inspections															
Statutory Inspection and Certs.	SHT RC Full Enclosure / T3 Underpass															
EM5070 FSD insp. (SHT RC Enclosure & T3) 6 02AUG07 08AUG07 0 0 6 -206 -129									-							
	EM5070 FSD insp. (SHT RC Enclosure & T3)	6 0	2AUG07	08AUG07	0	0 6	-206	6 -129								

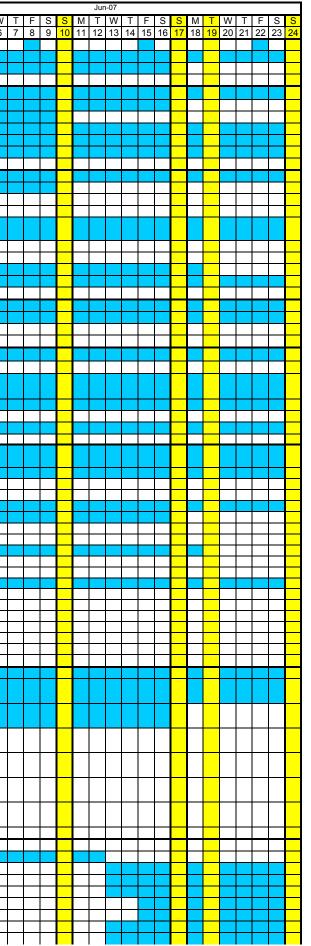
5-week Rolling Programme of Site Works

tem	Civil Area	Portion	Work Area	Activity	[8]Type of major equipmen	nt			М	y -07										
No.					/ plant to be used		S M	ΤW	T	FS	S N	A T V	/ T	F	S S	MT	WT	TFS	i S	М
					P	19 2	0 21	22 23	3 24	25 26	27 2	8 29 3) 31	1	2 3	4 5	6 7	7 8 9	10	11
1	Works Area	А	DIGJV Site Office	Pesticide spraying	N.A.					R							+++			
2	Works Area	Α	Subcontractor warehouse	Material preparation for cable containment / Cable laying	N.A.	R														
3	Works Area	A	DIGJV Site Office	Assemble of control cabinet	N.A.			RR		R										
4	Road T3	G	Road T3	Routine Checkings	Van															
5	Road T3	G	Road T3 / underpass , SB & NB (Niche G)	Niche G - Cable Containment	Scissor lift		R	RR		R										
6	Road T3	G	Road T3 / underpass, SB & NB	Cable laying	Scissor lift	P	_	RR		R									-	
7	Road T3	G	Road T3 / underpass, SB & NB	Cable termination	Scissor lift	R		RR		R									╉╋┥	
8	Road T3	G	Road T3 / underpass	SCT - Cable test	Van		_	RR		R									╉╋┥	
9	Road T3	G	Road T3 / Road Gantry / underpass	[2] TCSS Traffic field equipment (CCTV & Detector)	Special design lorry														╉╋┥	
3	Itodu 15	0	Road 137 Road Ganay / underpass		opecial design long		-												4	
10	SHT	H1A, H1B, H1C	SHT (SB,NB, NPB, SPB)	Routine Checkings	Van											╋╾╈╸	┢╾┢╸		┢╾┥	
11	SHT	H1B, H1C	SHT - NB & SB	Cable containment for ALCS	Scissor lift		R				_								4-1	
12	SHT	H1B, H1C	SHT - S/B & N/B, CP	Cable termination	Scissor lift	N	N	N		N	_								4	
13	SHT	H1B, H1C	SHT (S/B & N/B, CP)	SCT - Cable testing	Van			N N									+	++	+	
14	SHT	H1B & H1C	SHT(N/B & S/B)	[2] TCSS Traffic field equipment (CCTV & Detector) and	Scissor lift		-				_				_					
	0111	mbanio		accessories installation																
15	SHT	H1A	SHT - NPB & SPB	PA System, remaining work	Van		N	N		N	_				_				4	
16	SHT	H1A	SHT - NB & SB	Cable laying / cable marking	Special design lorry		14	N			-	+	+	\vdash		╉─┼─	++	++-	┥┛	_
17	SHT	H1A	SHT-NPB & SPB	Installation of FRP enclosure	Van		P			P									┛	
17	SHT	H1A H1A	SHT-NPB & SPB SHT-NPB & SPB	Installation of SDH, PBX, Radio, PA	Van Van	N	R	RR		R									-	
10	301	ПІА		Installation of SDTI, FDA, RAUIU, FA	Vali					IN	-	++	+	\vdash	_		++	+	4-1	
10	CUT	110	SUT Open read Section	Routing Chackings	Van	╉										╋╍┶╸	╈═╈	╺╋╼╼╋╼╸	┛	
19	SHT	H2	SHT - Open road Section	Routine Checkings	Van	┦╴┨												++		
20	SHT	H2	SHT Open road section	Cabinet installation & termination	Van		R	RR		R									4	
21	SHT	H2	SHT Open road section	Cable laying	Van		N						+	$ \rightarrow $	_	<mark>- </mark> -	++	++	┛	
																┹┷┷	┶┷┷┶	┶┷┷┷	┛	
22	SHT	H3	SHT - RCFE	Routine Checkings	Van					R										
23	SHT	H3	SHT - RCFE (S/B & N/B)	Installation of cable containment	Special design lorry			Ν												
24	SHT	H3	SHT - RCFE (S/B & N/B)	[2] TCSS Traffic field equipment (CCTV & Detector)	Special design lorry															
25	SHT	H3	SHT - RCFE (S/B & N/B)	Niche G - Cable Containment	Special design lorry	R	R	RR		R										
26	SHT	H3	SHT - RCFE (S/B & N/B)	Cable laying	Special design lorry	N		N												
27	SHT	H3	SHT - RCFE (S/B & N/B)	ET installation	Van					Ν										
_,	0111	110			vui														-	
28	ENT	11, 12 & 13	ENT Tunnel (SB, NB, NPB, SPB, ADB, VB,	Routine checkings	Van															
		,	Toll Plaza & Butterfly Valley)																	
29	ENT	12	ENT -S/B & N/B	Cable containment for ALCS	Scissor lift															
30	ENT	12	ENT -S/B & N/B	Cable laying \ Bracket installation	Scissor lift	Ν													П	
31	ENT	12	ENT -S/B & N/B	ET installation	Van															
32	ENT	12	ENT -S/B & N/B	[2] TCSS Traffic field equipment (CCTV & Detector)	Scissor lift															
33	ENT	13	ENT - Toll Plaza, foot bridge	[3] & [7] PA system remaining work	Special design lorry		R	RR		R										
34	ENT	I1 & I3	ENT - NPB,SPB	SCT - PA cable testing	Van	R	R	RR												
35	ENT	13	ENT - VB	Cable laying	Van	Ν		R		R										
36	ENT	<u> 1</u>	ENT - Approach Road & BV	Cable laying	Van														4_	
37	ENT	11 & 13	ENT - NPB & SPB	PA system Remedial work	Van	N							_			<mark>-</mark>	+		┥┥┥	
38	ENT	11 & 13	ENT - NPB & SPB	SCT - Cable test	Van	R	R	RR			_				_				_	_
39 40	ENT ENT	1 & 3 1 & 3	ENT - NPB & SPB ENT - NPB & SPB	Installation of SDH, PBX, Radio, PA Cable termination	Van Van	┥╋	-		_	N	_		_		_		++		4	
40	ENT		ENT - ADB	Cable Laying / Cable termination	Van	N	N			IN	_				_	╉─┼─	+ $+$	++		_
41	ENT	3 3	ENT - ADB ENT - ADB, Computer room	Hardware installation	Van Van			RR		R		+ $+$		\vdash		╉┼┼╴	++	++	╞	\rightarrow
42	ENT	13	ENT - ADB, Computer room	SDH communication Node	Van			RR		R		+					++	++-		$ \rightarrow$
44	ENT	l1	ENT, Gantry GT104	TCSS Traffic field equipment	Special design lorry	N											++	++	+	\neg
45	ENT	13	ENT, Gantry GT105	FVMS installation	Special design lorry												++	++		
																	++	++		
46	LCKV	J1	LCKV	Routine checkings	Van															
47	LCKV	J1 & J2	LCKV	[3] & [7] TCSS's field equipment and related cable	Special design lorry															
				containment installation		R	R	RR		R										
48	LCKV	J1 & J2	LCKV	Cable laying	Special design lorry															
10	LOIN	010002				Ν	Ν													
49	LCKV	J2	LCKV - Section C	CCTV high mast installation, Ref: C0090E (12m)	Crane Lorry													+	4	
+9	LUNV	JZ		COTY HIGH HAST INSTALLATION, REL. COUSUE (12M)	Grane Lorry															
50		10		Cable trav installation	1/	╉╋							+	$ \rightarrow $	_	╉─┼─	++	++	┦┛	
50	LCKV	J2	LCKV, Gantry FADS 3	Cable tray installation	Van			N												
												++	+	\square		4	+	+		
51	LCKV	J2	LCKV, Gantry FADS 1	TCSS Traffic field equipment	Crane Lorry	N														
52	LCKV	J2	LCKV, FADS 3 & DS3	Join site inspection	Van							ΙT		ΙT		<mark>/</mark> []				Ţ
53	R8K	All Portion	Road T3 / SHT / ENT / LCKV	WR1a inspection and application	Van												+++	++-		
54	R8K	All Portion	Road T3 / SHT / ENT / LCKV	Field equipment pre-commissioning	Van															
55	R8K	All Portion	Road T3 / SHT / ENT / LCKV	SCT -SDH Communication System	Van			1												
56	R8K	All Portion	Road T3 / SHT / ENT / LCKV	SCT-ET system	Van			1									++	++	+	
	R8K	All Portion	Road T3 / SHT / ENT / LCKV	SCT -O&M Radio System	Van												++	++	+	
57		All Portion	Road T3 / SHT / ENT / LCKV	SCT -Integrated Rebroadcast Radio System	Van												++	++	+	\neg
57 58	R8K																			
58	R8K R8K																++			
	R8K R8K R8K	All Portion All Portion All Portion	Road T3 / SHT / ENT / LCKV Road T3 / SHT / ENT / LCKV	SCT-Building PBX System and Direct line SCT-Building PA System	Van Van Van												\mp	++	╊	



道易通聯營公司 DELCAN-IMTECH-GTECH JOINT VENTURE

Record Date: 25-05-2007



63 64	R8K R8K	All Portion All Portion	Road T3 / SHT / ENT / LCKV Road T3 / SHT / ENT / LCKV	SCT-CCTV System SCT-Traffic Control Devices	Van Van	+	_	+ +	_									+
-	-						_	+	_		┝─┼─						-+	—
65	R8K	All Portion	Road T3 / SHT / ENT / LCKV	SCT-Manual Fallback System	Van													_
66	R8K	All Portion	Road T3 / SHT / ENT / LCKV	SCT-Central Control System	Van	╉	_		_		┝─┥─	+			_			—
67	NSCV	D	NSCV	Routine checkings	Van													
68	NSCV	D	NSCV	Cable laying	Van			RF	2	R								
69	NSCV	D	NSCV, Gantry DS G4, FADS 1	TCSS Traffic field equipment	Scissor lift	Ν												
70	ETYV	E	ETYV	Routine checkings	Van													
71	NWT	B & C	NWT (E/B, W/B & WEB)	Routine checkings	Van													
72	NWT	В	NWT, E/B, W/B & CP	[2]Cable termination	Scissor lift	R	R	RF	२	R								
73	NWT	С	NWT - WCB	Cable containment	Metal scaffolding													
74	NWT	С	NWT - WCB, G/F - 1/F	Cable laying	Metal scaffolding			N	N	N								
75	NWT	С	NWT - WCB	Cable containment	Van	N		N		N								
76	NWT	С	NWT - WCB	SCT - PA cable test	Van		R			R								
77	NWT & WTYV	С	WTYV, Ref: C0010W (15m)	CCTV high mast installation	Crane lorry													
78	NWT & WTYV	С	WTYV Ref: C0020W (15m)	CCTV high mast installation,	Crane lorry													
	Legend :		= Planned activity	R - Re-scheduled									N	lote:				
			= Work Done	N - New activity										[1]	Works	s depe	ends or	n spa

= Public Holiday

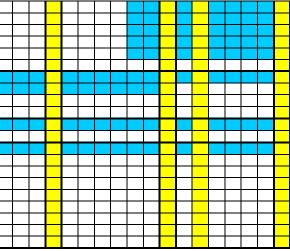
A - Awaiting spatial co-ordination for TCSS installation

Distribution: Arup-Johnny Mac, Hara,Alex C, Franco L, Hamlyn K, Joseph C, KT Chan, Patrick L, Simon Cheung, Philip C, PF Li, Sharon H, Tony C, Wilson W, Winnie M, Donald L, Johnny L, Kenny C, Thomas Wong, Andy Wong Remark: 1) The schedule only shows the anticipated works planned and shall be subject to changes which will be reported by daily labour forecast on ad-hoc bases. 2) Should it have any query on the above activity, please approach the following personnel. R8K : KY Chan / J. Lam / A. Kwok / A. Luk ; R8T: KY Chan / A. Kan / CK Fung / A. Luk

Works Subject to Traffic Tube arrangement
 Works subject to condition of site access & civil provision.

[4] Works subject to SCURVY to relocate their containers in N/B

[5] Works subject to coordination with other services
[6] Works depend on ENT's contractor to complete their raised floor installation
[7] Works depend on Civil Contractor to complete / rectify their provision



spatial co-ordination among related Main Contractor and TCSS.

[8] Works subject to the site access of the major equipment.

APPENDIX C MONITORING REQUIREMENTS

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Air Quality	1-hour TSP	3 times every 6 days	AM1 ⁽³⁾ (Yew Chung Internation School / PLK Choi Kai Yau School)	 AM1 – Rooftop ⁽³⁾ AM3 – On ground AM4 – Ground floor close to
	24-hour TSP	Once every 6 days	 AM3 ⁽⁴⁾ (Garden Villa) AM4 (Government Quarters) 	the refuse collection station of Government Quarters
	L _{eq} , L ₉₀ & L ₁₀ at 30 minute intervals during (0700 to 1900 on normal weekdays)	Once per week		 NM1 – Rooftop (Façade measurement)⁽³⁾
Noise	L_{eq} , L_{90} & L_{10} at 5 minute intervals during (1900 to 2300) ⁽¹⁾	Once per week (include 3 consecutive 5-min measurements)	 NM1 ⁽³⁾ (Yew Chung Internation School / PLK Choi Kai Yau School) 	 NM5 – Ground Floor ⁽²⁾ - (Façade measurement) NM6 – Rooftop of Refuse
	L_{eq} , L_{90} & L_{10} at 5 minute intervals during (2300 to 0700 of next day) ⁽¹⁾	Once per week (include 3 consecutive 5-min measurements)	 NM5 (Villa Carlton) NM6 (Government Quarters) NM7 (Garden Villa) 	 NM0 – Rootop of Refuse Collection Station (Free field measurement) NM7 – Rooftop (Façade
	L_{eq} , L_{90} & L_{10} at 5 minute intervals during (0700 to 1900 on holidays) ⁽¹⁾	Once per week (include 3 consecutive 5-min measurements)		measurement)

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

⁽¹⁾ – Conduct noise monitoring only when construction work is carried out.

⁽²⁾ – 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.

⁽³⁾ – Yew Chung International School / PLK Choi Kai Yau School (Station AM1 and NM1) had ceased operated and been demolished since February 2007. The monitoring at AM1 and NM1 has been suspended since February 2007, as approved by EPD on 26th April 2007.

⁽⁴⁾ – Station AM3 was relocated from Garden Villa to the nearby slope no. 07SW-D/FR4 and the monitoring was resumed on 14 February 2005.

APPENDIX D ENVIRONMENTAL QUALITY PERFORMANCE (ACTION/LIMIT) LEVELS

Appendix D - Action and Limit Levels (ENT)

1-Hour TSP

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

24-Hour TSP

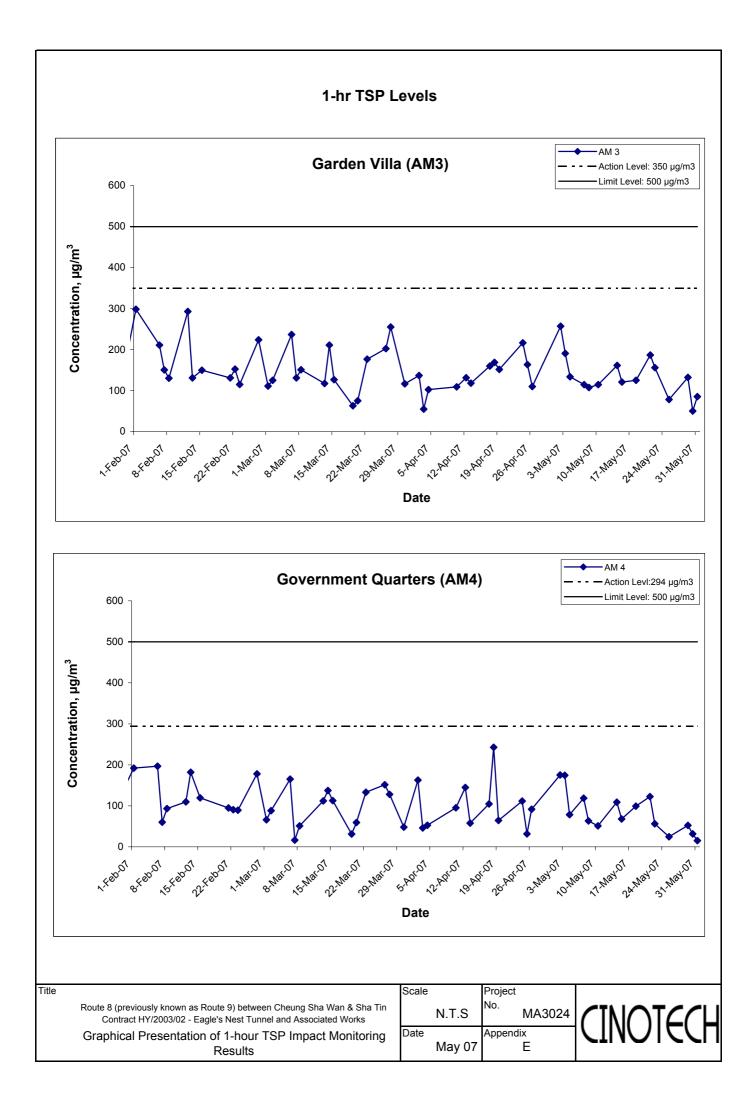
Location	Action Level, μg/m ³	Limit Level, µg/m ³
AM1	168	
AM3	200	260
AM4	170	

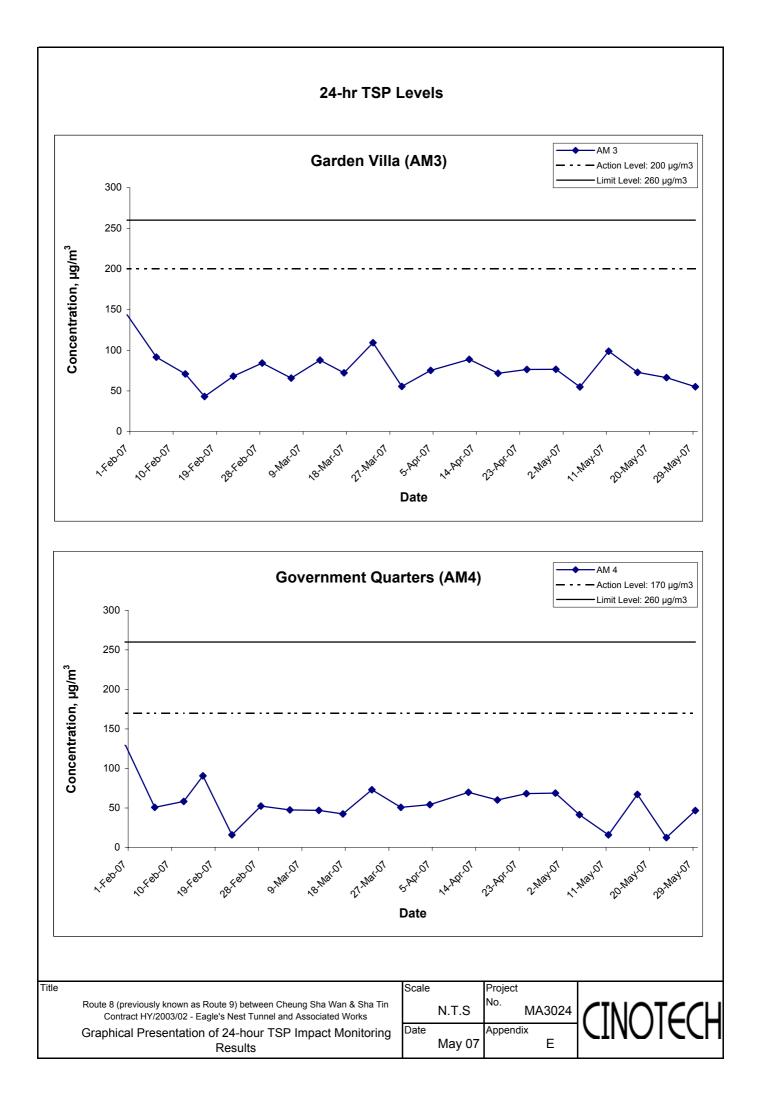
Construction Noise

Period	Action Level		Limit Lev	vel, dB(A)	
I CI IUU	for all stations	NM1	NM5	NM6	NM7
0700-1900 hrs on normal weekdays		70/65*	75	75	75
0700-2300 hrs on holidays & 1900- 2300 hrs on all other days	When one documented complaint is received	-	70	65	60
2300-0700 hrs of next day	1	-	55	50	45

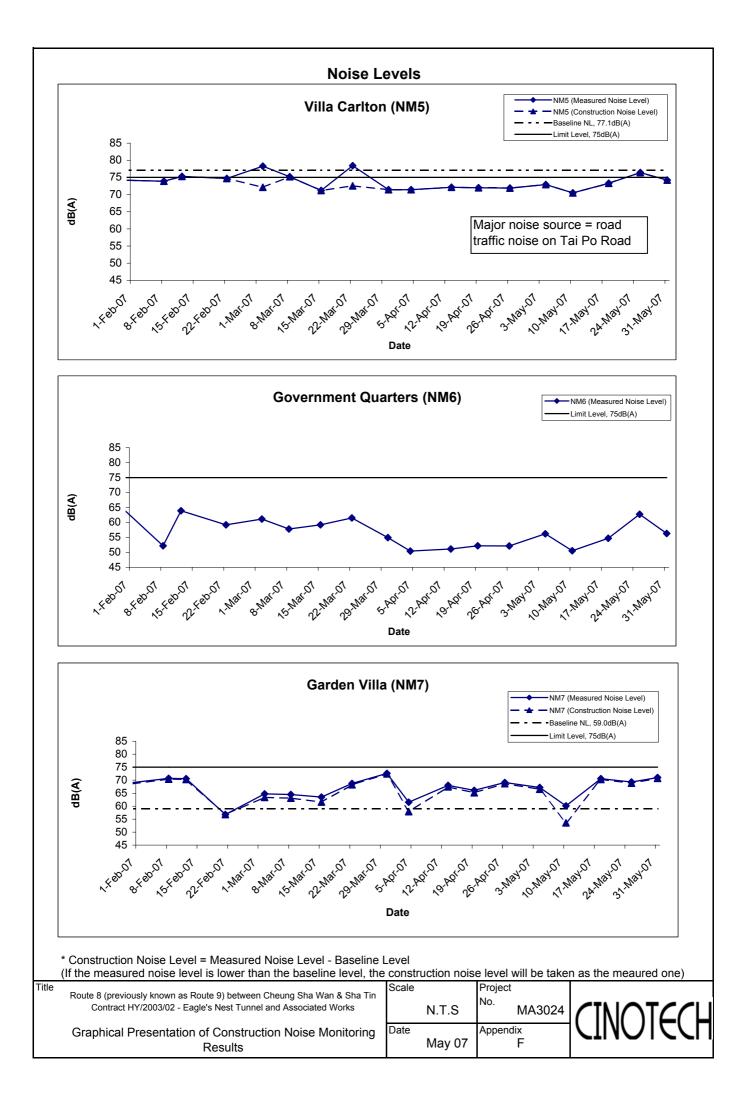
(*) Since NM1 is an educational institution, the noise Limit Level (0700-1900 hrs on normal days) is taken as 70 dB(A). The Limit Level will be reduce to 65 dB(A) during school examination periods.

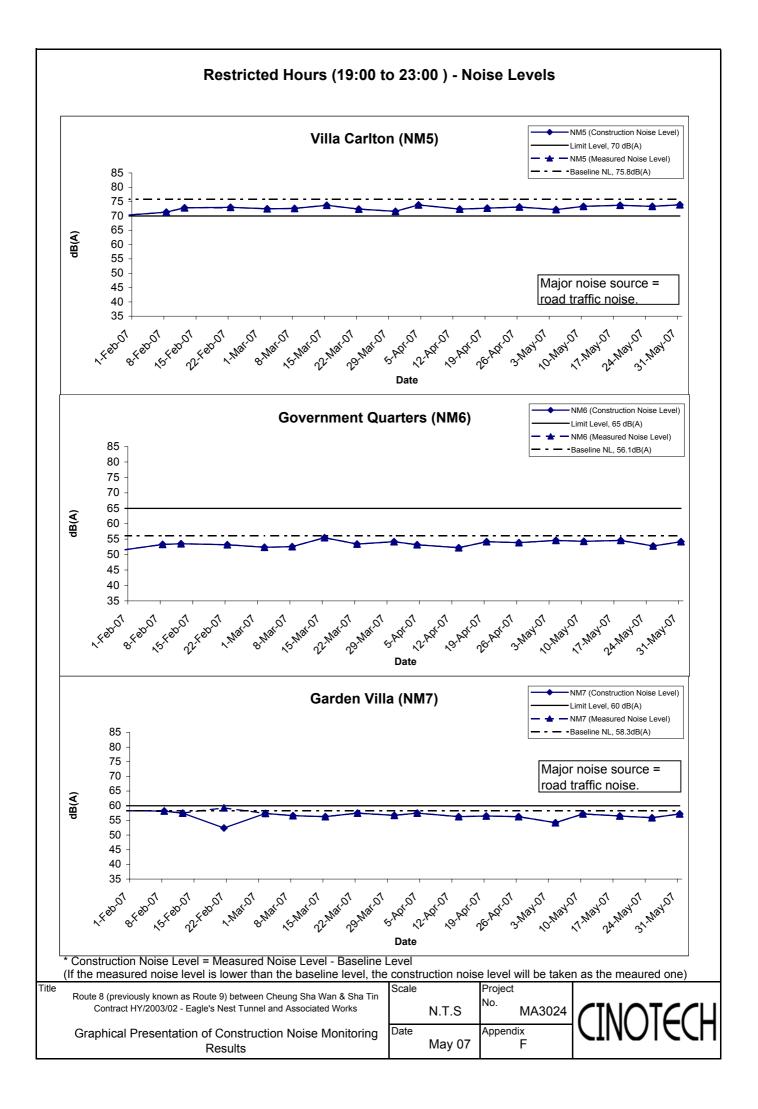
APPENDIX E GRAPHICAL PRESENTATION OF AIR QUALITY MONITORING RESULTS

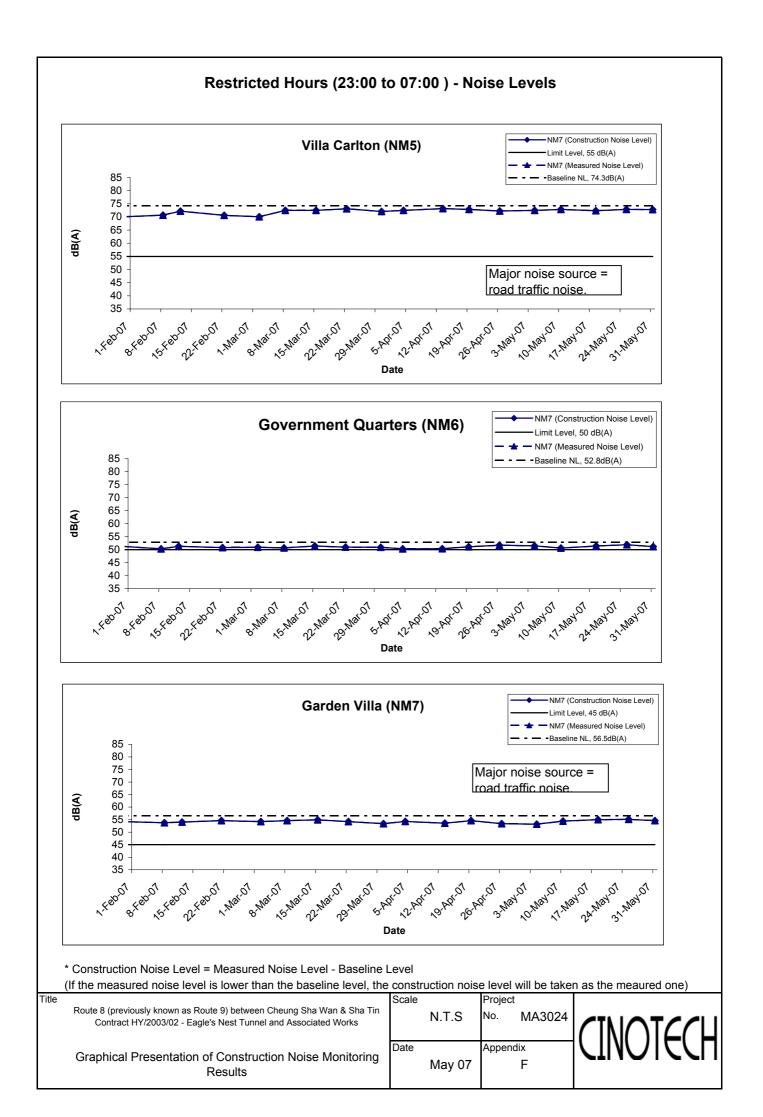




APPENDIX F GRAPHICAL PRESENTATION OF NOISE MONITORING RESULTS







APPENDIX G IMPLEMENTATION SCEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

Types of Impacts	Mitigation Measures	Status
•	• Any stockpile of dusty materials or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet.	^
	• A stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones.	^
	• Vehicle washing facilities should be provided at every exit point.	^
	• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.	^
	• Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.	^
Construction Dust	• Every main haul road should be sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet.	^
Dust	• The portion of any road leading only to a construction site that is within 30m of a discernible or designated vehicle entrance or exit should be kept clear of dusty materials.	^
	• Any stockpile of dusty materials should be either covered entirely be impervious sheeting, placed in an area sheltered on the top and the 3 sides or sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.	^
	• All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.	^
	• Every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving a construction site.	^
	• The working area of any excavation should be sprayed with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet.	^
Construction Noise	Only well-maintained plant should be operated on –site and plant should be serviced regularly during the construction works.	^
	• Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	^
	• Plant know to emit noise strongly in one direction, should where possible, be orientated to direct noise away from the NSRS.	^
	• Mobile plant should be sited as far away from NSRs as possible.	^
	• Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site	~
	construction activities.	
	• Use quite plant and Working Method	^
	Reduce the number of plant operating in critical areas close NSRs.	^

Appendix G - Summary of Environmental Mitigation Implementation Schedule

Types of Impacts	Mitigation Measures	Status
	Construct temporary and movable noise barriers	^
Water Quality	Construction Runoff and Drainage	
	• Use of sediment traps and the adequate maintenance of drainage systems to prevent flooding and overflow.	^
	• Boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilities runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates.	^
	• All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment traps should be regularly cleaned and maintained. The temporarily diverted drainage should be reinstated to its original condition when the construction works has finished or the temporary diversion is no longer required	۸
	• 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.	۸
	• Oil interceptors should be provided in the drainage system and regularly emptied to prevent the release of oils and grease into the storm water drainage system after accidental spillage. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	^
	• Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.	^
	• Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed at least once a week, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	^
	• Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided along the site boundary or at the locations agreed with the ET Leader. Rainwater pumped out from trenches or foundation excavations shall be discharged into silt removal facilities before discharge into storm drains.	٨
	 All generators, fuel and oil storage shall be within bunded areas. Drainage from the areas shall be connected to storm drains via a petrol interceptor. 	^
	Tunnelling Work	
	• Temporary open storage of excavated materials should be covered with tarpaulin or similar fabric during rainstorms. Any washout of construction or excavated materials form the drill and blast tunnelling work should be diverted to the drainage system via appropriate sediment traps.	^
	• Ground water pumped out of tunnels should be discharged into the drainage channels which incorporated sediment traps to enhance deposition rates and to remove silt.	^

Types of Impacts	Mitigation Measures	Status					
	• Spend grouts used in diaphragm wall construction should be collected in a separate slurry collection system, reconditioned and reused wherever practicable. The disposal of used grouting materials will only be permitted if it is treated to the TM standards before discharge to the storm drains or disposal to landfill.						
	General Construction Activities						
	• Debris and rubbish on site should be collected, handled and disposed of properly to avoid entering the water column and cause water quality impacts.	^					
	• All fuel tanks and storage areas will be provided with locks and be located on sealed areas (within bunds of a capacity equal to 110% of the storage capacity of the largest tank or 20% by volume of the fuel stored in that areas, whichever in the greatest).	^					
	Sewage Effluent						
	• Construction work force sewage discharges form fixed toilet facilities on-site should be connected to the nearby existing trunk sewer wherever feasible. However, for areas where existing trunk sewer is not available, it is recommended that appropriate and adequate on site portable chemical toilets should be provided by a licensed contractor who will be responsible for appropriate disposal and maintenance of these facilities.	^					
	• It is considered that sewage discharges could also be treated by on-site septic tanks and soakaway. Minimum clearance away form streams and catchments and other requirements for the proposed septic tank and soakaway should be referred to EPD's Practice Note for Professional Persons, Drainage Plans.	N/A					
Waste	General						
	• Training and instruction shall be given at a site to construction staff to increase awareness and draw attention to waste management issues and the need to minimise waste generation. The training requirement shall be included in the site waste management plan.	^					
	Storage, Collection and Transportation of Waste						
	 Wastes shall be handled and stored in a manner to ensure that they are held securely without loss or leakage. Authorised or licensed waste hauliers shall be used and they shall only collect wastes prescribed by their permits. 	^					
	• Waste shall be removed on a daily basis.	^					
	• Waste storage area shall be maintained and cleaned on a daily basis.	^					
	• Windblown litter and dust during transportation shall be minimised by either covering trucks or transporting wastes in enclosed containers.	^					
	• Obtain necessary waste disposal permits from the appropriate authorities if they are required.	^					
	• Wastes shall be disposed of at licensed waste disposal facilities.	^					
	• Develop procedure such as ticketing system to facilitate tracking of loads, particularly for chemical waste, and to ensure that illegal disposal of wastes does not occur.	^					
	Maintain records of the quantities of wastes generated, recycled and disposed.	^					
	Surplus Excavated Materials						

Types of Impacts	Mitigation Measures	Status					
	Due to the high risk of loose material being washed into the existing nullah, stockpile materials should be properly compacted and covered from water erosion and located at least 10m away from the nullah wall.						
	Construction and Demolition (C&D) Waste						
	• Careful design, planning and good site management shall be adopted to minimise over-ordering and generation of waste materials such as concrete grouts.						
	• The handling and disposal of bentonite slurries shall be undertaken in accordance with Practice Note for Professional Persons – Construction Site Drainage (ProPECC PN 1/94) on construction site drainage.	N/A					
	• Construction and demolition (C&D) material shall be segregated to inert and non-inert parts. The inert portion shall re-used at areas of reclamation or land formation, or to public filling area shall such allocation is deemed necessary. The non-inert portion shall be disposed of to landfill.	^					
	Chemical Waste						
	• Chemical waste that is produce during construction shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.	^					
	 Containers used for the storage of chemical wastes should: Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; Have a capacity of less than 450 litres unless the specifications have been approved by the EPD; Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste Regulations. 	^					
	 The storage area for chemical wastes should: a. Be clearly labelled and used solely for the storage of chemical waste; b. Be enclosed on at least 3 sides; c. Have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is largest; d. Have adequate ventilation; e. Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); f. Be arranged so that incompatible materials are adequately separated. Disposal of chemical waste shall be via a licensed waste collector; and to a facility licensed to receive chemical waste; or a reuser of the waste (under approval from EPD). 	^					
	General Refuse	1					
	 General refuse generated on-site shall be stored in enclosed bins or compaction unit separate from C&D and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D and chemical wastes, on a daily for every second day basis to minimise odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law. 	^					

Types of Impacts	Mitigation Measures	Status
	• Reusable rather than disposable dishware shall be used if feasible.	N/A
	• A sediment barrier shall be erected to minimize stream sedimentation at downstream of the project boundary of the Toll Plaza.	N/A
	• Conduct a tree survey before commencement of the construction work.	^
Ecology	• All measures recommended in the approved landscape proposals under Condition 2.4 in EP above shall be fully implemented in accordance with the details and time schedule set out in the submission.	N/A
	• Loss of the adjacent woodland due to temporary land take shall be returned to the original status immediately.	N/A
	• Wild and uncontrolled fire shall be strictly prohibited	^
	• Fences shall be erected along the boundary of the construction sites at the Toll Plaza before commencement of works, to prevent tipping, vehicle movements, and encroachment of personnel onto adjacent wooded areas.	N/A
Landscape and Visual Impact	 Landscape mitigation measure 1 (LMM1) – Construction programming and management. The periphery of the works areas at street level shall be managed so that they do not appear cluttered, untidy and unattractive and inconvenient to pedestrians. For example, all hoarding shall be colorfully designed with interesting motifs demonstrating the work of Highways Department. Hoardings with bland colours shall be avoided. 	N/A
	• 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 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.	N/A
	 Measurement of vibration would also be carried out on a need basis during the piling work 	N/A

Remarks:

Compliance of mitigation measure; Not Applicable; \wedge N/A

Non-compliance of mitigation measure; Non-compliance but rectified by the contractor

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APPENDIX H SUMMARY OF ENVIRONMENTAL LICENCES AND PERMITS

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

Permit No.	Valid	Period	Dataila	Status
Permit No.	From	То	Details	Status
Environmental Pern	nit (EP)			
EP-103/2001/C	22/07/05	N/A	<u>Construction and operation of</u> (a) All civil works (including highways, traffic, geotechnical, drainage, structural, architectural and landscaping works) for the Lai Chi Kok Viaduct, the interchange with Ching Cheung Road, the main road within Butterfly Valley and the Eagle's Nest Tunnel; (b) All E&M works (including ventilation, Traffic Control & Surveillance System (TCSS), toll collection system and lighting) for the whole Route 9 between Cheung Sha Wan and Sha Tin; I The permanent slope works above the northern portal of the Eagle's Nest Tunnel; (d) The architectural works (including fitting out and furnishings) of the portal buildings of the Sha Tin Heights Tunnel.	Valid
Registration of Cher	nical Waste	Producer		
WPN 5213-761-L2595-01	26/01/04	N/A	Regulation for disposal of spent oil and waste batteries arising from construction activities in all project areas.	Valid
Water Discharge Li	cence			
EP482/261/0327/I	03/05/04	31/05/09	Discharge of industrial trade effluent and effluent arising from construction activities at the construction site at Ventilation Adit on Tai Po Road (behind Shell Filling Station) opposite Pinehill Development Highways.	Valid
EP482/261/0326/I	01/04/04	30/04/09	Discharge of industrial trade effluent and effluent arising from construction activities at the construction site at Mui Kong Tsuen, Butterfly Valley, Lai Chi Kok, Kowloon.	Valid
No. 3156	23/02/04	22/02/09	Discharge of industrial trade effluent and all other wastewater arising from the works areas at North Portal of Route 9 – Eagle's Nest Tunnel and Associated Works (Contract HY/2003/02).	Valid
Construction Noise	Permit (CN	P)		
GW-RN0564-06	7/12/06	6/6/07	<i>Location:</i> SHT – South Portal Tunnel near Garden Villa <i>Time Period:</i> Any day between 2300-0700 on next day.	Valid
GW-RN0575-06	7/12/06	6/6/07	<i>Location:</i> SHT – South Portal Tunnel near Tai Po Road and Keng Hau Road <i>Time Period:</i> Any day between 2300-0700 on next day.	Valid
GW-RN0600-06	18/12/06	17/6/07	<i>Location:</i> SHT - South Portal near Garden Villa <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid

Permit No.	Valid	Period	Details	Status
Permit No.	From	То	Details	Status
GW-RW0016-07	4/2/07	3/8/07	<i>Location:</i> Butterfly Valley <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid
GW-RW0017-07	6/2/07	5/8/07	<i>Location:</i> Construction site adjacent to Tai Po Road Shell Petrol Filling Station and opposite to Villa Carlton <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid
GW-RW0082-07	20/3/07	19/9/07	<i>Location:</i> Mui Kong Tsuen <i>Time Period:</i> 0700-2400 (general holiday including Sundays) and 1900-2400 (any day not being a general holiday).	Valid
GW-RW0089-07	25/3/07	24/9/07	<i>Location:</i> SHT-North Portal <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid
GW-RN0102-07	9/4/07	8/10/07	<i>Location:</i> SHT-North Portal near Garden Villa <i>Time Period:</i> Any day between 2300-0700 on next day	Valid
GW-RN0104-07	9/4/07	8/10/07	<i>Location:</i> SHT-South Portal at Butterfly Valley <i>Time Period:</i> Anyday between 2300-0700 on next day	Valid
GW-RN0103-07	10/4/07	9/10/07	<i>Location:</i> SHT-South Portal at Butterfly Valley <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday)	Valid
GW-RN0105-07	10/4/07	9/10/07	<i>Location:</i> SHT-North Portal near Garden Villa <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday)	Valid
GW-RN0185-07	11/5/07	10/11/07	<i>Location:</i> Tunnel North Portal site near Garden Villa <i>Time Period:</i> 0700-2300 (general holiday including Sundays) and 1900-2300 (any day not being a general holiday).	Valid

APPENDIX I COMPLAINT LOG

Appendix I - Complaint Log

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

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

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			Environmental Protection Department	 passing the site entrance was recorded. Therefore, it was considered that the nuisance noted by the complainant was not due to the site vehicles adopted by the Contractor (LKJV). Nevertheless, the Contractor was reminded to ensure the compliance of the CNP conditions and adopt good site practice to minimize the construction noise. According to the information provided by the RSS, no 	
41021	Garden Villa	09-Oct-04 (by EPD) 21-Oct-04 (by ET Leader)	 (EPD) received a public noise complaint on 9 October 2004 about construction noise generated from the Route 8 – Eagle's Nest Tunnel and Associated Works (R8-ENT) Project, nearby by Garden Villa at Tai Po Road, Sha Tin. EPD subsequently referred the complaint to the Environmental Team (ET) Leader of the Project on 21 October 2004. The complaint was about nighttime construction noise generated from a construction site nearby Garden Villa at Tai Po Road, Sha Tin. As informed by EPD, the complainant was particularly concerned of two issues: Construction works undertaken by the Contractor (Leighton–Kumagai Joint Venture) were noted after 2300 hour. Some workers were noted leaving the site through Temporary Access Road (TAR) no.1 at around 2 am, causing nuisance to the residents in Garden Villa. 	 construction activity was undertaken in the nighttime period (2300 – 0700 hours) at the concerned site area. LKJV did admit that some vehicles had been operating at midnight for transporting LKJV's survey workers from the site. Inconsiderate behaviors were noted causing nuisance to Garden Villa residents: Driving the vehicles too fast, which generated excessive engine noise; Noise inside the vehicles (such as staff talking or radios) escaping through the open vehicle windows; and Vehicle beeping horn to request the guards to open the gate. In order to rectify the situation, LKJV had notified the relevant staff with the receipt of the complaint and urged them to take appropriate measures when using TAR1 at night: to drive slowly in order to reduce the engine noise, especially when approaching Garden Villa; to roll up the vehicle windows to contain any noise from talking or radios; and 	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 th 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 rd October 2004.	 The complaint was considered valid based on: ER's site observations; ET's weekly site audit; and 1-hr TSP exceedance record. Also, the sources of dust generation were identified as 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. Dust impact due to the haulage of excavated materials at the South Portal. Enhanced dust suppression measures had been implemented by the Contractor: added rockfill to the haul road between South Portal Tunnel and the Gully fill area; maintained watering to haul road at Slope BV-S2; requested the fill material supplier to ensure the material was in a damp condition before leaving quarry; provided for material not dampened at the Quarry to be directed to the wheel wash for water spray before entering the site; when cleaning drill holes along slope BV-S4 to ensure adequate water was available for flushing to suppress dust emission; AND provided damper stockpiles of cleared material at BV-S2 before loading. Based on ER's site observations, most of the above mitigation measures have been implementing by the Contractor. Also, an additional water browser was delivered to site on 29th Oct 04. No significant fugitive dust emission has been found. During ET's site inspections on 27th Oct and 3rd Nov 2004, the situation was found improved. No deficiency relating to air quality impact was noted by ET during the two audit sessions. The results of air quality monitoring (1-hr and 24-hr TSP) in the period between 21st Oct and 2nd Nov 2004 were all found to be complied with the Action / Limit Levels. 	Closed

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
41124	Government Quarters (Butterfly Valley)	21-Nov-04 (by LKJV) 24-Nov-04 (by ET Leader)	A public complaint was received by the Contractor of Route 8 – Eagle's Nest Tunnel and Associated Works (R8- ENT) Project on 21 st 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 th November 2004.	According to the ER, the only construction activity at Butterfly Valley undertaken on 21 st 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 st and 28 th 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 st 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: ER's site observations; ET's weekly site audit Upon receipt of the complaint, a series dust control measures had been implemented by the Contractor, such as covering of the exposed slopes with appropriate sheeting, regular watering to the haul roads and excavated slope faces, etc. During the ET's weekly site audit on 08-Dec-04 together with the representative of HyD, IEC, ER and the Contractor, the above mitigation measures were observed. The idle slopes at BVS2 had been covered by tarpaulin sheeting and erosion mat. The left exposed slope surfaces at BVS2 were under excavation, thus being unable to be covered. According to the ER, the complainant has expressed his satisfaction to the site condition on 07-Dec-04, after the implementation of dust mitigation measures by the 	Closed

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

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

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

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

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

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

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

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

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

Log Ref.	Location of Concern	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
51031	Po Leung Kuk Choi Kai Yau School	31-Oct-05	The resident site staff (MHJV) of R8-ENT received a complaint from the Principal of PLKCKY School. She commented that the blasting noise (nighttime and daytime) at Butterfly Valley became louder than before.	An ad-hoc noise measurement was taken by ET on 5 Nov 05 to evaluate the noise impact due to daytime surface blasting at the BV. The measurement results revealed that there has been no exceedance of noise level criteria. The complaint was therefore considered not justifiable.	Closed
51101	Butterfly Valley (Government Quarters)	1-Nov-05	 On 1 Nov 05, the Resident Site Staff received a complaint from a resident of the Government Quarters. On 2 Nov 05, a complaint of similar natures and same location was received by the Environmental Protection Department. The complainant was concerned about the following environmental issues: 1. Noise nuisance due to tunnel blasting works undertaken at midnights and in early mornings (3am to 5am); 2. Noise nuisance due to operation of a generator after 11pm; 3. Construction dust and daytime noise due to processing and stockpiling of crushed rocks at Butterfly Valley; 4. Noise nuisance due to works outside tunnel in the early morning of 2 Nov 05. 	Item 1: Noise nuisance due to tunnel blastingFor carrying out the above-mentioned blasting operations, theContractor 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 theblasting operations had been completed by 12 Nov 05.Item 2: Noise due to operation of a generator after 11pmAccording to the Construction Noise Permit issued by EPD,one generator was allowed to be operated after 11pm at SouthPortal area outside the tunnel. In view of the provision ofacoustic enclosure and the separation distance from thegenerator to Government Quarters (around 300m), the noiseimpact arising from this generator onto the residents of theQuarters was believed to be insignificant. During the ET'sinvestigation on 11 Nov 05, no engine-like noise generatedfrom the construction site could be identified.Item 3: Dust and noise due to handling of crushed rocksNo noise exceedance was recorded. During the weekly siteinspections, deficiencies regarding inadequate dust mitigationmeasures for the crushed rock processing and stockpiling wereoccasionally observed. Dry / uncovered stockpiles and dustemissions from crushed rocks handling were sometimes noted.Item 4: Noise from works out of tunnel in morning of 2 Nov 05According to the RSS's site records, there has been no activityoutside the tunnel in the early morning of 2 November 2005.Work was undertaken deep inside the tunnel during theconcerned period. The mentioned noise musance might not be<	Closed

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

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

APPENDIX J SUMMARY OF EXCEEDANCES

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 (NIL)