Highways Department

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

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

Monthly EM&A Report
Part II – Eagle's Nest Tunnel & Associated Works
(Version 1)

September 2005

Approved By _____

(Environmental Team Leader)

REMARKS:

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

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

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ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
TSP	Total Suspended Particulates
TDD	Territory Development Department
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan

EXECUTIVE SUMMARY

Introduction

- This is the twenty-second monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the "Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin, Lai Chi Kok Viaduct & Eagle's Nest Tunnel". This report documents the findings of EM&A Works conducted in September 2005 for Contract No. HY/2003/02, Eagle's Nest Tunnel and Associated Works (the Project).

- The major site activities undertaken in the reporting month included slope cutting, blasting, excavation works and construction of portal buildings.

Environmental Monitoring and Audit Works

- Environmental monitoring and audit works for the Project was performed regularly as stipulated in the EM&A Manual and the results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

- Summary of events and actions taken in the reporting month is tabulated in **Table I**.

Table I Summary of Events Recorded in the Reporting Month

Parameter	*No. of Events*		*No. of Events Due to the Project*	*Action Taken*
	Action Level	*Limit Level*		
1-hr TSP	1[a]	0	0	Notification of exceedance was issued.
24-hr TSP	0	0	0	N/A
Noise	1[b]	0	0	Complaint investigation

Remarks:

a. On 12 Sept 05, the 1-hr TSP level at Station AM3 exceeded the Action Level. Based on the filed observation and EPD's API records, it was considered that the exceedance was due to the poor ambient air quality over Hong Kong and not related to the Project works.

b. A noise Action Level exceedance was recorded due to the public noise complaint received on 28 Sept 05.

Environmental Licenses and Permits

- Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, Registration of Chemical Waste Producer (RCWP), Construction Noise Permits (CNPs) and Water Discharge Licenses (WDLs).

Key Information in the Reporting Month

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

Table II Summary Table for Key Information in the Reporting Month

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

Future Key Issues:

Major site activities for the coming month include:

- Slope cutting;
- Haul road construction;
- Soil nail installations;
- Stepped channel and retaining wall construction;
- Installation of water proofing membrane in tunnels;
- Portal building construction.

The anticipated environmental impacts will be mainly on dust from slope work, haul roads and stockpiles.

1. INTRODUCTION

Background

1.1 Route 9 (Kowloon Section) (R9K) (hereinafter call the R9K-Project) forms part of the Route 9 between Cheung Sha Wan and Sha Tin (R9-CSWST) project, which will be a new expressway connecting West Kowloon and Sha Tin. It will be the fourth external link between Sha Tin and Kowloon and will form an important link between the northeast New Territories and the west Kowloon, Lantau Island and the western New Territories. R9K is being managed and implemented by the Highways Department (HyD).

1.2 The engineering design of R9K is covered under Agreement No. CE 50/98 "Route 9 between Cheung Sha Wan and Sha Tin – Design Construction Assignment". The main consultant engaged under Agreement No. CE 50/98 is Maunsell Hyder Joint Venture (MHJV), who will act as the Engineer for the construction contracts. The works of R9K mainly comprise a 1.4km dual 3-lane Lai Chi Kok Viaduct from Lai Wan Interchange to Butterfly Valley; 0.5 km of dual 3-lane at-grade carriageway linking to the 2.1 km dual 3-lane twin-bore Eagle's Nest Tunnel with associated portal buildings; a toll plaza with an administration building located with the Sha Tin valley woodland; a ventilation building and an adit; associated noise barriers, noise enclosures, drainage, slope and landscape works; and electrical and mechanical works for the whole R9-CSWST. The remainder of the R9-CSWST forms the Sha Tin Section (R9S) of the project and is being managed and implemented separately by the Civil Engineering and Development Department (CEDD).

1.3 The R9-CSWST project is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). An environmental impact assessment (EIA) report has been prepared in 1998 for the R9-CSWST project (1998 R9 EIA) to consider the key issues of noise, air quality, water quality, ecological, construction waste, landscape and visual, land use and cultural impacts, and identify possible mitigation measures.

1.4 An Updated Final EIA report was subsequently completed in August 1999 for the R9-CSWST project (1999 R9 EIA), to cater for some changes in R9K portion as mentioned in paragraph 1 of the report. The 1999 R9 EIA was endorsed by Environmental Protection Department (EPD) in November 1999. The 1998 R9 EIA and the 1999 R9 EIA (R9 EIA Reports) were included in the EIA register under the EIAO as report no. EIA-135/BC and AEIAR-022/1999 respectively. An Environmental Monitoring and Audit (EM&A) Manuals for each of the R9 EIA Reports (EM&A Manuals) were also included as part of the EIA reports in the register.

1.5 Subsequent to the endorsement of the R9 EIA Reports by EPD in November 1999, the project programme was deferred to start in 2002/2003 for completion by 2006/07. The implementation of the project was then separated into the R9S and R9K portion. An Environmental Permit (EP) No. EP-103/2001 was issued on 17 September 2001 for R9K to the HyD as Permit Holder and a varied EP No. EP-103/2001/A was subsequently issued on 20 May 2003 for R9K (R9K EP) to HyD as Permit Holder. A varied EP-103/2001/C was recently issued on 22 July 2005.

1.6 The major construction activities of two civil contracts of the R9K project, Contract No. HY/2003/01 entitled "Route 9 – Lai Chi Kok Viaduct" and Contract No. HY/2003/02 entitled "Route 9 – Eagle's Nest Tunnel and Associated Works", were commenced on 15th December 2003 for completion in April 2007.

1.7 "Route 9" was recently re-tiled as "Route 8 (previously known as Route 9)". Cinotech Consultants Limited (Cinotech) was commissioned by HyD to undertake the Environmental Monitoring and Audit works for "Route 8 (previously known as Route 9) between Cheung Sha Wan and Sha Tin - Environmental Team (ET) for Lai Chi Kok Viaduct and Eagle's Nest Tunnel (Contract No. HY/2003/10)". Dr. Priscilla CHOY of Cinotech Consultants Ltd. was appointed as the ET Leader under Condition 2.2 of the EP. Mr. David YEUNG of CH2M-IDC Hong Kong Ltd. was appointed as the IEC under Condition 2.1 of the EP. This is the twenty-second monthly EM&A report summarizing the EM&A works for the Project in September 2005.

Project Organizations

1.8 Different parties with different levels of involvement in the project organization include:

- Project Proponent – Major Works Project Management Office (MWPMO) of Highways Department (HyD)
- Engineer / Engineer's Representative (E/ER) – Maunsell-Hyder Joint Venture (MHJV)
- Environmental Team (ET) – Cinotech Consultants Limited
- Independent Environmental Checker (IEC) – CH2M-IDC Hong Kong Ltd.
- Contractor – Leighton-Kumagai Joint Venture (LKJV)

1.9 The responsibilities of respective parties are detailed in Section 1.8.3 of the EM&A Manual (1999) of the Project.

1.10 The key contacts of the Project are shown in **Table 1.1**.

Construction Programme

1.11 The site activities undertaken in the reporting month were:

- Regular blasting at North Portal and South Portal;
- Soil nail installation at Butterfly Valley;
- Cut slop, drainage works and haul road construction at Butterfly Valley;
- Chlorine barrier wall construction at Portion X;
- Pile cap construction at South Portal, North Portal, Toll Plaza and Ventilation Adit;
- Surface blasting and retaining wall construction at Butterfly Valley;
- Water proofing membrane and lining construction in tunnels;
- Excavation and mucking out from tunnels;
- Excavation, concreting of blinding layer, column and wall at South Portal, North Portal, Toll Plaza and Ventilation Adit;
- Permanent rock dowels and shotcreting at Ventilation Adit;
- Footbridge, subway construction and drainage works at Toll Plaza.

Summary of EM&A Requirements

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

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

Table 1.1 Key Project Contacts

Party	Role	Name	Position	Phone No.	Fax No.
HyD	Permit Holder	Mr. K.T. Lee	SE3/R8K	2762 3684	2714 5198
		Mr. Albert Cheung	E6/R8K	2762 3598	
		Mr. George Law	E4/R8K	2762 3675	
MHJV	Engineer	Mr. Conrad Ng	Project Manager	2605 6262	2691 2649
	Engineer's Representative	Mr. Peter Poon	CRE	3552 2500	2743 9200
		Mr. Eric Wong	RE (S & EP)	3552 2551	
		Ms. Sammie Chan	TO (EN)	3552 2605	
Cinotech	Environmental Team	Dr. Priscilla Choy	The ET Leader	2151 2089	3107 1388
		Mr. KK Chan	Audit Team Leader	2151 2077	
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
CH2M-IDC	Independent Environmental Checker	Mr. David Yeung	Independent Environmental Checker	2507 2203	2507 2293
		Mr. Billy Yu	Assistant Independent Environmental Checker	2872 2949	
LKJV	Contractor	Mr. Ray Brewster	Project Director	9092 6128	2743 1600
		Mr. Kevin Harman	QA/E Manager	3352 2128	
Enquiries Hotline				3552 2226	-
Complaint Hotline				3552 2380	-

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

1.14 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely dust and noise levels and audit works for the Project in September 2005.

2. AIR QUALITY

Monitoring Requirements

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

Monitoring Locations

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

Table 2.1 Locations for Air Quality Monitoring

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

Note: [1]The HVS was installed on the ground floor, which is close to the refuse collection station of the Government Quarters.

Monitoring Equipment

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

Table 2.2 Air Quality Monitoring Equipment

Equipment	Model and Make	Quantity
Calibrator	GMW25; S/N: 1536	1
HVS Sampler	Graseby GMW Model GS2310 High Volume TSP Sampler and associated equipment and shelter	3

Monitoring Parameters, Frequency and Duration

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

Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration

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

Monitoring Methodology and QA/QC Procedure

Instrumentation

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

Operating/Analytical Procedures

2.6 Operating/analytical procedures for the operation of HVS were as follows:

- A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
- No two samplers were placed less than 2 meters apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
- No furnaces or incineration flues were nearby.
- Airflow around the sampler was unrestricted.
- The sampler was more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

2.7 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m^3/min. and 1.4 m^3/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. For TSP sampling, fiberglass filters (G810) were used.

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

2.9 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.

2.10 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

2.11 The shelter lid was closed and secured with the aluminum strip. The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number). After sampling, the filter was removed and sent to the laboratory for weighing. The elapsed time was also recorded.

2.12 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

2.13 The following maintenance/calibration was required for the HVS:

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

Results and Observations

2.14 All 1-hour TSP monitoring was conducted as scheduled during the reporting month, except that the monitoring at Station A4 was suspended on 26 September 2005 due to adverse weather condition.

2.15 On 12 September 2005, the 1-hr TSP level at Station AM3 exceeded the Action Level. However, based on our field observation and EPD's monitoring data (Air Pollution Index), it was considered that the exceedance was due to the poor ambient air quality but not related to R8-ENT construction works. The exceedance report is provided in **Appendix H**. No Limit Level exceedance was recorded.

2.16 All 24-hour TSP monitoring was conducted as scheduled during the reporting month, except that the monitoring at AM3 was suspended on 23 September 2005 due to power disruption to the monitoring equipment. No Action/Limit Level exceedance was recorded.

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

2.18 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices E** and **F**, respectively.

3. NOISE

Monitoring Requirements

3.1 Monitoring and audit of construction noise levels is required to be conducted, in accordance with the EM&A Manual, to ensure that any unacceptable noise impacts could be readily detected and timely and appropriate action be undertaken to rectify the situation.

3.2 The construction noise levels shall be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). L_{eq} (30min) shall be used as the monitoring parameter for the time period between 0700-1900 hours on normal weekdays. For all other time periods, L_{eq} (5min) shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. As supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.

3.3 Three designated noise monitoring stations, namely NM1, NM5 & NM6 were selected for impact monitoring in accordance to the EM&A manual (1999) and the subsequent EPD approval of the relocations.

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

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

Monitoring Locations

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

Table 3.1 Noise Monitoring Stations

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

Note: [1] The noise measurement was taken at 2.3m above the ground floor of Villa Carlton, where has a line of sight of the construction site in the opposite.

Monitoring Equipment

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

Table 3.2 Noise Monitoring Equipment

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

Monitoring Parameters, Frequency and Duration

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

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

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

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

Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was generally set on a tripod at a height of 1.2 m above the ground, depending to the actual monitoring condition.
- For free field measurement (if any), the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement : 30 minutes / 5 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.

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

Maintenance and Calibration

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

Results and Observations

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

3.11 All the Construction Noise Levels (CNLs), except the monitoring (0700-1900 on weekdays) at NM1 and NM6, reported in this report were adjusted with the corresponding baseline level, in order to facilitate the interpretation of the noise exceedance.

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

3.13 No Limit Level exceedance was recorded in the reporting month.

3.14 One public noise complaint was received on 28 September 2005, triggering a noise Action Level exceedance. The details of the complaint could refer to **Section 4**.

4. ENVIRONMENTAL AUDIT

Site Audits

4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix I**.

4.2 Site audits were conducted on 8, 14, 21 and 28 September 2005 by ET. The audit session on 8 September 2005 was conducted with the representatives of HyD, IEC, ER, the Contractor and ET.

Review of Environmental Monitoring Procedures

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

Air Quality Monitoring

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

Noise Monitoring

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

Status of Environmental Licensing and Permitting

4.4 All permits/licenses obtained for the Project are summarized in **Table 4.1**.

Implementation Status of Environmental Mitigation Measures

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

Table 4.1 Summary of Environmental Licensing and Permit Status

Permit No.	Valid Period		Details	Status
	From	To		
Environmental Permit (EP)				
EP-103/2001/C	22/07/05	N/A	Construction and operation of (a) All civil works (including highways, traffic, geotechnical, drainage, structural, architectural and landscaping works) for the Lai Chi Kok Viaduct, the interchange with Ching Cheung Road, the main road within Butterfly Valley and the Eagle's Nest Tunnel; (b) All E&M works (including ventilation, Traffic Control & Surveillance System (TCSS), toll collection system and lighting) for the whole Route 9 between Cheung Sha Wan and Sha Tin; (c) The permanent slope works above the northern portal of the Eagle's Nest Tunnel; (d) The architectural works (including fitting out and furnishings) of the portal buildings of the Sha Tin Heights Tunnel.	Valid
Registration of Chemical Waste Producer				
WPN 5213-761-L2595-01	26/01/04	N/A	N/A	Valid
Water Discharge Licence				
EP482/261/0327/I	03/05/04	31/05/09	Discharge of industrial trade effluent and effluent arsing from construction activities at the construction site at Ventilation Adit on Tai Po Road (behind Shell Filling Station) opposite Pinehilll Development Highways.	Valid
EP482/261/0326/I	01/04/04	30/04/09	Discharge of industrial trade effluent and effluent arsing from construction activities at the construction site at Mui Kong Tsuen, Butterfly Valley, Lai Chi Kok, Kowloon.	Valid
No. 3156	23/02/04	22/02/09	Discharge of industrial trade effluent and all other wastewater arising from the works areas at North Portal of Route 9 - Eagle's Nest Tunnel and Associated Works (Contract HY/2003/02).	Valid
Construction Noise Permit (CNP)				
GW-RW0214-05	06/04/05	07/10/05	*Location*: Butterfly Valley *Time period*: general holiday (including Sundays) between 0700 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid
GW-RW0503-05	06/08/05	05/02/06	*Location*: Ventilation Adit *Time period*: general holiday (including Sundays) between 0700-2300, and any other day between 1900 and 2300 hours.	Valid
GW-RW0504-05	06/08/05	05/02/06	*Location*: Ventilation Adit *Time period*: Any day between 2300-0700 on next day.	Valid

Permit No.	Valid Period		Details	Status
	From	To		
GW-RN0359-05	11/08/05	15/02/06	*Location*: South Portal *Time period*: general holiday (including Sundays) between 0900 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid
GW-RN0358-05	11/08/05	10/02/06	*Location*: South Portal *Time period*: Any day between 2300-0700 on next day.	Valid
GW-RN0339-05	01/08/05	31/01/06	*Location*: North Portal *Time period*: general holiday (including Sundays) between 0900 and 2300 hours, and any other day between 1900 and 2300 hours.	Valid
GW-RN0338-05	01/08/05	31/01/06	*Location*: North Portal *Time period*: Any day between 2300-0700 on next day.	Valid

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

Summary of Exceedances

1-hr TSP Monitoring

4.7 An Action Level exceedance was recorded at AM3 on 12 September 2005. However, it was considered that the exceedance was not related to the construction activities of the Project. No further action was required.

24-hr TSP Monitoring

4.8 No Action/Limit Level exceedance was recorded in this reporting month.

Construction noise

4.9 No Limit Level exceedance was recorded in this reporting month. One Action Level exceedance was triggered by public noise complaints received on 28 September 2005.

Implementation Status of Event Action Plans

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

Summary of Complaints and Prosecutions

4.11 One environmental complaint was received on 28th September 2005, regarding blasting noise at around 2am near South Portal Tunnel. The complaint investigation was in progress.

Table 4.2 Observations and Recommendations of Site Audit

Parameters	Date	Observations / Recommendations	Remedial Actions
Water Quality	8-Sept-05	Regarding the overflow at Portion D4 into other's construction site. The water quality of the outfall was found satisfactory. It was also noted that the Contractor had diverted most of the clear stream water to the outlet to avoid overloading the treatment facility. Nevertheless, the Contractor was recommended to review the situation regularly to avoid any discharge of sub-standard water.	N/A
Air Quality	8-Sept-05 14-Sept-05 21-Sept-05	The stockpile at the loading and unloading area at Portion H3 was observed dry. The Contractor was reminded to maintain the stockpile wet to avoid dust emission.	Rectification / improvement was observed during the site audit on 28-Sept-05.
	8-Sept-05	Uncovered cement bags (more than 20 bags) were observed at Portion D3. The Contractor was reminded to provide proper covers for the cement bags.	Rectification / improvement was observed during the site audit on 14-Sept -05.
	21-Sept-05	Spot check was conducted at Garden Villa to inspect the condition of dump trucks leaving the site via TAR1. Two dump trucks, which were working for ENT Contract, were found inadequately covered and 1 truck was found uncovered.	Rectification / improvement was observed during the site audit on 28-Sept-05.
Chemical and Waste Management	28-Sept-05	The fuel was observed placed on bare ground without the drip tray at Mui Kong Tsuen. The contractor was reminded to store the fuel properly.	Rectification / improvement was observed during the site audit on 05-Sept-05.
Others	14-Sept-05	Stagnant water was observed near the chemical storage area at North Portal. The contractor was reminded to remove the standing water.	Rectification / improvement was observed during the site audit on 21-Sept -05.

4.12 Another complaint was received in the last reporting month on 30 August 2005. The complainant expressed her dissatisfaction about the noise nuisance caused by drilling works at the Butterfly Valley and blasting works at 0045 hours of 28 August 2005. According to the results of the routine noise monitoring and the ad-hoc noise measurement taken at Government Quarters (NM6) on 1 and 2 September 2005, the noise levels did not exceed the noise criteria. The complaint was considered not justifiable. Nevertheless, proactive actions (use of temporary noise barriers) were taken by the Contractor to minimize the nuisance at the nearby residents. No further adverse comment was received from the complainant.

4.13 No environmental related prosecution was received in the reporting month.

4.14 There were 17 environmental complaints and no prosecution received since the commencement of the Project. The updated Complaint Log is shown in **Appendix M**.

5. FUTURE KEY ISSUES

Key Issues for the Coming Month

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

- Potential dust emission from slope works and haul road construction at Butterfly Valley, excavation and mucking out from portals and vehicle movement on haul roads;
- Noise generation from excavation works, rock breaking works at Butterfly Valley;
- Surface runoff generated from site area in Butterfly Valley and Toll Plaza;
- The capacity of drainage system and associated de-silting facilities at Toll Plaza area;
- Provision of proper covers for dump trucks leaving site;
- Storage of chemicals/fuel and chemical oil at Portion D3.

Monitoring Schedule for the Next Month

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

Construction Program for the Next Month

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

Butterfly Valley
- Cut slope, haul road, drainage works, soil nailing, surface blasting, retaining wall, water mains construction.

South Portal Tunnel and Building
- Blasting, excavation and mucking out, water proofing membrane installation, tunnel lining construction, excavation and concreting of blinding layer, columns and walls.

North Portal Tunnel and Building
- Blasting, excavation and mucking out, water proofing membrane installation, tunnel lining construction, excavation and concreting of blinding layer, columns and walls.

Toll Plaza's Structures and Building
- Footbridge and subway construction, drainage works, construction of building's columns and walls.

Ventilation Adit Tunnel and Building
- Blasting, excavation and mucking out, permanent rock dowels and shot-creting, footing construction, excavation and concreting of blinding layer, columns and walls.

Other Works Areas
- Chlorine barrier wall construction at Portion X.

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

6.1 Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.

6.2 On 12 September 2005, the 1-hr TSP level at Station AM3 exceeded the Action Level. However, it was considered that the exceedance was not related to the Project works.

6.3 A noise Action Level exceedance was triggered by a complaint on 28 September 2005.

6.4 One environmental complaint, forwarded by the RSS, was received on 28 September 2005, regarding nighttime blasting near South Portal. Complaint investigation was in progress. No environmental related prosecution was received in this reporting month.

Recommendations

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

Dust Impact

- To ensure adequate water spray or other dust suppression measures are applied for the dust emissive works, such as breaking, drilling and soil nail installation works.
- To provide frequent water spray on haul roads and stockpiles of dusty materials;
- To cover idle soil slope surface to prevent wind erosion.

Water Impact

- To review the capacity of existing desilting 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 cover the idled slope surfaces by tarpaulin sheeting during rainstorms.

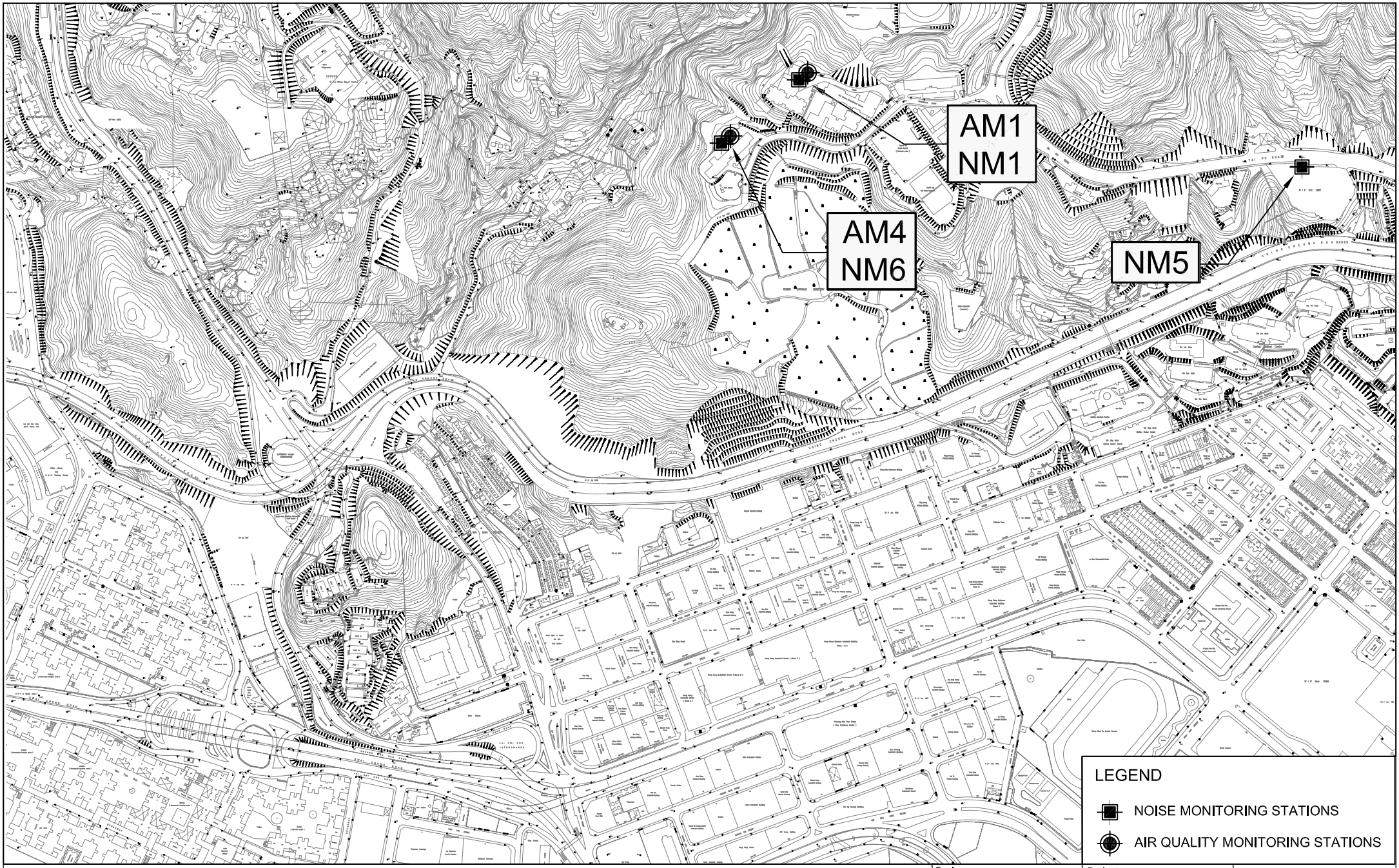
Noise Impact

- To provide temporary noise barriers for noisy activities (such as breaking works).
- To implement a systematic checking system in order to ensure compliance of CNP conditions during the restricted-hour works.

Waste/Chemical Management

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

FIGURES



Title

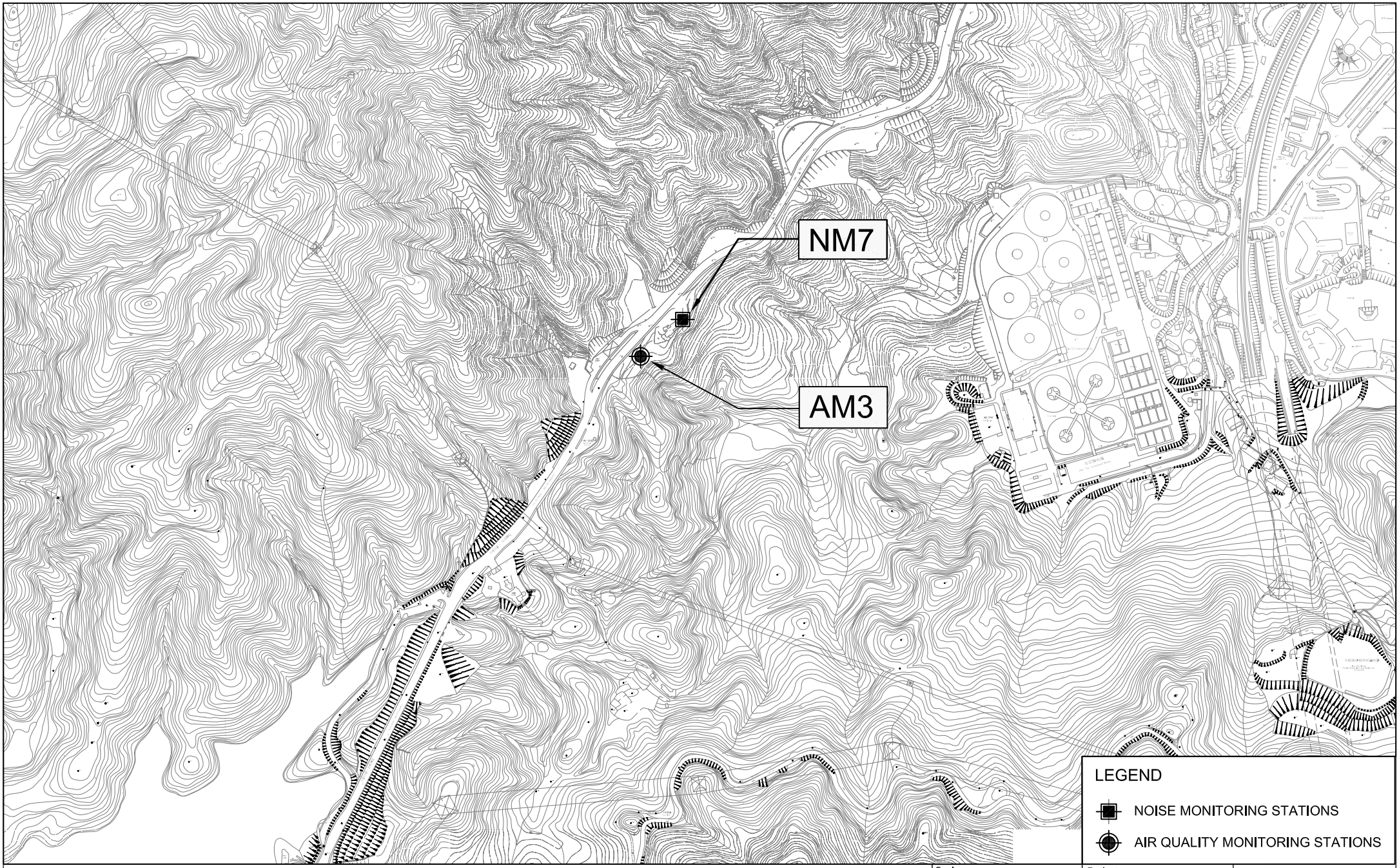
ROUTE 8 (PREVIOUSLY KNOWN AS ROUTE 9) BETWEEN CHEUNG SHA WAN AND SHA TIN
CONTRACT NO. HY/2003/02 - EAGLE'S NEST TUNNEL AND ASSOCIATED WORKS

LOCATIONS OF MONITORING STATIONS

Scale	Project No.
1 : 6500 (A4)	MA3024
Date	Figure No.
2005	1a

CINOTECH consultants limited

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



Title

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

LOCATIONS OF MONITORING STATIONS

Scale	Project No.
1 : 6500 (A4)	MA3024
Date	Figure No.
2005	1b

CINOTECH consultants limited

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

APPENDIX A
ACTION AND LIMIT LEVELS

Appendix A - Action and Limit Levels (ENT)

1-Hour TSP

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

24-Hour TSP

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

Construction Noise

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

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

APPENDIX B
COPIES OF CALIBRATION CERTIFCATES

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA3024/18/0012

Station: Po Leung Kuk Choi Kai Yau School
Operator: WL
Date: 5-Aug-05
Next Due Date: 4-Oct-05
Equipment No.: A-01-18
Serial No. 0723

Ambient Condition			
Temperature, Ta (K)	304.5	Pressure, Pa (mmHg)	754.7

Orifice Transfer Standard Information					
Equipment No.:	A-04-03	Slope, mc	0.0572	Intercept, bc	0.0261
Last Calibration Date:	23-Apr-05	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	22-Apr-06	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis**
1	12.7	3.51	60.96	7.3	2.66
2	9.6	3.05	52.94	5.6	2.33
3	7.5	2.70	46.74	4.6	2.11
4	4.7	2.14	36.91	3.1	1.74
5	3.0	1.71	29.39	1.9	1.36

By Linear Regression of Y on X

Slope , mw = 0.0405 **Intercept, bw =** 0.2015

Correlation coefficient* = 0.9984

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.89**

Remarks:

Conducted by: Lun Signature: Date: 8-8-05

Checked by: HL Signature: Date: 8 August 05

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA2027/A14/0013

Station: Garden Vilia
Operator: KC
Date: 10-Aug-05
Next Due Date: 9-Oct-05
Equipment No.: A-01-14
Serial No. 1354

Ambient Condition			
Temperature, Ta (K)	301.7	Pressure, Pa (mmHg)	754.4

Orifice Transfer Standard Information					
Equipment No.:	A-04-03	Slope, mc	0.0572	Intercept, bc	0.0261
Last Calibration Date:	23-Apr-05	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	22-Apr-06	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis**
1	11.1	3.30	57.22	6.8	2.58
2	9.0	2.97	51.48	5.6	2.34
3	6.5	2.52	43.68	4.1	2.00
4	4.5	2.10	36.27	2.8	1.66
5	2.8	1.66	28.51	1.7	1.29

By Linear Regression of Y on X

Slope , mw = 0.0450 **Intercept, bw :** 0.0191

Correlation coefficient* = 0.9997

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.90**

Remarks:

Conducted by: K.C Signature: Date: 10/8/05

Checked by: KL Signature: Date: 10 August 05

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA3024/17/0014

Station: Government Quarter (24hr) | Operator: WL
Date: 5-Aug-05 | Next Due Date: 4-Oct-05
Equipment No.: A-01-17 | Serial No. 3460

Ambient Condition			
Temperature, Ta (K)	304.5	Pressure, Pa (mmHg)	754.7

Orifice Transfer Standard Information					
Equipment No.:	A-04-03	Slope, mc	0.0572	Intercept, bc	0.0261
Last Calibration Date:	23-Apr-05	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	22-Apr-06	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.0	3.55	61.68	7.8	2.75
2	10.7	3.22	55.92	6.2	2.45
3	8.2	2.82	48.90	5.0	2.20
4	5.2	2.25	38.84	3.3	1.79
5	3.2	1.76	30.37	2.1	1.43

By Linear Regression of Y on X

Slope , mw = 0.0415 **Intercept, bw =** 0.1704

Correlation coefficient* = 0.9991

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

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

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **3.93**

Remarks:

Conducted by: Lun Signature: Date: 8-8-05
Checked by: HL Signature: Date: 8 August 05

WELLAB LTD.

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TEST REPORT

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

ATTN: **Mr. Henry Leung**

Test Report No.:	C/05/50503
Date of Issue:	2005-05-03
Date Received:	2005-05-03
Date Tested:	2005-05-03
Date Completed:	2005-05-03
Page:	1 of 1

Certificate of Calibration

Item for calibration:

Description	: RS232 Integral Vane Digital Anemometer
Manufacturer	: AZ Instrument
Model No.	: 451104
Serial No.	: 9020746
Project No.	: C13
Equipment No.	: A-03-01

Test conditions:

Room Temperature	: 21 degree Celsius
Relative Humidity	: 70%
Pressure	: 100.8 kPa

Methodology:

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

Results:

	Reference Set Point	Instrument Readings
Measuring Air Velocity, m/s	2.00	2.00
Temperature, °C	20.0	20.1

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick.

PATRICK TSE
Operation Manager

A.04.03

Andersen Instruments, Inc.

Orifice Transfer Standard Certification Worksheet

Date: 04/23/2005 **Rootsmeter S/N:** 9736553 **Ta:** 22.00 C
Operator: RA **Calibrator S/N:** 1888A **Pa:** 761.0 mm Hg
Calibrator Model #: G25A **Placed in service:**

Run	Vol. Init. (m3)	Vol. Final (m3)	Δ Vol. (m3)	Δ Time (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1.00	2.00	1.00	1.404	3.08	2.00
2	3.00	4.00	1.00	0.997	6.17	4.00
3	5.00	6.00	1.00	0.889	7.85	5.00
4	7.00	8.00	1.00	0.848	8.59	5.50
5	9.00	10.00	1.00	0.700	12.42	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H(Ta / Pa)}$ (y-axis)
1.007	0.717	1.422	0.996	0.709	0.881
1.003	1.006	2.011	0.992	0.995	1.246
1.000	1.125	2.248	0.990	1.113	1.393
0.999	1.179	2.358	0.989	1.166	1.461
0.994	1.420	2.844	0.984	1.405	1.762
	m =	2.0208		m =	1.2658
	b =	-0.024947		b =	-0.015460
	r =	0.999989		r =	0.999989

Calculations

$$Vstd = \Delta Vol((Pa - \Delta P) / Pstd)(Tstd / Ta)$$
$$Qstd = Vstd / \Delta Time$$
$$Va = \Delta Vol((Pa - \Delta P) / Pa)$$
$$Qa = Va / \Delta Time$$

For subsequent flow rate calculations:

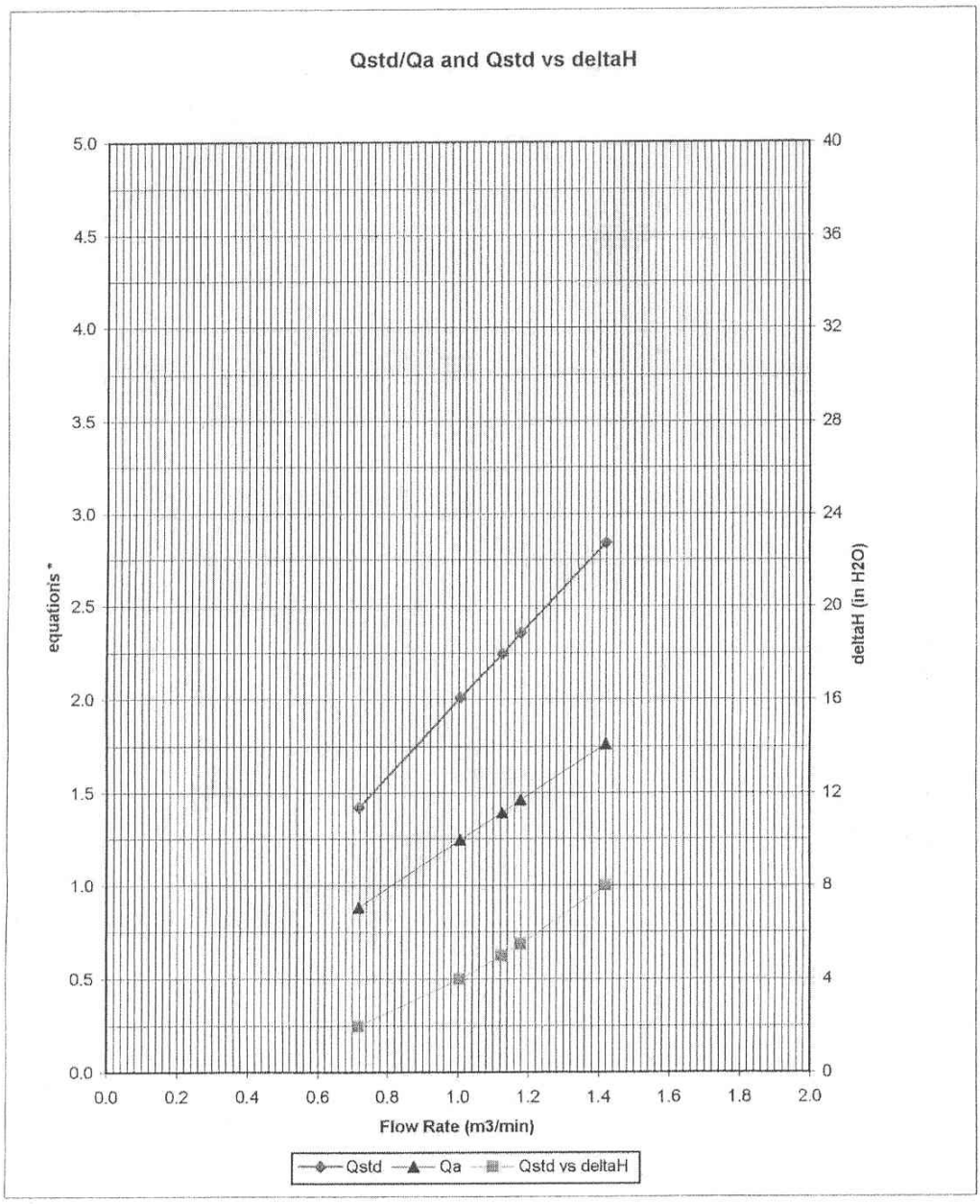
$$Qstd = 1 / m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right) - b\right)$$
$$Qa = 1 / m\left(\left(\sqrt{\Delta H(Ta / Pa)}\right) - b\right)$$

Standard Conditions:
Tstd: 298.18 ° K
Pstd: 760 mm Hg

where:
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (° K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

For additional information consult:
1. The Federal Register, Vol. 47, No.234, pp. 54896-54921, Dec. 6, 1982
2. Quality Assurance Handbook, Vol II (EPA 60074-77-277a), Section 2.11
3. Andersen Instruments, Inc. Instruction Manual

Notes:
1. Copies of this calibration are not kept on file.
2. EPA recommends calibrators should be recalibrated after one year of use.



* y-axis equations:

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

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

WELLAB LTD.

606 - 608 Cornell Centre,
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TEST REPORT

APPLICANT:	**Cinotech Consultants Limited** **1601-1610 Delta House,** **3 On Yiu Street,** **Shatin, N.T.**	Test Report No.: Date of Issue: Date Received: Date Tested: Date Completed:	C/N/41218/1 2004-12-18 2004-12-17 2004-12-17 2004-12-18
ATTN:	**Mr. Henry Leung**	Page:	1 of 1

Certificate of Calibration

Item for calibration:

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

Test conditions:

Room Temperatre	: 20 degree Celsius
Relative Humidity	: 64%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

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

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

William Yip
Laborary Manager

WELLAB LTD.

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Chai Wan, Hong Kong.
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TEST REPORT

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

ATTN: **Mr. Henry Leung**

Test Report No.:	C/N/41218/1
Date of Issue:	2004-12-18
Date Received:	2004-12-17
Date Tested:	2004-12-17
Date Completed:	2004-12-18
Page:	1 of 1

Certificate of Calibration

Item for calibration:

Description	: Integrating Sound Level Meter
Manufacturer	: Brüel & Kjær
Model No.	: B&K 2238
Serial No.	: 2337666
Microphone No.	: 2289250
Equipment No.	: N-01-02

Test conditions:

Room Temperatre	: 20 degree Celsius
Relative Humidity	: 64%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

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

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

William Yip
Laborary Manager

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TEST REPORT

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

ATTN: **Mr. Henry Leung**

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

Certificate of Calibration

Item for calibration:

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

Test conditions:

Room Temperatre	: 22 degree Celsius
Relative Humidity	: 65%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

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

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick.

PATRICK TSE
Laborary Manager

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TEST REPORT

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

ATTN: **Mr. Henry Leung**

Test Report No.:	C/N/50905-2
Date of Issue:	2005-09-06
Date Received:	2005-09-05
Date Tested:	2005-09-05
Date Completed:	2005-09-06
Next Due Date:	2006-09-05
Page:	1 of 1

Certificate of Calibration

Item for calibration:

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

Test conditions:

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

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

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

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick.

PATRICK TSE
Operation Manager

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TEST REPORT

APPLICANT:	**Cinotech Consultants Limited** **1601-1610 Delta House,** **3 On Yiu Street,** **Shatin, N.T.**	Test Report No.: Date of Issue: Date Received: Date Tested: Date Completed:	C/N/41013/1 2004-10-15 2004-10-13 2004-10-14 2004-10-15
ATTN:	**Mr. Henry Leung**	Page:	1 of 1

Certificate of Calibration

Item for calibration:

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

Test conditions:

Room Temperatre	: 23 degree Celsius
Relative Humidity	: 60%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

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

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

William Yip
Laborary Manager

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Chai Wan, Hong Kong.
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TEST REPORT

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

ATTN: **Mr. Henry Leung**

Test Report No.:	C/04/1115-1
Date of Issue:	2004-11-15
Date Received:	2004-11-15
Date Tested:	2004-11-15
Date Completed:	2004-11-15
Page:	1 of 1

Item for calibration:

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

Test conditions:

Room Temperatre	: 20 degree Celsius
Relative Humidity	: 65%
Pressure	: 1019.4 hPa

Methodology:

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

Results:

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

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

WILLIAM YIP
Laboratory Manager

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TEST REPORT

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

ATTN: **Mr. Henry Leung**

Test Report No.:	C/05/50305
Date of Issue:	2005-03-05
Date Received:	2005-03-04
Date Tested:	2005-03-05
Date Completed:	2005-03-05
Page:	1 of 1

Item for calibration:

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

Test conditions:

Room Temperatre	: 19 degree Celsius
Relative Humidity	: 70%
Pressure	: 1020.1hPa

Methodology:

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

Results:

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

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick.

PATRICK TSE
Operation Manager

WELLAB LTD.

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

TEST REPORT

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

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

ATTN: **Mr. Henry Leung**

Item for calibration:

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

Test conditions:

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

Methodology:

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

Results:

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

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick.

PATRICK TSE
Operation Manager

APPENDIX C
ENVIRONMENTAL MONITORING AND AUDIT SCHEDULE

Environmental Monitoring for Eagle's Nest Tunnel
Air Quality and Noise Monitoring Schedule for September 2005

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

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

AM1	Yew Chung International School /Po Leung Kuk Choi Kai Yau School
AM3	Garden Villa
AM4	Government Quarters

NM1	Yew Chung International School /Po Leung Kuk Choi Kai Yau School
NM5	Villa Carlton
NM6	Government Quarters
NM7	Garden Villa

Environmental Monitoring for Eagle's Nest Tunnel
Tentative Air Quality and Noise Monitoring Schedule for October 2005

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

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

AM1	Yew Chung International School /Po Leung Kuk Choi Kai Yau School
AM3	Garden Villa
AM4	Government Quarters

NM1	Yew Chung International School /Po Leung Kuk Choi Kai Yau School
NM5	Villa Carlton
NM6	Government Quarters
NM7	Garden Villa

APPENDIX D
WIND DATA

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
1-Sep-2005	0:00	3.6	NE
1-Sep-2005	1:00	2.2	ESE
1-Sep-2005	2:00	1.8	N
1-Sep-2005	3:00	0.9	N
1-Sep-2005	4:00	0.4	---
1-Sep-2005	5:00	1.3	N
1-Sep-2005	6:00	0	---
1-Sep-2005	7:00	0.9	N
1-Sep-2005	8:00	1.3	N
1-Sep-2005	9:00	4	W
1-Sep-2005	10:00	5.8	W
1-Sep-2005	11:00	5.8	W
1-Sep-2005	12:00	6.7	W
1-Sep-2005	13:00	7.6	W
1-Sep-2005	14:00	7.6	W
1-Sep-2005	15:00	8.5	W
1-Sep-2005	16:00	7.2	W
1-Sep-2005	17:00	6.7	W
1-Sep-2005	18:00	4	SW
1-Sep-2005	19:00	2.2	SW
1-Sep-2005	20:00	2.7	WSW
1-Sep-2005	21:00	4.9	W
1-Sep-2005	22:00	4.9	WSW
1-Sep-2005	23:00	2.7	NE
2-Sep-2005	0:00	0.4	NE
2-Sep-2005	1:00	0	NNE
2-Sep-2005	2:00	0.4	ENE
2-Sep-2005	3:00	0.4	ENE
2-Sep-2005	4:00	0.4	NE
2-Sep-2005	5:00	0.4	N
2-Sep-2005	6:00	0	ENE
2-Sep-2005	7:00	0	NE
2-Sep-2005	8:00	0	NE
2-Sep-2005	9:00	0	NE
2-Sep-2005	10:00	0.4	W
2-Sep-2005	11:00	0	N
2-Sep-2005	12:00	0.4	NE
2-Sep-2005	13:00	1.3	N
2-Sep-2005	14:00	1.8	N
2-Sep-2005	15:00	1.3	ENE
2-Sep-2005	16:00	1.3	ENE
2-Sep-2005	17:00	0.9	ENE
2-Sep-2005	18:00	0.4	ENE
2-Sep-2005	19:00	0	E
2-Sep-2005	20:00	0	ENE
2-Sep-2005	21:00	0	SE
2-Sep-2005	22:00	0	SSE
2-Sep-2005	23:00	0	S
3-Sep-2005	0:00	0.4	SE
3-Sep-2005	1:00	0	---
3-Sep-2005	2:00	0	SW
3-Sep-2005	3:00	0.4	NNE
3-Sep-2005	4:00	0.4	N
3-Sep-2005	5:00	0.4	NW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
3-Sep-2005	6:00	0	NE
3-Sep-2005	7:00	0.9	ENE
3-Sep-2005	8:00	0	SSE
3-Sep-2005	9:00	0	SE
3-Sep-2005	10:00	0.9	WNW
3-Sep-2005	11:00	0.4	SW
3-Sep-2005	12:00	0	WSW
3-Sep-2005	13:00	1.8	WSW
3-Sep-2005	14:00	0.9	W
3-Sep-2005	15:00	3.6	WSW
3-Sep-2005	16:00	2.2	W
3-Sep-2005	17:00	0.4	WSW
3-Sep-2005	18:00	0.9	WSW
3-Sep-2005	19:00	0.9	W
3-Sep-2005	20:00	0.9	WSW
3-Sep-2005	21:00	0.9	WSW
3-Sep-2005	22:00	1.3	WSW
3-Sep-2005	23:00	0.4	S
4-Sep-2005	0:00	0.4	SSW
4-Sep-2005	1:00	0.9	WSW
4-Sep-2005	2:00	0.4	WNW
4-Sep-2005	3:00	0.4	WNW
4-Sep-2005	4:00	1.8	W
4-Sep-2005	5:00	0.9	S
4-Sep-2005	6:00	2.2	SSW
4-Sep-2005	7:00	1.8	S
4-Sep-2005	8:00	0.9	SSW
4-Sep-2005	9:00	1.8	S
4-Sep-2005	10:00	0.9	W
4-Sep-2005	11:00	1.3	WSW
4-Sep-2005	12:00	2.2	WSW
4-Sep-2005	13:00	2.2	W
4-Sep-2005	14:00	1.8	W
4-Sep-2005	15:00	2.7	W
4-Sep-2005	16:00	2.7	W
4-Sep-2005	17:00	3.1	W
4-Sep-2005	18:00	2.7	WSW
4-Sep-2005	19:00	2.7	W
4-Sep-2005	20:00	2.2	W
4-Sep-2005	21:00	0.9	W
4-Sep-2005	22:00	1.8	W
4-Sep-2005	23:00	1.8	W
5-Sep-2005	0:00	1.8	W
5-Sep-2005	1:00	1.8	WSW
5-Sep-2005	2:00	0.9	W
5-Sep-2005	3:00	0.4	SSW
5-Sep-2005	4:00	0	SSW
5-Sep-2005	5:00	0.9	SW
5-Sep-2005	6:00	0.4	SW
5-Sep-2005	7:00	0	W
5-Sep-2005	8:00	0.4	W
5-Sep-2005	9:00	2.7	W
5-Sep-2005	10:00	2.2	W
5-Sep-2005	11:00	1.8	W

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
5-Sep-2005	12:00	1.8	WNW
5-Sep-2005	13:00	3.1	W
5-Sep-2005	14:00	4	W
5-Sep-2005	15:00	2.7	W
5-Sep-2005	16:00	2.2	W
5-Sep-2005	17:00	2.2	W
5-Sep-2005	18:00	1.3	WSW
5-Sep-2005	19:00	0.4	W
5-Sep-2005	20:00	0	SSW
5-Sep-2005	21:00	0	---
5-Sep-2005	22:00	0	---
5-Sep-2005	23:00	0	---
6-Sep-2005	0:00	0	SSE
6-Sep-2005	1:00	0	---
6-Sep-2005	2:00	0	SSE
6-Sep-2005	3:00	0	---
6-Sep-2005	4:00	0	---
6-Sep-2005	5:00	0	SSE
6-Sep-2005	6:00	0	SSE
6-Sep-2005	7:00	0	---
6-Sep-2005	8:00	0	E
6-Sep-2005	9:00	0	W
6-Sep-2005	10:00	0.9	SW
6-Sep-2005	11:00	1.8	WSW
6-Sep-2005	12:00	3.1	W
6-Sep-2005	13:00	2.2	W
6-Sep-2005	14:00	1.8	W
6-Sep-2005	15:00	1.3	ENE
6-Sep-2005	16:00	1.3	ENE
6-Sep-2005	17:00	0.9	NE
6-Sep-2005	18:00	1.3	ENE
6-Sep-2005	19:00	0	ENE
6-Sep-2005	20:00	0	---
6-Sep-2005	21:00	0	---
6-Sep-2005	22:00	0	---
6-Sep-2005	23:00	0	---
7-Sep-2005	0:00	0	---
7-Sep-2005	1:00	0	---
7-Sep-2005	2:00	0	---
7-Sep-2005	3:00	0	---
7-Sep-2005	4:00	0	---
7-Sep-2005	5:00	0	---
7-Sep-2005	6:00	0	---
7-Sep-2005	7:00	0	---
7-Sep-2005	8:00	0	E
7-Sep-2005	9:00	0.9	W
7-Sep-2005	10:00	2.2	WNW
7-Sep-2005	11:00	3.1	W
7-Sep-2005	12:00	2.7	W
7-Sep-2005	13:00	0.9	W
7-Sep-2005	14:00	0.9	N
7-Sep-2005	15:00	1.3	N
7-Sep-2005	16:00	0.9	NNE
7-Sep-2005	17:00	0.9	NNE

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
7-Sep-2005	18:00	0	ESE
7-Sep-2005	19:00	0.9	SSE
7-Sep-2005	20:00	1.8	WSW
7-Sep-2005	21:00	0.9	WSW
7-Sep-2005	22:00	0	NW
7-Sep-2005	23:00	0.4	WSW
8-Sep-2005	0:00	0.4	N
8-Sep-2005	1:00	0.9	WSW
8-Sep-2005	2:00	1.3	SSW
8-Sep-2005	3:00	0.4	WSW
8-Sep-2005	4:00	0	WSW
8-Sep-2005	5:00	0.4	WSW
8-Sep-2005	6:00	0.4	SSW
8-Sep-2005	7:00	0.4	SSW
8-Sep-2005	8:00	0.4	S
8-Sep-2005	9:00	1.8	SSW
8-Sep-2005	10:00	1.3	W
8-Sep-2005	11:00	2.2	WNW
8-Sep-2005	12:00	2.7	WNW
8-Sep-2005	13:00	2.7	WSW
8-Sep-2005	14:00	1.3	WSW
8-Sep-2005	15:00	1.8	W
8-Sep-2005	16:00	2.2	W
8-Sep-2005	17:00	2.2	W
8-Sep-2005	18:00	2.2	WSW
8-Sep-2005	19:00	2.2	W
8-Sep-2005	20:00	1.3	WSW
8-Sep-2005	21:00	1.3	WSW
8-Sep-2005	22:00	1.8	WSW
8-Sep-2005	23:00	1.8	SW
9-Sep-2005	0:00	1.8	WSW
9-Sep-2005	1:00	1.8	WSW
9-Sep-2005	2:00	1.3	SW
9-Sep-2005	3:00	1.8	WSW
9-Sep-2005	4:00	1.3	W
9-Sep-2005	5:00	0.4	W
9-Sep-2005	6:00	0	SW
9-Sep-2005	7:00	0.4	W
9-Sep-2005	8:00	0.9	SSW
9-Sep-2005	9:00	1.3	W
9-Sep-2005	10:00	1.8	W
9-Sep-2005	11:00	1.8	W
9-Sep-2005	12:00	2.7	W
9-Sep-2005	13:00	3.1	WSW
9-Sep-2005	14:00	2.2	W
9-Sep-2005	15:00	2.2	W
9-Sep-2005	16:00	1.8	WSW
9-Sep-2005	17:00	1.8	W
9-Sep-2005	18:00	0.9	W
9-Sep-2005	19:00	0	ESE
9-Sep-2005	20:00	0	ESE
9-Sep-2005	21:00	0	ESE
9-Sep-2005	22:00	0.4	SSW
9-Sep-2005	23:00	0	SSW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
10-Sep-2005	0:00	0.4	SSW
10-Sep-2005	1:00	1.3	SSW
10-Sep-2005	2:00	0.4	SSW
10-Sep-2005	3:00	0.4	SSW
10-Sep-2005	4:00	0	SSW
10-Sep-2005	5:00	0	SSW
10-Sep-2005	6:00	0	---
10-Sep-2005	7:00	0	---
10-Sep-2005	8:00	0	SSW
10-Sep-2005	9:00	0.9	W
10-Sep-2005	10:00	2.2	W
10-Sep-2005	11:00	2.2	W
10-Sep-2005	12:00	1.8	W
10-Sep-2005	13:00	2.2	W
10-Sep-2005	14:00	1.3	W
10-Sep-2005	15:00	0.9	SSW
10-Sep-2005	16:00	2.7	N
10-Sep-2005	17:00	2.7	NNE
10-Sep-2005	18:00	0.9	ENE
10-Sep-2005	19:00	0	ENE
10-Sep-2005	20:00	0.4	S
10-Sep-2005	21:00	2.7	S
10-Sep-2005	22:00	0.4	E
10-Sep-2005	23:00	0	E
11-Sep-2005	0:00	0	---
11-Sep-2005	1:00	0	---
11-Sep-2005	2:00	0	---
11-Sep-2005	3:00	0	---
11-Sep-2005	4:00	0	---
11-Sep-2005	5:00	0	---
11-Sep-2005	6:00	0	---
11-Sep-2005	7:00	0	---
11-Sep-2005	8:00	0	---
11-Sep-2005	9:00	0	E
11-Sep-2005	10:00	1.8	W
11-Sep-2005	11:00	2.2	W
11-Sep-2005	12:00	2.2	W
11-Sep-2005	13:00	1.3	W
11-Sep-2005	14:00	0.9	N
11-Sep-2005	15:00	2.2	N
11-Sep-2005	16:00	1.3	N
11-Sep-2005	17:00	0.4	E
11-Sep-2005	18:00	0.4	E
11-Sep-2005	19:00	0.4	ESE
11-Sep-2005	20:00	0.4	E
11-Sep-2005	21:00	0.4	E
11-Sep-2005	22:00	0	---
11-Sep-2005	23:00	0	---
12-Sep-2005	0:00	0	---
12-Sep-2005	1:00	0	---
12-Sep-2005	2:00	0	---
12-Sep-2005	3:00	0	---
12-Sep-2005	4:00	0	---
12-Sep-2005	5:00	0	---

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
12-Sep-2005	6:00	0	---
12-Sep-2005	7:00	0	---
12-Sep-2005	8:00	0	E
12-Sep-2005	9:00	1.3	W
12-Sep-2005	10:00	2.2	W
12-Sep-2005	11:00	2.2	W
12-Sep-2005	12:00	2.7	WNW
12-Sep-2005	13:00	3.1	W
12-Sep-2005	14:00	3.6	W
12-Sep-2005	15:00	4	W
12-Sep-2005	16:00	4	W
12-Sep-2005	17:00	4	W
12-Sep-2005	18:00	3.6	W
12-Sep-2005	19:00	3.6	WSW
12-Sep-2005	20:00	2.7	W
12-Sep-2005	21:00	3.6	W
12-Sep-2005	22:00	4.5	W
12-Sep-2005	23:00	4.9	W
13-Sep-2005	0:00	3.6	W
13-Sep-2005	1:00	4	W
13-Sep-2005	2:00	3.6	WNW
13-Sep-2005	3:00	3.1	W
13-Sep-2005	4:00	3.1	W
13-Sep-2005	5:00	2.7	WNW
13-Sep-2005	6:00	2.7	W
13-Sep-2005	7:00	1.8	W
13-Sep-2005	8:00	1.3	WSW
13-Sep-2005	9:00	2.7	WSW
13-Sep-2005	10:00	2.7	W
13-Sep-2005	11:00	2.7	WNW
13-Sep-2005	12:00	4	W
13-Sep-2005	13:00	4	WNW
13-Sep-2005	14:00	4.5	W
13-Sep-2005	15:00	4	W
13-Sep-2005	16:00	4	W
13-Sep-2005	17:00	3.1	SW
13-Sep-2005	18:00	3.6	W
13-Sep-2005	19:00	3.6	W
13-Sep-2005	20:00	3.6	WSW
13-Sep-2005	21:00	3.1	W
13-Sep-2005	22:00	2.2	W
13-Sep-2005	23:00	2.7	W
14-Sep-2005	0:00	1.3	NNE
14-Sep-2005	1:00	0.9	WSW
14-Sep-2005	2:00	0.9	S
14-Sep-2005	3:00	0.4	S
14-Sep-2005	4:00	0	S
14-Sep-2005	5:00	0	S
14-Sep-2005	6:00	0	S
14-Sep-2005	7:00	0	---
14-Sep-2005	8:00	0.9	SW
14-Sep-2005	9:00	2.2	SSW
14-Sep-2005	10:00	1.8	W
14-Sep-2005	11:00	3.1	W

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
14-Sep-2005	12:00	4.5	SW
14-Sep-2005	13:00	4.5	SSW
14-Sep-2005	14:00	3.6	SSW
14-Sep-2005	15:00	3.1	W
14-Sep-2005	16:00	3.1	WNW
14-Sep-2005	17:00	2.2	W
14-Sep-2005	18:00	2.2	W
14-Sep-2005	19:00	2.2	WSW
14-Sep-2005	20:00	1.8	W
14-Sep-2005	21:00	2.2	WSW
14-Sep-2005	22:00	2.2	SSW
14-Sep-2005	23:00	1.8	SSW
15-Sep-2005	0:00	2.7	SSW
15-Sep-2005	1:00	1.8	WSW
15-Sep-2005	2:00	3.1	WSW
15-Sep-2005	3:00	2.7	W
15-Sep-2005	4:00	2.7	WSW
15-Sep-2005	5:00	2.7	WSW
15-Sep-2005	6:00	3.1	W
15-Sep-2005	7:00	2.7	W
15-Sep-2005	8:00	2.2	W
15-Sep-2005	9:00	2.7	WSW
15-Sep-2005	10:00	3.1	W
15-Sep-2005	11:00	2.7	W
15-Sep-2005	12:00	3.1	W
15-Sep-2005	13:00	2.7	WSW
15-Sep-2005	14:00	2.7	WSW
15-Sep-2005	15:00	1.8	W
15-Sep-2005	16:00	1.3	SSE
15-Sep-2005	17:00	1.3	SSE
15-Sep-2005	18:00	0.9	ENE
15-Sep-2005	19:00	0.4	NE
15-Sep-2005	20:00	0	E
15-Sep-2005	21:00	0.4	S
15-Sep-2005	22:00	0.4	S
15-Sep-2005	23:00	1.8	WSW
16-Sep-2005	0:00	1.8	WSW
16-Sep-2005	1:00	1.3	SW
16-Sep-2005	2:00	1.8	WSW
16-Sep-2005	3:00	2.7	W
16-Sep-2005	4:00	2.7	W
16-Sep-2005	5:00	3.1	W
16-Sep-2005	6:00	2.2	SW
16-Sep-2005	7:00	3.1	W
16-Sep-2005	8:00	2.7	WSW
16-Sep-2005	9:00	4	WSW
16-Sep-2005	10:00	3.6	W
16-Sep-2005	11:00	3.6	WSW
16-Sep-2005	12:00	4	WSW
16-Sep-2005	13:00	3.1	W
16-Sep-2005	14:00	2.7	W
16-Sep-2005	15:00	3.1	WNW
16-Sep-2005	16:00	3.6	W
16-Sep-2005	17:00	2.7	WSW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
16-Sep-2005	18:00	2.2	WSW
16-Sep-2005	19:00	2.7	S
16-Sep-2005	20:00	1.3	WSW
16-Sep-2005	21:00	1.3	SSW
16-Sep-2005	22:00	2.2	W
16-Sep-2005	23:00	1.8	S
17-Sep-2005	0:00	1.8	S
17-Sep-2005	1:00	3.1	W
17-Sep-2005	2:00	3.6	WSW
17-Sep-2005	3:00	3.6	WSW
17-Sep-2005	4:00	3.1	SW
17-Sep-2005	5:00	3.1	SW
17-Sep-2005	6:00	3.1	SSW
17-Sep-2005	7:00	4	SW
17-Sep-2005	8:00	4	WSW
17-Sep-2005	9:00	5.4	W
17-Sep-2005	10:00	5.4	W
17-Sep-2005	11:00	7.2	WSW
17-Sep-2005	12:00	8.5	W
17-Sep-2005	13:00	8	WSW
17-Sep-2005	14:00	7.2	W
17-Sep-2005	15:00	5.4	W
17-Sep-2005	16:00	6.7	W
17-Sep-2005	17:00	5.4	WNW
17-Sep-2005	18:00	4.5	WNW
17-Sep-2005	19:00	4.9	W
17-Sep-2005	20:00	4.9	W
17-Sep-2005	21:00	4	W
17-Sep-2005	22:00	5.4	W
17-Sep-2005	23:00	4.5	WNW
18-Sep-2005	0:00	4	W
18-Sep-2005	1:00	4.5	W
18-Sep-2005	2:00	3.6	W
18-Sep-2005	3:00	4.5	W
18-Sep-2005	4:00	6.3	WNW
18-Sep-2005	5:00	6.3	W
18-Sep-2005	6:00	6.3	W
18-Sep-2005	7:00	4.9	W
18-Sep-2005	8:00	5.8	W
18-Sep-2005	9:00	5.4	WNW
18-Sep-2005	10:00	6.7	W
18-Sep-2005	11:00	7.2	WNW
18-Sep-2005	12:00	5.8	W
18-Sep-2005	13:00	5.8	WNW
18-Sep-2005	14:00	4.5	WNW
18-Sep-2005	15:00	5.4	W
18-Sep-2005	16:00	4.9	WNW
18-Sep-2005	17:00	4.5	WNW
18-Sep-2005	18:00	2.7	S
18-Sep-2005	19:00	2.2	SSW
18-Sep-2005	20:00	2.2	SSW
18-Sep-2005	21:00	3.1	WNW
18-Sep-2005	22:00	1.8	SW
18-Sep-2005	23:00	3.6	W

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
19-Sep-2005	0:00	4	W
19-Sep-2005	1:00	4.9	WNW
19-Sep-2005	2:00	3.6	W
19-Sep-2005	3:00	2.7	W
19-Sep-2005	4:00	3.1	WNW
19-Sep-2005	5:00	2.2	W
19-Sep-2005	6:00	0.4	S
19-Sep-2005	7:00	0.9	SW
19-Sep-2005	8:00	0.9	SSE
19-Sep-2005	9:00	0.4	S
19-Sep-2005	10:00	2.2	W
19-Sep-2005	11:00	3.1	W
19-Sep-2005	12:00	3.1	W
19-Sep-2005	13:00	3.1	W
19-Sep-2005	14:00	3.6	W
19-Sep-2005	15:00	4.5	W
19-Sep-2005	16:00	4	W
19-Sep-2005	17:00	3.6	W
19-Sep-2005	18:00	2.2	W
19-Sep-2005	19:00	1.8	W
19-Sep-2005	20:00	0.4	W
19-Sep-2005	21:00	0	W
19-Sep-2005	22:00	1.8	W
19-Sep-2005	23:00	0.4	ENE
20-Sep-2005	0:00	0	---
20-Sep-2005	1:00	0	---
20-Sep-2005	2:00	0	---
20-Sep-2005	3:00	0	---
20-Sep-2005	4:00	0	---
20-Sep-2005	5:00	0	ENE
20-Sep-2005	6:00	0	---
20-Sep-2005	7:00	0	ENE
20-Sep-2005	8:00	0	---
20-Sep-2005	9:00	0.4	NNE
20-Sep-2005	10:00	0.4	NW
20-Sep-2005	11:00	0.4	NW
20-Sep-2005	12:00	0.9	E
20-Sep-2005	13:00	0.9	NNE
20-Sep-2005	14:00	0.4	NE
20-Sep-2005	15:00	0.4	ENE
20-Sep-2005	16:00	0.4	ENE
20-Sep-2005	17:00	0	N
20-Sep-2005	18:00	0	ENE
20-Sep-2005	19:00	0	ENE
20-Sep-2005	20:00	0	---
20-Sep-2005	21:00	0	ENE
20-Sep-2005	22:00	0	ENE
20-Sep-2005	23:00	0.4	E
21-Sep-2005	0:00	0	---
21-Sep-2005	1:00	0	E
21-Sep-2005	2:00	0	---
21-Sep-2005	3:00	0	---
21-Sep-2005	4:00	0	---
21-Sep-2005	5:00	0	---

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
21-Sep-2005	6:00	0	---
21-Sep-2005	7:00	0	---
21-Sep-2005	8:00	0	E
21-Sep-2005	9:00	0	W
21-Sep-2005	10:00	0.9	NE
21-Sep-2005	11:00	0.4	NE
21-Sep-2005	12:00	1.3	ENE
21-Sep-2005	13:00	0.9	N
21-Sep-2005	14:00	0.9	ENE
21-Sep-2005	15:00	1.3	ENE
21-Sep-2005	16:00	0.4	NE
21-Sep-2005	17:00	0.4	ENE
21-Sep-2005	18:00	0	E
21-Sep-2005	19:00	0	NE
21-Sep-2005	20:00	0	---
21-Sep-2005	21:00	0	ENE
21-Sep-2005	22:00	0	ENE
21-Sep-2005	23:00	0	ENE
22-Sep-2005	0:00	0	---
22-Sep-2005	1:00	0	---
22-Sep-2005	2:00	0	---
22-Sep-2005	3:00	0	ENE
22-Sep-2005	4:00	0	---
22-Sep-2005	5:00	0	---
22-Sep-2005	6:00	0	---
22-Sep-2005	7:00	0	---
22-Sep-2005	8:00	0	---
22-Sep-2005	9:00	0	ENE
22-Sep-2005	10:00	0.9	W
22-Sep-2005	11:00	1.8	SW
22-Sep-2005	12:00	1.8	WSW
22-Sep-2005	13:00	2.2	WSW
22-Sep-2005	14:00	2.2	SW
22-Sep-2005	15:00	2.2	SW
22-Sep-2005	16:00	1.8	WSW
22-Sep-2005	17:00	1.8	S
22-Sep-2005	18:00	0.9	S
22-Sep-2005	19:00	1.3	SSW
22-Sep-2005	20:00	1.8	SSW
22-Sep-2005	21:00	1.8	SSW
22-Sep-2005	22:00	1.8	SW
22-Sep-2005	23:00	3.6	SW
23-Sep-2005	0:00	2.7	SW
23-Sep-2005	1:00	2.2	WSW
23-Sep-2005	2:00	1.8	SW
23-Sep-2005	3:00	2.7	SW
23-Sep-2005	4:00	4	SW
23-Sep-2005	5:00	4.5	SW
23-Sep-2005	6:00	4.5	WSW
23-Sep-2005	7:00	4.5	SW
23-Sep-2005	8:00	4	SW
23-Sep-2005	9:00	4.5	WSW
23-Sep-2005	10:00	4.9	SW
23-Sep-2005	11:00	4.5	SW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
23-Sep-2005	12:00	4	SW
23-Sep-2005	13:00	4	W
23-Sep-2005	14:00	2.7	SW
23-Sep-2005	15:00	2.7	SSW
23-Sep-2005	16:00	3.1	SW
23-Sep-2005	17:00	4	SW
23-Sep-2005	18:00	4.5	WSW
23-Sep-2005	19:00	4.5	SW
23-Sep-2005	20:00	4	SW
23-Sep-2005	21:00	3.1	SW
23-Sep-2005	22:00	2.7	SSW
23-Sep-2005	23:00	3.6	SW
24-Sep-2005	0:00	4	SW
24-Sep-2005	1:00	3.6	WSW
24-Sep-2005	2:00	4.5	SW
24-Sep-2005	3:00	4.5	SW
24-Sep-2005	4:00	4	WSW
24-Sep-2005	5:00	4.5	WSW
24-Sep-2005	6:00	4.5	SW
24-Sep-2005	7:00	4	SW
24-Sep-2005	8:00	4	SW
24-Sep-2005	9:00	4.5	SW
24-Sep-2005	10:00	4.9	SW
24-Sep-2005	11:00	6.3	SSW
24-Sep-2005	12:00	6.7	SW
24-Sep-2005	13:00	6.7	SW
24-Sep-2005	14:00	7.2	SW
24-Sep-2005	15:00	6.3	SW
24-Sep-2005	16:00	6.3	SW
24-Sep-2005	17:00	6.7	SW
24-Sep-2005	18:00	7.2	W
24-Sep-2005	19:00	8	W
24-Sep-2005	20:00	8.5	W
24-Sep-2005	21:00	8.5	W
24-Sep-2005	22:00	9.8	W
24-Sep-2005	23:00	9.4	W
25-Sep-2005	0:00	8.5	W
25-Sep-2005	1:00	7.6	W
25-Sep-2005	2:00	7.2	WSW
25-Sep-2005	3:00	5.8	W
25-Sep-2005	4:00	5.8	WNW
25-Sep-2005	5:00	6.7	W
25-Sep-2005	6:00	6.7	W
25-Sep-2005	7:00	5.4	WNW
25-Sep-2005	8:00	6.3	WNW
25-Sep-2005	9:00	7.2	W
25-Sep-2005	10:00	7.2	WNW
25-Sep-2005	11:00	6.3	W
25-Sep-2005	12:00	4.5	W
25-Sep-2005	13:00	5.4	WNW
25-Sep-2005	14:00	7.2	WNW
25-Sep-2005	15:00	6.7	WNW
25-Sep-2005	16:00	5.8	WNW
25-Sep-2005	17:00	6.7	W

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
25-Sep-2005	18:00	5.4	W
25-Sep-2005	19:00	6.7	WNW
25-Sep-2005	20:00	6.3	WNW
25-Sep-2005	21:00	6.3	W
25-Sep-2005	22:00	6.3	WNW
25-Sep-2005	23:00	6.3	W
26-Sep-2005	0:00	6.7	WNW
26-Sep-2005	1:00	6.7	WNW
26-Sep-2005	2:00	6.3	WNW
26-Sep-2005	3:00	5.8	WNW
26-Sep-2005	4:00	5.8	W
26-Sep-2005	5:00	4	WNW
26-Sep-2005	6:00	3.1	WNW
26-Sep-2005	7:00	4.9	WNW
26-Sep-2005	8:00	2.2	WNW
26-Sep-2005	9:00	4	WNW
26-Sep-2005	10:00	2.2	W
26-Sep-2005	11:00	4	W
26-Sep-2005	12:00	3.1	W
26-Sep-2005	13:00	4	W
26-Sep-2005	14:00	3.6	W
26-Sep-2005	15:00	3.6	W
26-Sep-2005	16:00	3.6	WNW
26-Sep-2005	17:00	4	WNW
26-Sep-2005	18:00	3.6	WNW
26-Sep-2005	19:00	3.6	WNW
26-Sep-2005	20:00	4	WNW
26-Sep-2005	21:00	4.5	WNW
26-Sep-2005	22:00	3.1	WNW
26-Sep-2005	23:00	3.1	WNW
27-Sep-2005	0:00	3.6	W
27-Sep-2005	1:00	3.1	WNW
27-Sep-2005	2:00	2.7	W
27-Sep-2005	3:00	3.1	W
27-Sep-2005	4:00	3.1	W
27-Sep-2005	5:00	3.1	W
27-Sep-2005	6:00	2.2	WNW
27-Sep-2005	7:00	3.6	W
27-Sep-2005	8:00	3.6	W
27-Sep-2005	9:00	2.7	NW
27-Sep-2005	10:00	3.1	WNW
27-Sep-2005	11:00	2.7	WNW
27-Sep-2005	12:00	4	WNW
27-Sep-2005	13:00	3.1	W
27-Sep-2005	14:00	3.6	WNW
27-Sep-2005	15:00	3.6	WNW
27-Sep-2005	16:00	2.2	WNW
27-Sep-2005	17:00	1.8	WNW
27-Sep-2005	18:00	2.2	W
27-Sep-2005	19:00	2.2	W
27-Sep-2005	20:00	2.2	W
27-Sep-2005	21:00	1.8	WSW
27-Sep-2005	22:00	1.8	WSW
27-Sep-2005	23:00	1.3	SW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
28-Sep-2005	0:00	0.9	SW
28-Sep-2005	1:00	1.3	WSW
28-Sep-2005	2:00	1.3	SSW
28-Sep-2005	3:00	1.8	WSW
28-Sep-2005	4:00	2.2	W
28-Sep-2005	5:00	2.2	W
28-Sep-2005	6:00	0.9	SSW
28-Sep-2005	7:00	1.8	W
28-Sep-2005	8:00	1.8	W
28-Sep-2005	9:00	2.7	WSW
28-Sep-2005	10:00	3.1	WNW
28-Sep-2005	11:00	3.1	WNW
28-Sep-2005	12:00	3.6	WNW
28-Sep-2005	13:00	3.6	WNW
28-Sep-2005	14:00	3.1	NW
28-Sep-2005	15:00	4	WNW
28-Sep-2005	16:00	1.3	W
28-Sep-2005	17:00	1.3	W
28-Sep-2005	18:00	0.9	W
28-Sep-2005	19:00	0.4	W
28-Sep-2005	20:00	0.4	ESE
28-Sep-2005	21:00	0.4	S
28-Sep-2005	22:00	0	---
28-Sep-2005	23:00	0	---
29-Sep-2005	0:00	0	SSW
29-Sep-2005	1:00	0	---
29-Sep-2005	2:00	0	---
29-Sep-2005	3:00	0	---
29-Sep-2005	4:00	0	---
29-Sep-2005	5:00	0	---
29-Sep-2005	6:00	0	---
29-Sep-2005	7:00	0	---
29-Sep-2005	8:00	0	---
29-Sep-2005	9:00	0	W
29-Sep-2005	10:00	1.3	W
29-Sep-2005	11:00	1.8	WNW
29-Sep-2005	12:00	2.2	W
29-Sep-2005	13:00	2.7	WNW
29-Sep-2005	14:00	1.8	W
29-Sep-2005	15:00	2.2	W
29-Sep-2005	16:00	1.8	W
29-Sep-2005	17:00	0.9	W
29-Sep-2005	18:00	0.4	W
29-Sep-2005	19:00	0	SSW
29-Sep-2005	20:00	0	---
29-Sep-2005	21:00	0	SSW
29-Sep-2005	22:00	0	---
29-Sep-2005	23:00	0	---
30-Sep-2005	0:00	0	---
30-Sep-2005	1:00	0	---
30-Sep-2005	2:00	0	SSW
30-Sep-2005	3:00	0	---
30-Sep-2005	4:00	0	---
30-Sep-2005	5:00	0	---

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
30-Sep-2005	6:00	0	---
30-Sep-2005	7:00	0	---
30-Sep-2005	8:00	0	SSW
30-Sep-2005	9:00	0	WNW
30-Sep-2005	10:00	0.4	W
30-Sep-2005	11:00	0.4	W
30-Sep-2005	12:00	0.4	WNW
30-Sep-2005	13:00	1.3	WNW
30-Sep-2005	14:00	0.9	NE
30-Sep-2005	15:00	1.8	NE
30-Sep-2005	16:00	1.8	NE
30-Sep-2005	17:00	0.9	NE
30-Sep-2005	18:00	1.8	ENE
30-Sep-2005	19:00	0.4	NE
30-Sep-2005	20:00	0.4	ESE
30-Sep-2005	21:00	0	E
30-Sep-2005	22:00	0	---
30-Sep-2005	23:00	0	E

APPENDIX E
1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix E - 1-hour TSP Monitoring Results

Location AM1 - Po Leung Kuk Choi Kai Yau School

Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. (µg/m^3)
		Initial	Final	Initial	Final	Initial	Final							
1-Sep-05	Sunny	2.8381	2.8547	1.21	1.21	3105.0	3106.0	305.6	750.9	0.0166	1.21	72.8	1.0	228.0
6-Sep-05	Cloudy	2.8614	2.8728	1.23	1.23	3106.0	3107.0	302.0	758.1	0.0114	1.23	73.7	1.0	154.7
7-Sep-05	Sunny	2.8638	2.8669	1.23	1.23	3131.0	3132.0	302.5	758.5	0.0031	1.23	73.7	1.0	42.1
8-Sep-05	Sunny	2.8774	2.8824	1.23	1.23	3132.0	3133.0	301.4	759.6	0.0050	1.23	73.9	1.0	67.7
12-Sep-05	Sunny	2.8621	2.8808	1.23	1.23	3133.0	3134.0	302.3	758.7	0.0187	1.23	73.7	1.0	253.8
13-Sep-05	Sunny	2.8340	2.8370	1.22	1.22	3158.0	3159.0	306.7	760.3	0.0030	1.22	73.2	1.0	41.0
15-Sep-05	Sunny	2.8237	2.8279	1.23	1.23	3159.0	3160.0	303.5	761.8	0.0042	1.23	73.7	1.0	57.0
20-Sep-05	Sunny	2.8446	2.8505	1.23	1.23	3184.0	3185.0	301.6	761.7	0.0059	1.23	74.0	1.0	79.8
21-Sep-05	Sunny	2.8644	2.8785	1.23	1.23	3185.0	3186.0	302.1	759.8	0.0141	1.23	73.8	1.0	191.1
22-Sep-05	Sunny	2.8638	2.8722	1.23	1.23	3186.0	3187.0	302.9	760.2	0.0084	1.23	73.7	1.0	114.0
26-Sep-05	Cloudy	2.8412	2.8432	1.23	1.23	3211.0	3212.0	299.7	758.6	0.0020	1.23	74.0	1.0	27.0
29-Sep-05	Sunny	2.8282	2.8363	1.23	1.23	3212.0	3213.0	301.4	762.7	0.0081	1.23	74.0	1.0	109.4
30-Sep-05	Sunny	2.8618	2.8652	1.21	1.21	3237.0	3238.0	303.5	761.2	0.0034	1.21	72.9	1.0	46.7
													Min	27.0
													Max	253.8
													Average	108.6

Location AM 3 - Garden Villa

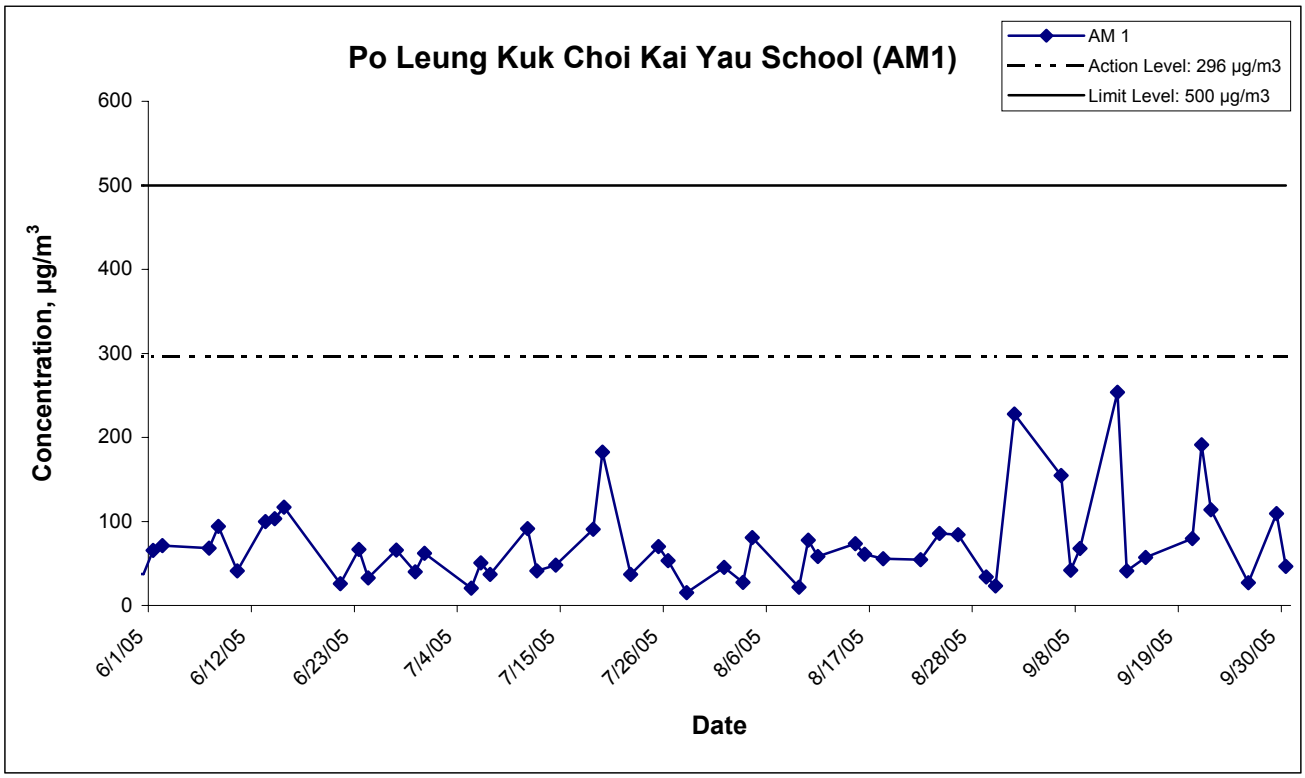
Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. (µg/m^3)
		Initial	Final	Initial	Final	Initial	Final							
1-Sep-05	Sunny	2.8239	2.8455	1.21	1.21	3467.2	3468.2	305.4	751.1	0.0216	1.21	72.5	1.0	298.1
6-Sep-05	Sunny	2.8148	2.8400	1.22	1.22	3468.2	3469.2	302.0	758.1	0.0252	1.22	73.2	1.0	344.2
7-Sep-05	Sunny	2.8549	2.8661	1.21	1.21	3493.2	3494.2	304.7	757.6	0.0112	1.21	72.9	1.0	153.7
8-Sep-05	Cloudy	2.8536	2.8641	1.23	1.23	3494.2	3495.2	296.6	758.7	0.0105	1.23	73.9	1.0	142.1
12-Sep-05	Cloudy	2.8442	2.8788	1.22	1.22	3495.2	3496.2	302.3	758.7	0.0346	1.22	73.2	1.0	**472.7**
13-Sep-05	Sunny	2.8286	2.8372	1.21	1.21	3520.3	3521.3	306.1	760.9	0.0086	1.21	72.9	1.0	118.1
15-Sep-05	Sunny	2.8463	2.8705	1.22	1.22	3521.2	3522.2	303.5	761.8	0.0242	1.22	73.2	1.0	330.6
20-Sep-05	Sunny	2.8816	2.8958	1.22	1.22	3534.1	3535.1	304.7	760.0	0.0142	1.22	73.0	1.0	194.6
21-Sep-05	Sunny	2.8605	2.8803	1.21	1.21	3559.1	3560.1	305.8	756.9	0.0198	1.21	72.7	1.0	272.4
22-Sep-05	Sunny	2.8323	2.8489	1.22	1.22	3560.1	3561.1	302.9	760.2	0.0166	1.22	73.2	1.0	226.8
29-Sep-05	Sunny	2.8756	2.8891	1.23	1.23	3561.1	3562.1	301.4	762.7	0.0135	1.23	73.5	1.0	183.6
30-Sep-05	Sunny	2.8288	2.8391	1.22	1.22	3586.1	3587.1	303.7	761.1	0.0103	1.22	73.2	1.0	140.8
													Min	118.1
													Max	**472.7**
													Average	239.8

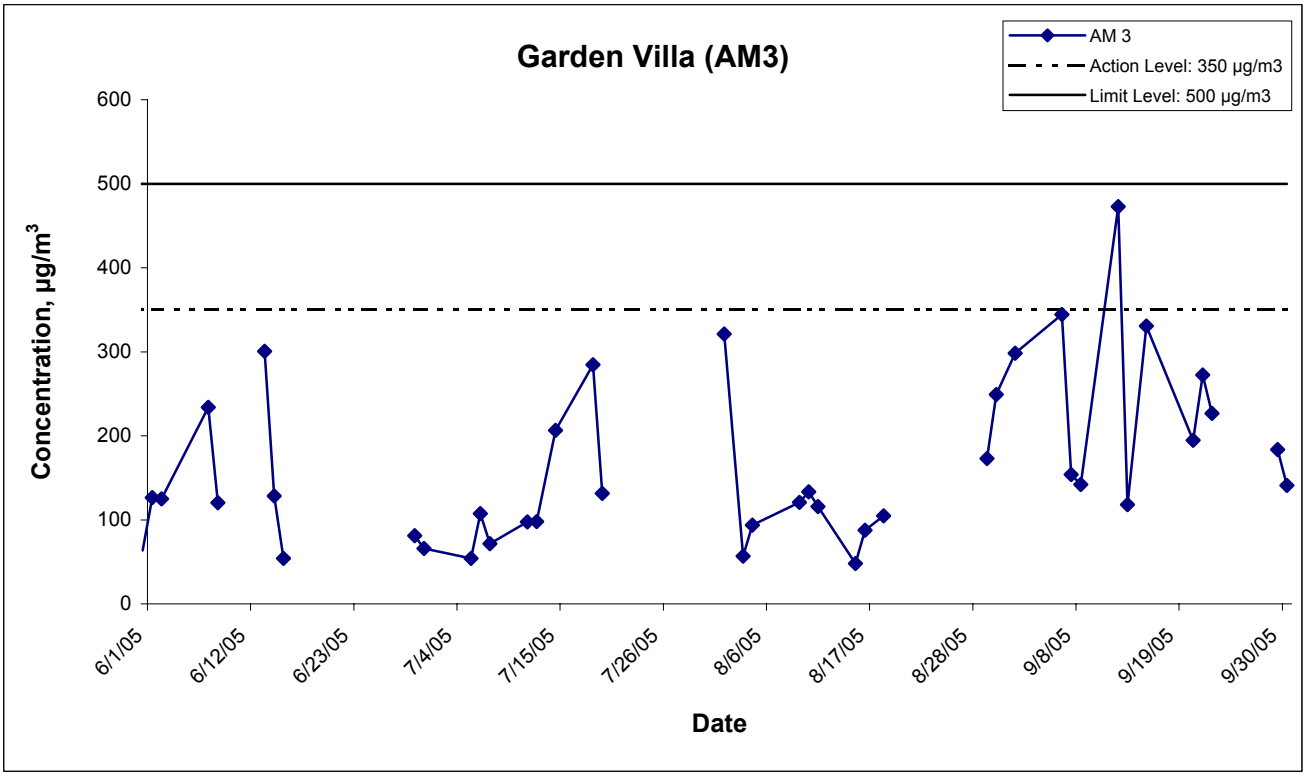
Appendix E - 1-hour TSP Monitoring Results

Location AM 4 - Government Quarters

Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. (μg/m^3)
		Initial	Final	Initial	Final	Initial	Final							
1-Sep-05	Sunny	2.8661	2.8797	1.21	1.21	3064.7	3065.7	305.6	750.9	0.0136	1.21	72.3	1.0	188.0
6-Sep-05	Cloudy	2.8685	2.8802	1.22	1.22	3065.7	3066.7	302.0	758.1	0.0117	1.22	73.2	1.0	159.9
7-Sep-05	Sunny	2.8660	2.8741	1.22	1.22	3090.7	3091.7	302.5	758.5	0.0081	1.22	73.2	1.0	110.7
8-Sep-05	Sunny	2.8654	2.8709	1.22	1.22	3091.7	3092.7	301.4	759.6	0.0055	1.22	73.4	1.0	75.0
12-Sep-05	Sunny	2.8503	2.8711	1.22	1.22	3092.7	3093.7	302.3	758.7	0.0208	1.22	73.2	1.0	284.2
13-Sep-05	Sunny	2.8539	2.8573	1.21	1.21	3117.7	3118.7	306.7	760.3	0.0034	1.21	72.7	1.0	46.8
15-Sep-05	Sunny	2.8541	2.8592	1.22	1.22	3118.7	3119.7	303.5	761.8	0.0051	1.22	73.2	1.0	69.7
20-Sep-05	Sunny	2.8483	2.8550	1.22	1.22	3143.7	3144.7	301.6	761.7	0.0067	1.22	73.4	1.0	91.2
21-Sep-05	Sunny	2.8496	2.8621	1.22	1.22	3144.7	3145.7	302.1	759.8	0.0125	1.22	73.3	1.0	170.6
22-Sep-05	Sunny	2.8342	2.8494	1.22	1.22	3145.7	3146.7	302.9	760.2	0.0152	1.22	73.2	1.0	207.7
26-Sep-05	Cloudy	2.8339	2.8362	1.23	1.23	3170.7	3171.7	299.7	758.6	0.0023	1.23	73.5	1.0	31.3
29-Sep-05	Sunny	2.8203	2.8290	1.22	1.22	3171.7	3172.7	301.4	762.7	0.0087	1.22	73.5	1.0	118.3
30-Sep-05	Sunny	2.8296	2.8327	1.22	1.22	3196.7	3197.7	303.7	761.1	0.0031	1.22	73.1	1.0	42.4
													Min	31.3
													Max	284.2
													Average	122.8

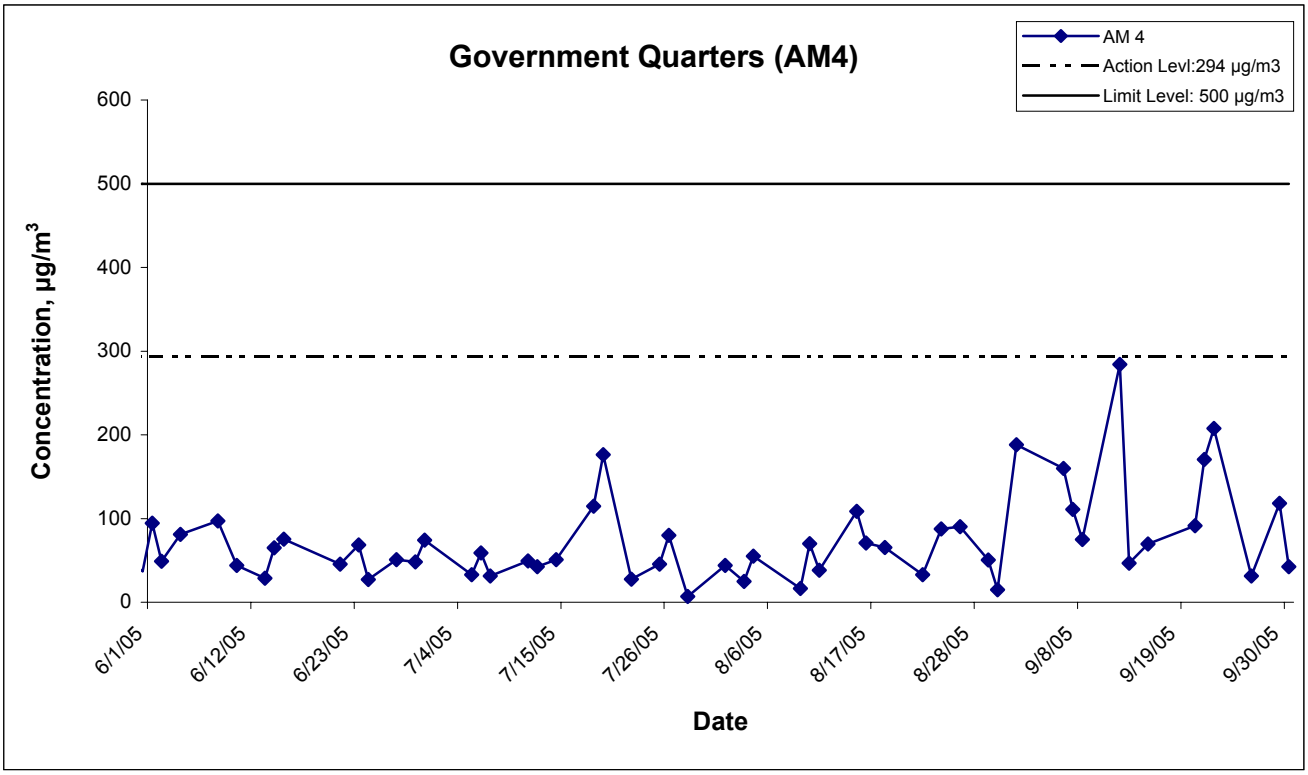
1-hr TSP Levels





Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 1-hour TSP Impact Monitoring Results	Scale: N.T.S Date: Sep 05	Project No.: MA3024 Appendix: E	CINOTECH

1-hr TSP Levels



Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 1-hour TSP Impact Monitoring Results	Scale: N.T.S Date: Sep 05	Project No.: MA3024 Appendix: E	CINOTECH

APPENDIX F
24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix F - 24-hour TSP Monitoring Results

Location AM1 - Po Leung Kuk Choi Kai Yau School

Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)
		Initial	Final	Initial	Final	Initial	Final							
6-Sep-05	Sunny	2.8279	2.9818	1.23	1.23	3107.0	3131.0	302.2	757.9	0.1539	1.23	1768.5	24.0	87.0
12-Sep-05	Sunny	2.8656	2.9530	1.23	1.23	3134.0	3158.0	302.3	758.7	0.0874	1.23	1768.5	24.0	49.4
17-Sep-05	Sunny	2.8455	2.8986	1.23	1.23	3160.0	3184.0	302.9	759.6	0.0531	1.23	1767.7	24.0	30.0
23-Sep-05	Cloudy	2.8356	2.9151	1.23	1.23	3187.0	3211.0	301.1	756.9	0.0795	1.23	1770.3	24.0	44.9
29-Sep-05	Sunny	2.8338	2.9242	1.22	1.22	3213.0	3237.0	301.9	760.9	0.0904	1.22	1753.0	24.0	51.6
													Min	30.0
													Max	87.0
													Average	52.6

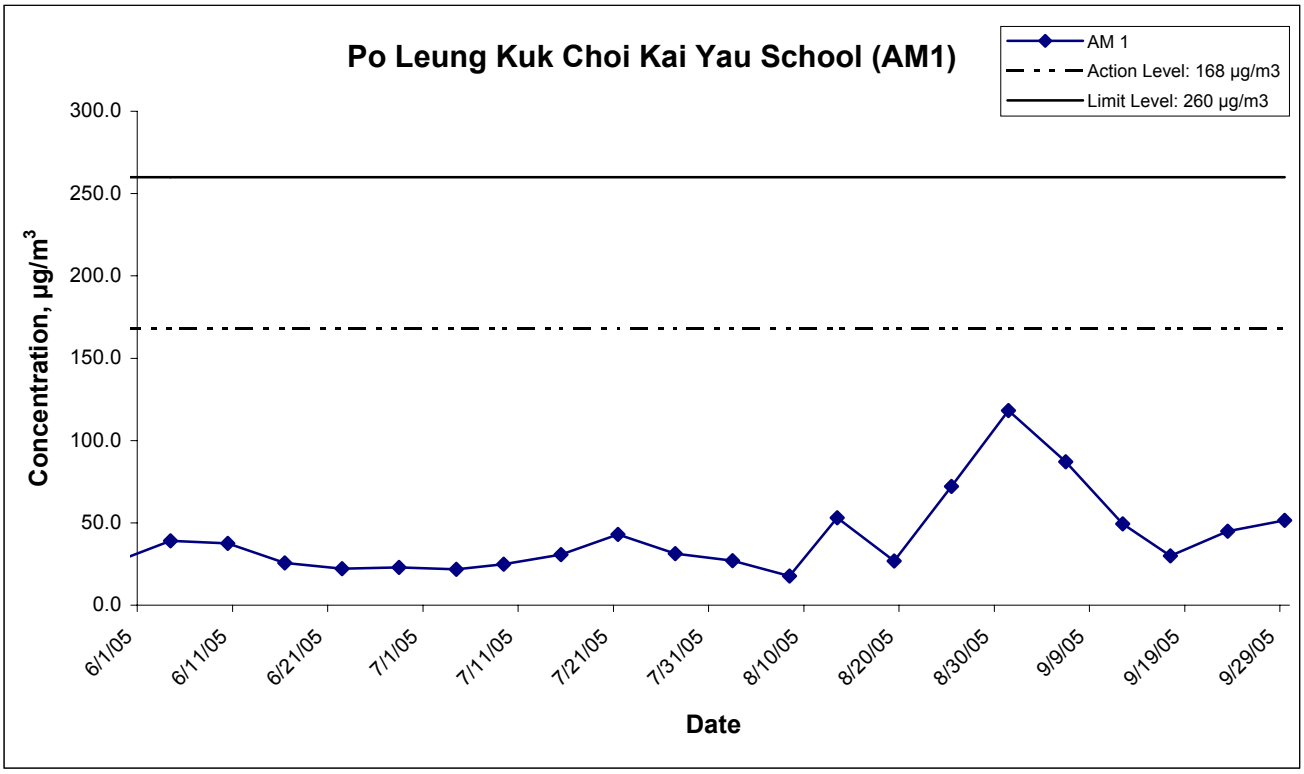
Location AM 3 - Garden Villa

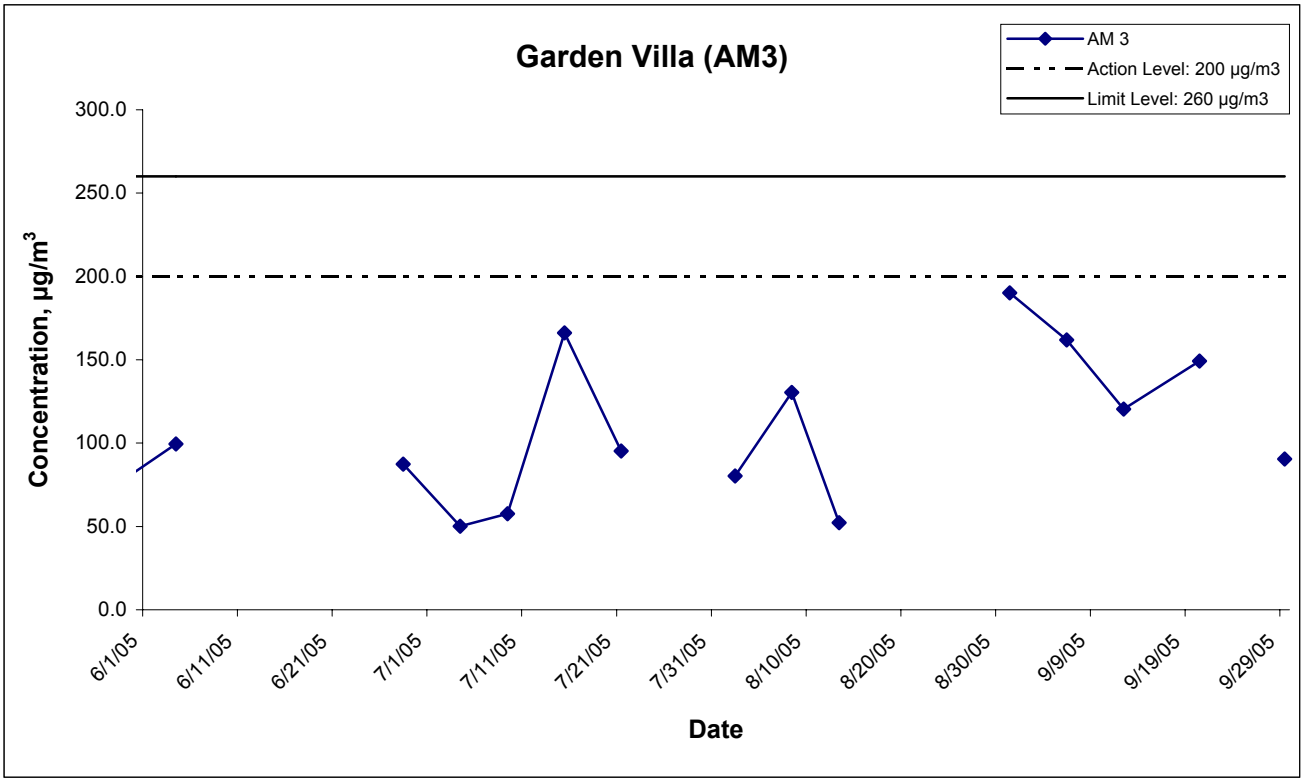
Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)
		Initial	Final	Initial	Final	Initial	Final							
6-Sep-05	Sunny	2.8579	3.1404	1.21	1.21	3469.2	3493.2	305.5	756.9	0.2825	1.21	1745.4	24.0	161.9
12-Sep-05	Sunny	2.8271	3.0386	1.22	1.22	3496.2	3520.2	302.3	758.7	0.2115	1.22	1756.0	24.0	120.4
20-Sep-05	Sunny	2.8686	3.1298	1.22	1.22	3535.1	3559.1	305.0	759.7	0.2612	1.22	1750.2	24.0	149.2
29-Sep-05	Sunny	2.8333	2.9925	1.22	1.22	3562.1	3586.1	301.9	760.9	0.1592	1.22	1760.6	24.0	90.4
													Min	90.4
													Max	161.9
													Average	130.5

Location AM 4 - Government Quarters

Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)
		Initial	Final	Initial	Final	Initial	Final							
6-Sep-05	Sunny	2.8652	3.0246	1.22	1.22	3066.7	3090.7	302.2	757.9	0.1594	1.22	1755.7	24.0	90.8
12-Sep-05	Sunny	2.8675	2.9614	1.22	1.22	3093.7	3117.7	302.3	758.7	0.0939	1.22	1756.4	24.0	53.5
17-Sep-05	Sunny	2.8481	2.9175	1.22	1.22	3119.7	3143.7	302.9	759.6	0.0694	1.22	1755.7	24.0	39.5
23-Sep-05	Cloudy	2.8659	2.9797	1.22	1.22	3146.7	3170.7	301.1	756.9	0.1138	1.22	1758.1	24.0	64.7
29-Sep-05	Sunny	2.8505	2.9500	1.22	1.22	3172.7	3196.7	301.9	760.9	0.0995	1.22	1759.1	24.0	56.6
													Min	39.5
													Max	90.8
													Average	61.0

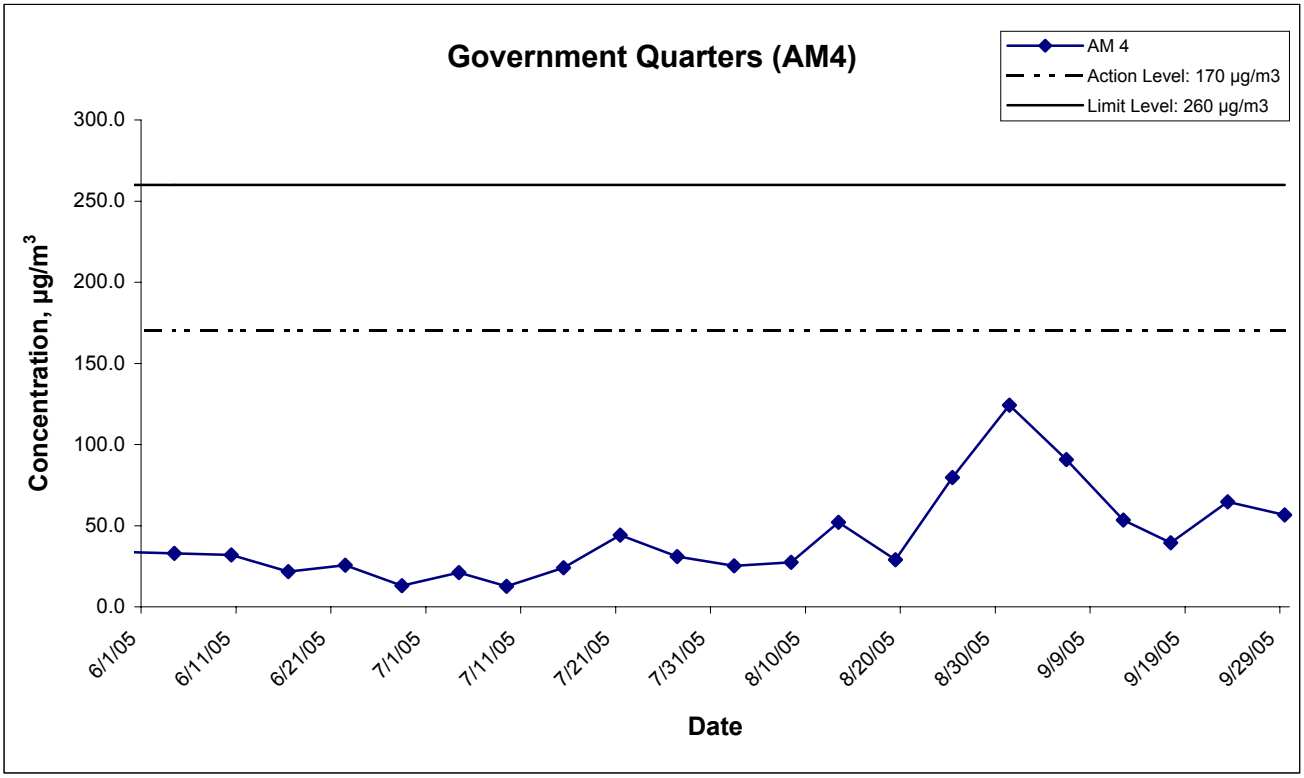
24-hr TSP Levels





Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 24-hour TSP Impact Monitoring Results	Scale: N.T.S Date: Sep 05	Project No.: MA3024 Appendix: F	CINOTECH

24-hr TSP Levels



Title Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 24-hour TSP Impact Monitoring Results	Scale N.T.S	Project No. MA3024	CINOTECH
	Date Sep 05	Appendix F	

APPENDIX G
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix G - Noise Monitoring Results

Location NM1 - Po Leung Kuk Choi Kai Yau School						
Date	Time	Weather	Unit: dB (A) (30-min) Measured Noise Level			Remarks
			L_{eq}	L_{10}	L_{90}	
1-Sep-05	13:50	Sunny	70.2	71.5	68.5	-
8-Sep-05	10:40	Sunny	67.3	69.5	64.0	
15-Sep-05	14:30	Sunny	67.2	69.0	64.0	
22-Sep-05	13:55	Sunny	69.5	71.0	67.0	
30-Sep-05	14:45	Sunny	68.8	71.0	64.0	

Location NM5 - Villa Carlton								
Date	Time	Weather	Unit: dB (A) (30-min)					Remarks
			Measured Noise Level			Baseline Level	Construction Noise Level	
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	
1-Sep-05	15:15	Sunny	78.1	81.0	74.5	77.1	71.2	The major noise source was identified as traffic noise from Tai Po Road.
8-Sep-05	13:05	Sunny	76.8	79.5	74.0		76.8, Measured ≤ Baseline	
15-Sep-05	16:00	Sunny	78.9	82.0	69.0		74.2	
22-Sep-05	14:45	Sunny	76.2	77.5	70.5		76.2, Measured ≤ Baseline	
30-Sep-05	15:40	Sunny	78.1	81.0	74.0		71.2	

Location NM6 - Government Quarters						
Date	Time	Weather	Unit: dB (A) (30-min) Measured Noise Level			Remarks
			L_{eq}	L_{10}	L_{90}	
1-Sep-05	14:30	Sunny	66.8	69.5	62.5	-
8-Sep-05	11:30	Sunny	67.5	70.0	64.0	
15-Sep-05	15:15	Sunny	63.1	64.5	61.0	
22-Sep-05	13:10	Sunny	70.5	71.5	69.0	
30-Sep-05	13:30	Sunny	62.6	64.0	61.0	

Location NM7 - Garden Vilia								
Date	Time	Weather	Unit: dB (A) (30-min)					Remarks
			Measured Noise Level			Baseline Level	Construction Noise Level	
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	
1-Sep-05	13:00	Sunny	70.9	74.0	64.0	59.0	70.6	-
8-Sep-05	13:05	Cloudy	69.7	73.0	62.5		69.3	
15-Sep-05	13:00	Sunny	70.3	74.0	67.5		70.0	
22-Sep-05	14:20	Sunny	69.3	71.5	61.5		68.9	
30-Sep-05	13:15	Sunny	69.4	72.5	62.5		69.0	

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

*Bolded value indicated limit level exceedance

Appendix G - Noise Monitoring Results

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

Location NM5 - Villa Carlton									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
1-Sep-05	19:05	Fine	74.9	77.0	69.0	75.1	75.8	75.1, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	19:10		75.0	77.5	69.5				
	19:15		75.3	77.5	69.5				
8-Sep-05	19:10	Fine	73.5	76.5	68.0	74.5		74.5, Measured ≤ Baseline	
	19:15		74.7	77.0	68.5				
	19:20		75.1	77.0	69.0				
15-Sep-05	19:35	Cloudy	74.9	78.0	67.5	75.1		75.1, Measured ≤ Baseline	
	19:40		75.0	78.0	67.5				
	19:45		75.3	78.0	68.0				
22-Sep-05	19:25	Cloudy	74.5	78.5	69.5	74.8		74.8, Measured ≤ Baseline	
	19:30		74.7	78.5	69.5				
	19:35		75.1	79.0	69.5				
30-Sep-05	19:15	Cloudy	75.3	77.5	70.0	75.1		75.1, Measured ≤ Baseline	
	19:20		74.9	77.5	69.5				
	19:25		75.1	77.5	69.5				

Location NM6 - Government Quarters									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
1-Sep-05	19:40	Fine	54.7	58.0	51.0	55.5	56.1	55.5, Measured ≤ Baseline	-
	19:45		55.7	58.5	51.5				
	19:50		55.9	59.0	52.0				
8-Sep-05	19:42	Fine	55.3	58.0	52.0	55.3		55.3, Measured ≤ Baseline	
	19:47		55.6	58.0	52.0				
	19:52		54.9	57.0	51.5				
15-Sep-05	20:05	Cloudy	55.7	58.0	50.0	55.8		55.8, Measured ≤ Baseline	
	20:10		55.8	58.0	50.5				
	20:15		56.0	58.5	50.5				
22-Sep-05	20:00	Cloudy	54.8	57.5	51.0	55.3		55.3, Measured ≤ Baseline	
	20:05		55.3	58.0	51.0				
	20:10		55.7	58.5	51.5				
30-Sep-05	20:00	Cloudy	54.3	57.0	51.0	54.6		54.6, Measured ≤ Baseline	
	20:05		54.7	57.5	51.5				
	20:10		54.8	57.5	51.5				

Location NM7 - Garden Villa									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
1-Sep-05	19:15	Cloudy	58.4	61.0	56.0	58.4	58.3	42.0	The major noise source was identified as traffic noise from Tai Po Road.
	19:20		58.4	61.5	56.0				
	19:25		58.5	61.5	56.5				
8-Sep-05	19:15	Cloudy	57.7	63.0	55.5	57.7		57.7, Measured ≤ Baseline	
	19:20		57.6	63.0	55.5				
	19:25		57.7	63.0	55.0				
15-Sep-05	19:10	Cloudy	58.6	59.5	53.0	58.6		46.8	
	19:15		58.6	60.5	53.5				
	19:20		58.5	60.5	53.0				
22-Sep-05	19:00	Cloudy	59.4	61.0	55.5	59.4		52.9	
	19:05		59.6	61.0	56.0				
	19:10		59.3	60.5	55.0				
30-Sep-05	19:15	Cloudy	58.7	61.0	54.5	58.9		50.0	
	19:20		58.7	61.5	54.5				
	19:25		59.2	60.0	54.5				

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

*Bolded value indicated limit level exceedance

Appendix G - Noise Monitoring Results

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

Location NM5 - Villa Carlton									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
1-Sep-05	23:05	Fine	73.2	76.5	67.0	73.7	74.3	73.7, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	23:10		73.7	76.5	67.5				
	23:15		74.1	77.0	67.5				
8-Sep-05	23:02	Fine	72.8	76.5	66.0	73.2		73.2, Measured ≤ Baseline	
	23:07		73.1	76.5	66.0				
	23:12		73.7	77.0	66.5				
15-Sep-05	23:00	Cloudy	73.7	77.0	67.5	73.9		73.9, Measured ≤ Baseline	
	23:05		73.8	77.5	67.5				
	23:10		74.1	77.5	67.5				
22-Sep-05	23:02	Cloudy	72.1	76.0	67.0	72.4		72.4, Measured ≤ Baseline	
	23:07		72.5	76.5	67.0				
	23:12		72.7	76.5	67.0				
30-Sep-05	23:35	Cloudy	73.8	78.0	68.5	74.0		74.0, Measured ≤ Baseline	
	23:40		74.1	78.0	69.0				
	23:45		74.1	78.0	69.0				

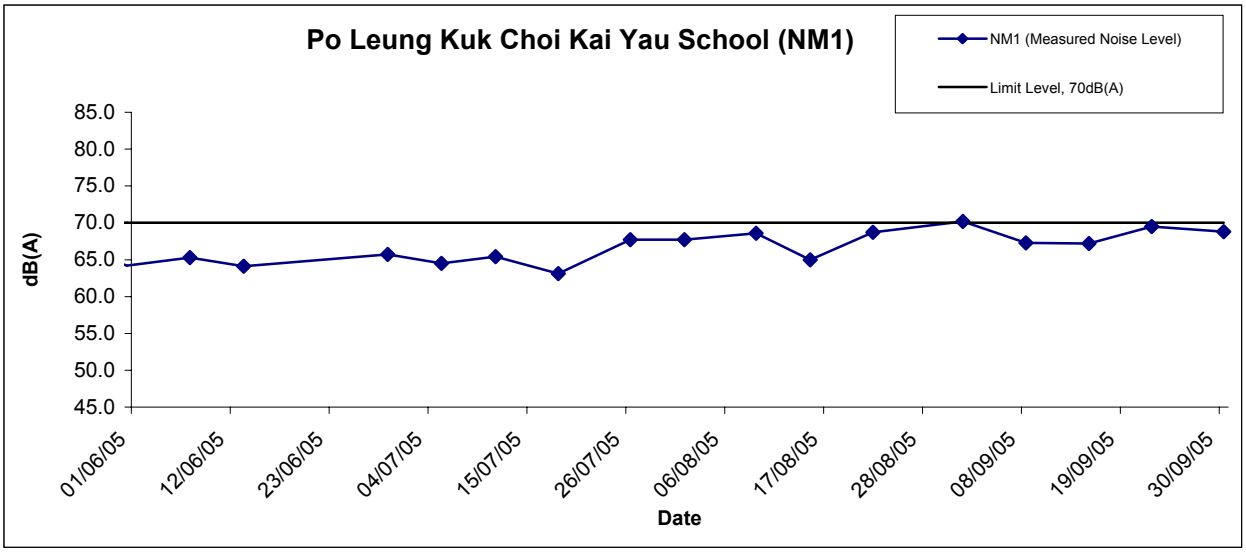
Location NM6 - Government Quarters									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
1-Sep-05	23:38	Fine	51.9	55.5	50.0	52.3	52.8	52.3, Measured ≤ Baseline	-
	23:43		52.3	55.5	50.0				
	23:48		52.7	56.0	50.5				
8-Sep-05	23:32	Fine	52.0	56.0	50.5	52.1		52.1, Measured ≤ Baseline	
	23:37		52.4	56.5	50.5				
	23:42		51.8	55.5	50.5				
15-Sep-05	23:26	Cloudy	52.0	55.5	49.0	52.3		52.3, Measured ≤ Baseline	
	23:31		52.3	55.5	49.0				
	23:36		52.7	56.0	49.5				
22-Sep-05	23:26	Cloudy	51.7	55.0	49.0	52.0		52.0, Measured ≤ Baseline	
	23:31		51.9	55.0	49.0				
	23:36		52.4	55.5	49.5				
30-Sep-05	23:55	Cloudy	51.2	55.5	49.0	51.3		51.3, Measured ≤ Baseline	
	0:00		51.2	55.5	49.5				
	0:05		51.5	55.5	49.5				

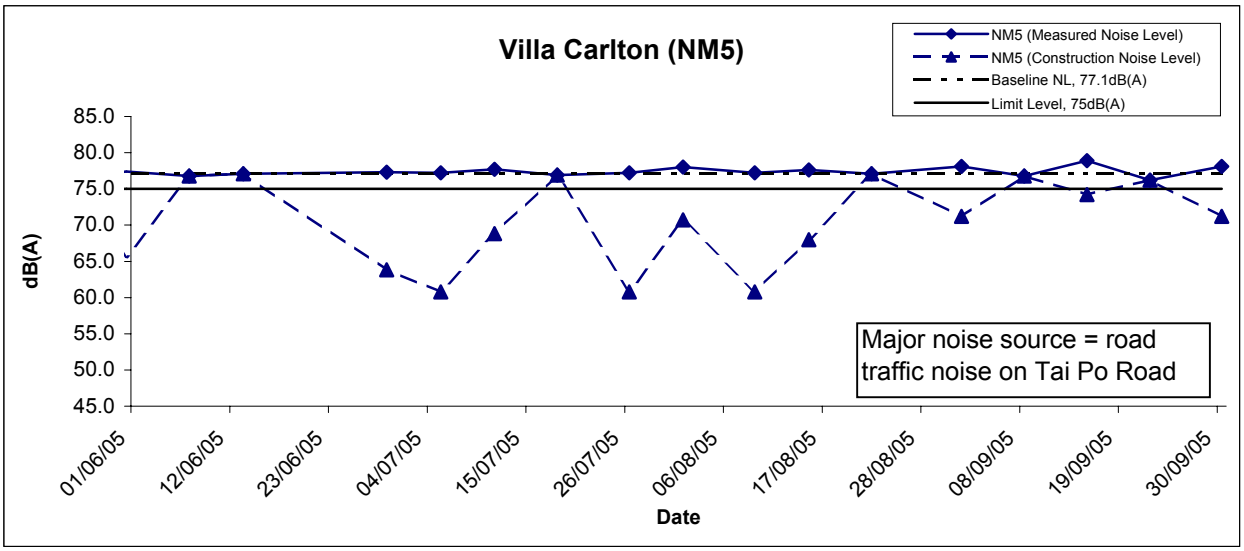
Location NM7 - Garden Villa									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
1-Sep-05	23:59	Fine	54.5	56.5	51.5	54.8	56.5	54.8, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	0:04		54.7	57.0	51.5				
	0:09		55.1	57.0	51.5				
8-Sep-05	23:56	Fine	55.3	59.0	52.0	55.8		55.8, Measured ≤ Baseline	
	0:01		55.8	59.0	52.0				
	0:06		56.3	59.5	53.5				
15-Sep-05	23:54	Cloudy	54.5	57.0	51.0	54.4		54.4, Measured ≤ Baseline	
	23:59		54.4	57.0	51.0				
	0:04		54.4	57.0	51.5				
22-Sep-05	23:55	Cloudy	55.4	58.0	52.5	55.8		55.8, Measured ≤ Baseline	
	0:00		55.9	58.0	53.0				
	0:05		56.0	58.5	53.5				
30-Sep-05	23:05	Cloudy	54.1	57.0	51.0	54.4		54.4, Measured ≤ Baseline	
	23:10		54.3	57.0	51.5				
	23:15		54.7	57.0	51.5				

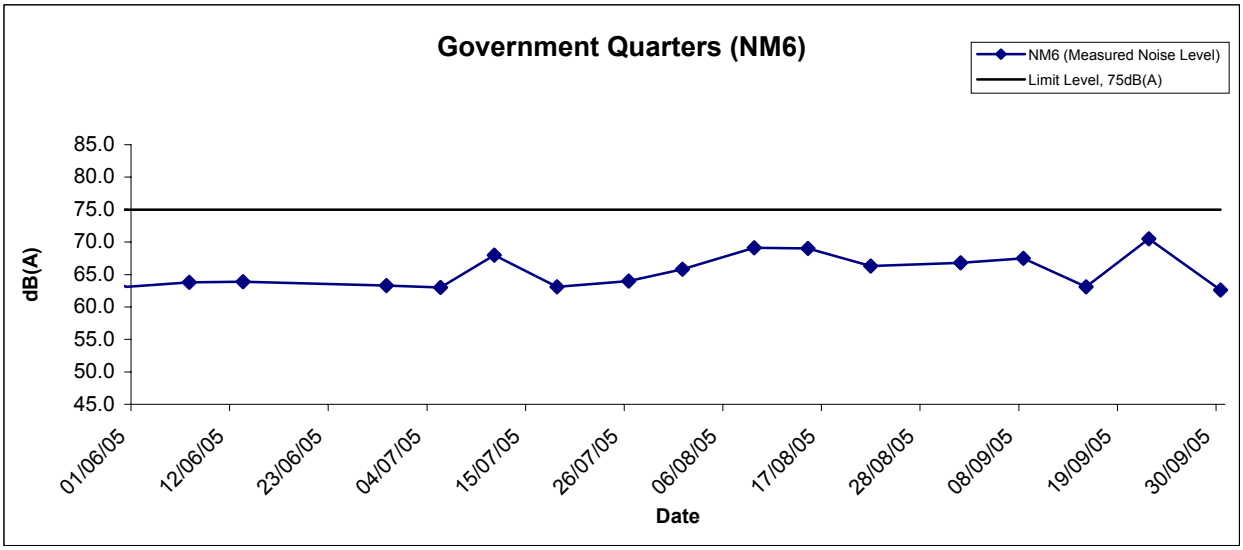
Construction Noise Level (Leq) = Measured Noise Level (Leq) - Baseline Noise Level (Leq)

*Bolded value indicated limit level exceedance

Noise Levels



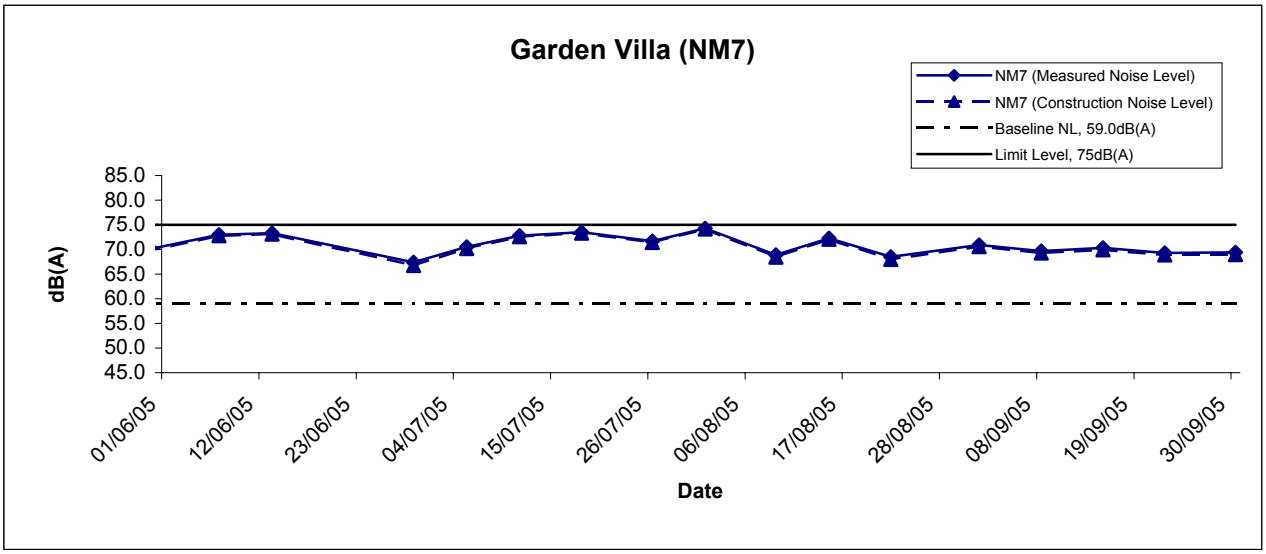




* Construction Noise Level = Measured Noise Level - Baseline Level
(If the measured noise level is lower than the baseline level, the construction noise level will be taken as the meaured one)

Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S	Project No.: MA3024	CINOTECH
	Date: Sep 05	Appendix: G	

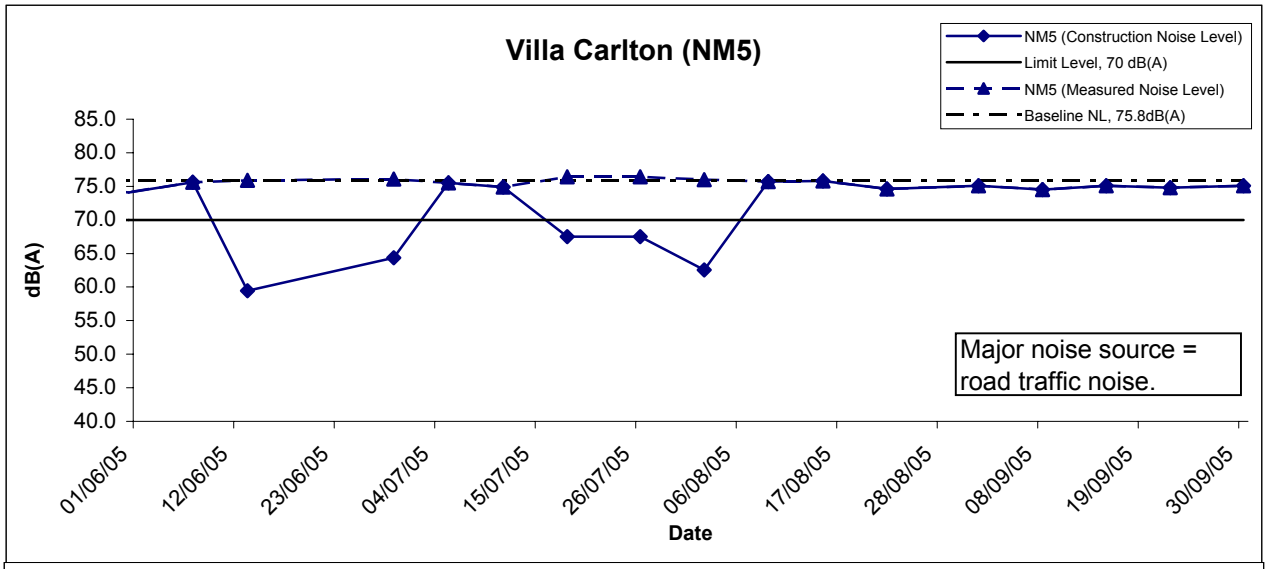
Noise Levels

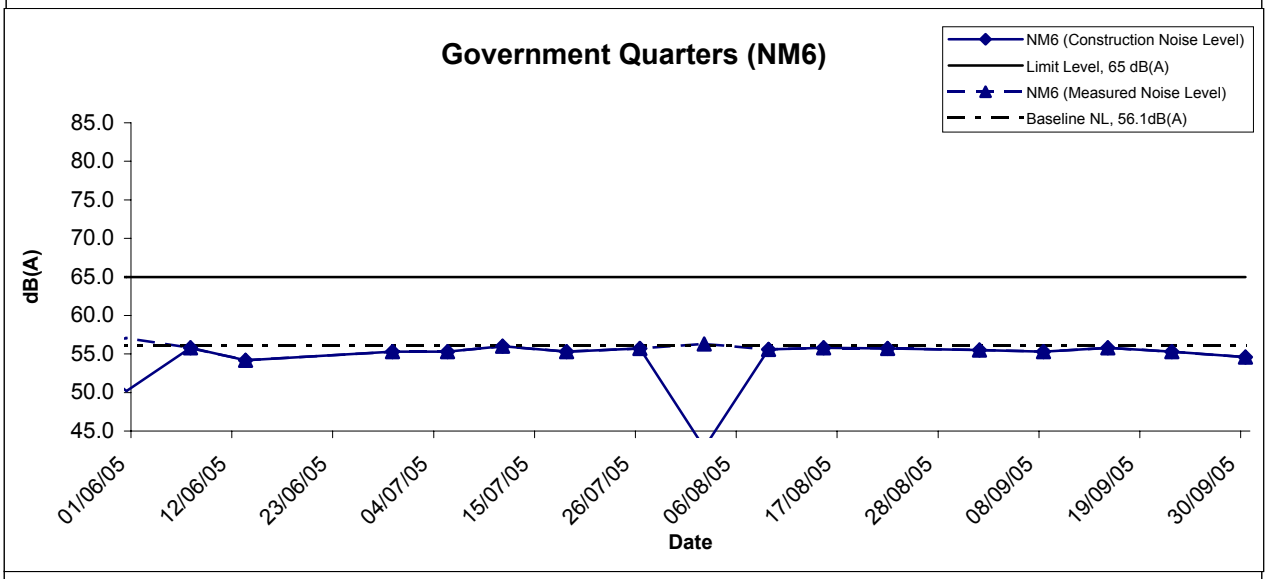


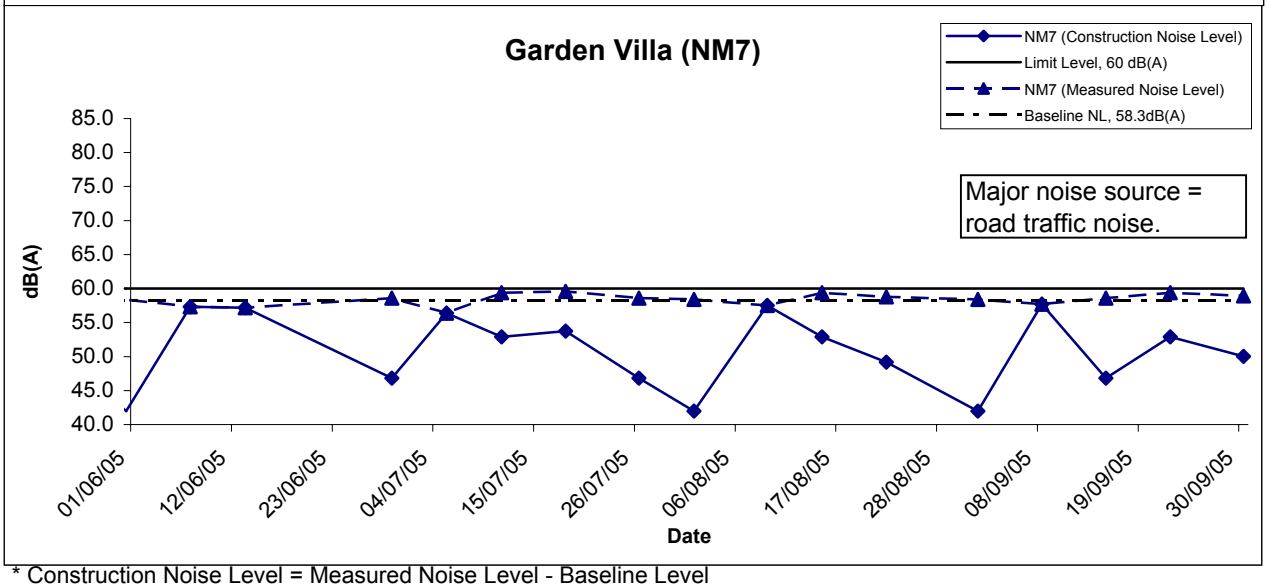
* Construction Noise Level = Measured Noise Level - Baseline Level
(If the measured noise level is lower than the baseline level, the construction noise level will be taken as the meaured one)

Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S	Project No.: MA3024	CINOTECH
	Date: Sep 05	Appendix: G	

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



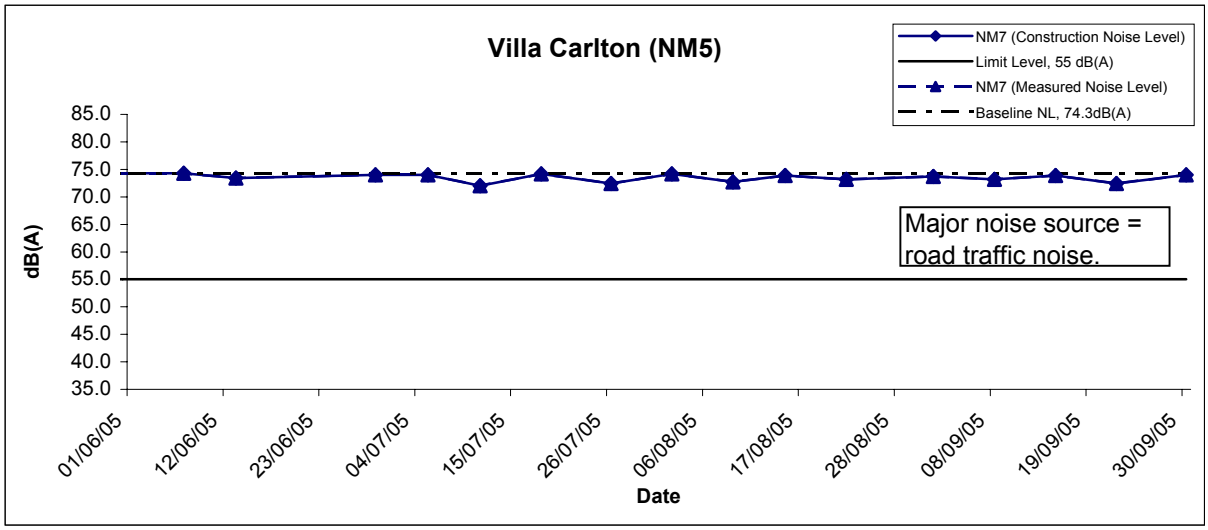


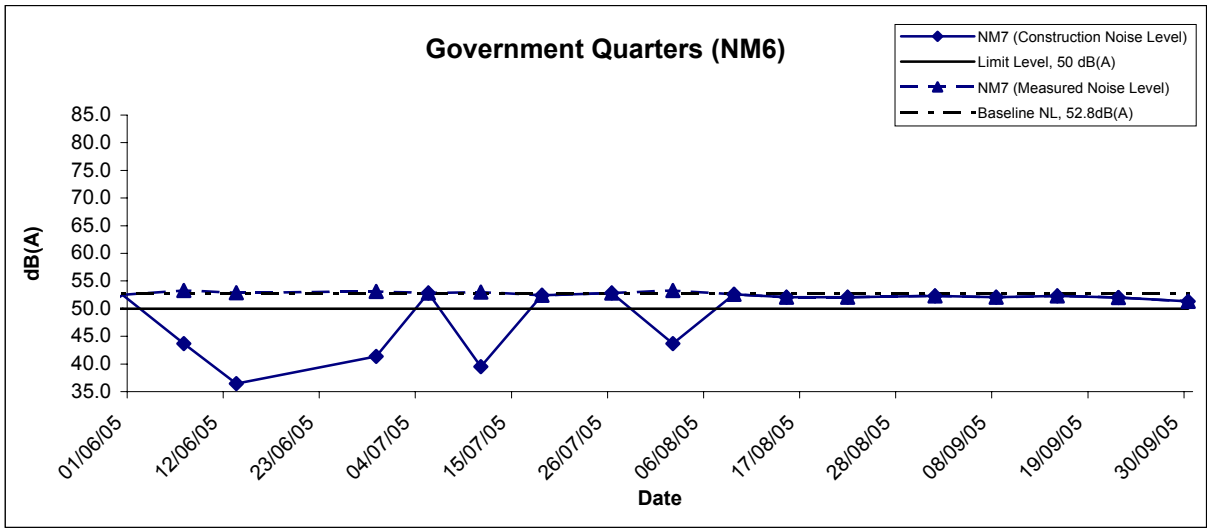


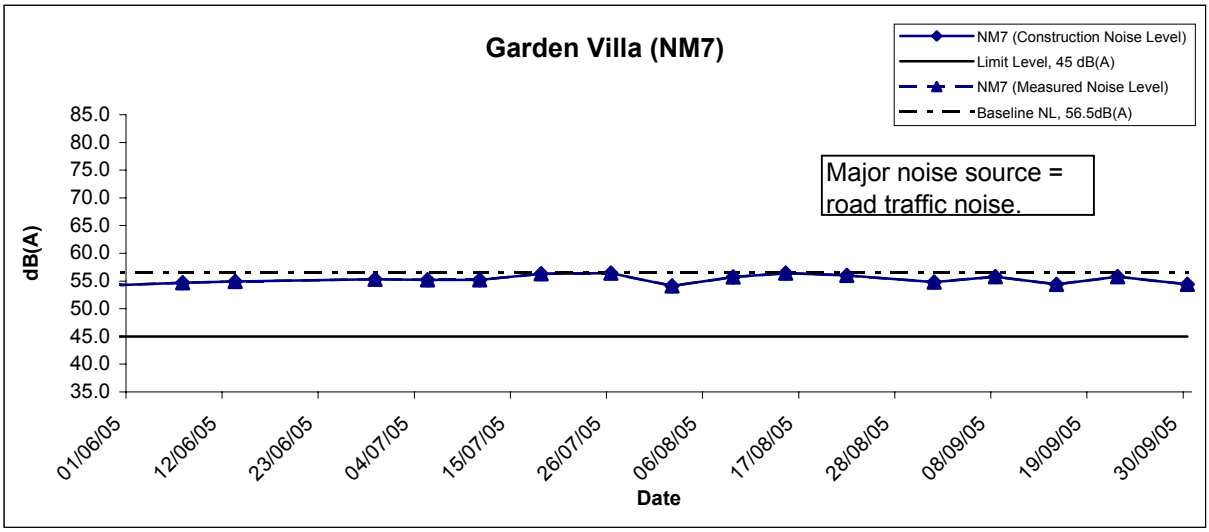
* Construction Noise Level = Measured Noise Level - Baseline Level
(If the measured noise level is lower than the baseline level, the construction noise level will be taken as the meaured one)

Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S	Project No.: MA3024	CINOTECH
	Date: Sep 05	Appendix: G	

Restricted Hours (23:00 to 07:00) - Noise Levels







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

Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works	Scale: N.T.S	Project No.: MA3024	CINOTECH
Graphical Presentation of Construction Noise Monitoring Results	Date: Sep 05	Appendix: G	

APPENDIX H
SUMMARY OF EXCEEDANCE

Summary of Exceedance Recorded in the Reporting Month

a) Exceedance Reports for 1-hr TSP

Exceedance(s) on 12 September 2005

Station No.	Parameter	Particulate Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Level exceeded
AM3 (Garden Villa)	1-hr TSP	472.7	350	500	Action

(a) Statement of exceedance(s)

1-hr TSP level at Station AM3 (Garden Villa) exceeded the Action level.

(b) Cause of exceedance(s)

It was considered that the exceedance was not related to the R8-ENT construction works based on the following observations:

- Based on the EPD monitoring data, the hourly Air Pollution Index (API) from most air quality monitoring stations was ranked as high to very high. The API recorded at the EPD's Sha Tin Station was 91 (both ranked as high), respectively during the sampling period (0900 to 1000 hrs).
- High TSP levels were also obtained in our other EM&A Projects, covering the areas of Sha Tin, Yuen Long and Lai Chi Kok, etc. Exceedances of air quality were also recorded at the monitoring stations in the above areas.
- Dust mitigation measures had been implemented by the Contractor, such as covering stockpiles and watering of haul roads. No observable dust source was identified in the R8-ENT construction site near the monitoring station.
- Therefore, the recorded exceedance of air quality may be due to the high ambient TSP level as a consequence of regional air pollution over Hong Kong.

(c) Action required under the action plan

N/A

(d) Action taken under the action plan

N/A

(e) ET's conclusions and recommendations for mitigation

The exceedance was not due to the Project works and no further action is required.

b) Exceedance Reports for 24-hr TSP (NIL)

c) Exceedance Reports for Construction Noise

- One action level exceedances were recorded due to public noise complaints received by the ET Leader on 28 September 2005. The details can refer to Appendix M.
- No noise limit level exceedance was recorded in the reporting month.

APPENDIX I
SITE AUDIT SUMMARY

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	50908-ENT
Date	8 September 2005 (Thu)
Time	1400 – 1630

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

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • Refer to Item no. 50831E-01 about overflow of water at Portion D4 into other's construction site. The water quality of the outfall was found satisfactory. It was also noted that the Contractor had diverted most of the clear stream water to the outlet to avoid overloading the treatment facility. Nevertheless, the Contractor was recommended to review the situation regularly to avoid any discharge of sub-standard water.	B1
50908E-01	***B. Air Quality*** • The stockpile at the loading and unloading area at Portion H3 was observed dry. The Contractor was reminded to maintain the stockpile wet to avoid dust emission.	C8
50908E-02	• Uncovered cement bags (more than 20 bags) were observed at Portion D3. The Contractor was reminded to provide proper covers for the cement bags.	C17
	C. Noise, • No environmental deficiency was identified during the site inspection.	
	D. Waste / Chemical Management, • No environmental deficiency was identified during the site inspection.	
	E. Permit / Licenses • No environmental deficiency was identified during the site inspection.	
	F. Others • The deficiencies identified during last audit (ref. 50831-ENT) on 31 August 2005 were rectified by the Contractor.	

	Name	Signature	Date
Recorded by	KK Chan		8 September 2005
Checked by	Winniss Kong		8 September 2005

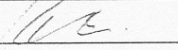
Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	50914-ENT
Date	14 September 2005 (Wed)
Time	1330 – 15500

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

Ref. No.	Remarks/Observations	Related Item No.
50914E-02	***A. Water Quality*** • Stagnant water was observed near the chemical storage area at North Portal. The contractor was reminded to remove the standing water.	G5
50914E-01	***B. Air Quality*** • The stockpile at the loading and unloading area at Portion H3 was observed dry. The Contractor was reminded to prevent the dust emission from stockpile.	C8
	C. Noise, • No environmental deficiency was identified during the site inspection.	
	D. Waste / Chemical Management, • No environmental deficiency was identified during the site inspection.	
	E. Permit / Licenses • No environmental deficiency was identified during the site inspection.	
	F. Others • The deficiencies identified during last audit (ref. 50908-ENT) on 8 September 2005 were rectified by the Contractor, except for the Item no. 50908E-01, regarding the dry stockpile at Portion H3.	

	Name	Signature	Date
Recorded by	Keith Chau		14 September 2005
Checked by	KK Chan		14 September 2005

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	50921-ENT
Date	21 September 2005 (Wed)
Time	1330 – 1550

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

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	B. Air Quality	
50921E-02	• Dust emission was observed from the loading and unloading area at BV portion H3.	C10
50921E-03	• Spot check was conducted at Garden Villa to inspect the condition of dump trucks leaving the site via TAR1. Two dump trucks, which were working for ENT Contract, were found inadequately covered and 1 truck was found uncovered. The other 4 trucks were found covered properly	C11
	C. Noise,	
	• No environmental deficiency was identified during the site inspection.	
	D. Waste / Chemical Management,	
50921E-01	• Oil stained soil was observed under the air-compressor at Mui Kong Tsuen. The contractor was reminded to removed the oil stained soil properly.	E12
	E. Permit / Licenses	
	• No environmental deficiency was identified during the site inspection.	
	F. Others	
	• The deficiencies identified during last audit (ref. 50914-ENT) on 14 September 2005 were rectified by the Contractor, except for the Item no. 50914E-01, regarding the dry stockpile at Portion H3.	

	Name	Signature	Date
Recorded by	Keith Chau		22 September 2005
Checked by	KK Chan		22 September 2005

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	50928-ENT
Date	28 September 2005 (Wed)
Time	0905 – 1120

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

Ref. No.	Remarks/Observations	Related Item No.
50928E-01	***A. Water Quality*** • No environmental deficiency was identified during the site inspection. ***B. Air Quality*** • A water spay system was installed at loading and unloading area of BV portion H3 to prevent dust emission. • TAR1 had been closed since 26th September 2005, there was no dump truck leaving the site via this access road. ***C. Noise,*** • No environmental deficiency was identified during the site inspection. ***D. Waste / Chemical Management,*** • The fuel was observed placed on bare ground without the drip tray at Mui Kong Tsuen. The contractor was reminded to store the fuel properly. ***E. Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***F. Others*** • The deficiencies identified during last audit (ref. 50921-ENT) on 21 September 2005 were rectified by the Contractor.	E3

	Name	Signature	Date
Recorded by	Keith Chau	Keith	28 September 2005
Checked by	KK Chan		28 September 2005

APPENDIX J
EVENT ACTION PLANS

Appendix J - Event Action Plans

Event/Action Plan for Air Quality

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

EVENT	ACTION			
	ET	IEC	ER	Contractor
	remedial actions and keep EPD and ER & IEC informed of the results	4. Advise the ER & ET on the effectiveness of the proposed remedial measures 5. Supervise the implementation of the remedial measures	proposed remedial actions 5. Ensure remedial actions properly implemented	3. Implement the agreed proposals 4. Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	1. Identify source 2. Inform ER, IEC, Contractor and EPD the cause & actions taken for the exceedances 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Investigate the causes of exceedance 6. Carry out analysis of contractor's working procedures to determine possible mitigation to be implemented. 7. Arrange meeting with EPD, IEC and ER to discuss the remedial actions to be taken 8. Assess effectiveness of Contractor's remedial actions and keep EPD and ER & IEC informed of the results 9. If exceedance stops, cease additional monitoring	1. Checking monitoring data submitted by ET 2. Discuss amongst ER, ET and Contractor on possible remedial measures 3. Review Contractor's remedial measures whenever necessary to ensure their effectiveness and advise the ER accordingly 4. Supervise the implementation of the remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 4. Discuss amongst ET, IEC and the Contractor on proposed remedial actions 5. In consultation with IEC, agree with the contractor remedial measures to be implemented 6. Ensure remedial measure are properly implemented 7. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IEC, ER within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Event/Action Plan for Construction Noise

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

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

APPENDIX K
ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

Appendix K - Summary of Environmental Mitigation Implementation Schedule

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

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

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

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

Types of Impacts	Mitigation Measures	Status
	General Refuse	
	• General refuse generated on-site shall be stored in enclosed bins or compaction unit separate from C&D and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D and chemical wastes, on a daily for every second day basis to minimise odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law.	^
	• Reusable rather than disposable dishware shall be used if feasible.	^
Ecology	• A sediment barrier shall be erected to minimize stream sedimentation at downstream of the project boundary of the Toll Plaza.	N/A
	• Conduct a tree survey before commencement of the construction work.	^
	• All measures recommended in the approved landscape proposals under Condition 2.4 in EP above shall be fully implemented in accordance with the details and time schedule set out in the submission.	N/A
	• Loss of the adjacent woodland due to temporary land take shall be returned to the original status immediately.	N/A
	• Wild and uncontrolled fire shall be strictly prohibited	^
	• Fences shall be erected along the boundary of the construction sites at the Toll Plaza before commencement of works, to prevent tipping, vehicle movements, and encroachment of personnel onto adjacent wooded areas.	N/A
Landscape and Visual Impact	• Landscape mitigation measure 1 (LMM1) – Construction programming and management. The periphery of the works areas at street level shall be managed so that they do not appear cluttered, untidy and unattractive and inconvenient to pedestrians. For example, all hoarding shall be colorfully designed with interesting motifs demonstrating the work of Highways Department. Hoardings with bland colours shall be avoided.	^
	• Landscape mitigation measure 2 (LMM2) – Advanced planting and erosion control works. Where possible, the transplantation of existing valuable trees, the stockpiling of topsoil, new planting and erosion control works shall be carried out as early as possible in the construction period instead of at the end. This will assist in maximizing the time for carrying out transplantation and new planting, resulting in a higher success rate for the survival of transplantation and new planting, resulting in a higher success rate for the survival of transplanted trees and the establishment of new screen trees. The stockpiling of topsoil will provide an abundant use of on-site material for growing media. During detailed design, the issue of stockpiling of topsoil in a manner that would avoid washing into the drainage scheme should be examined comprehensively.	^
	• Measurement of vibration would also be carried out on a need basis during the piling work	^

Remarks:

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

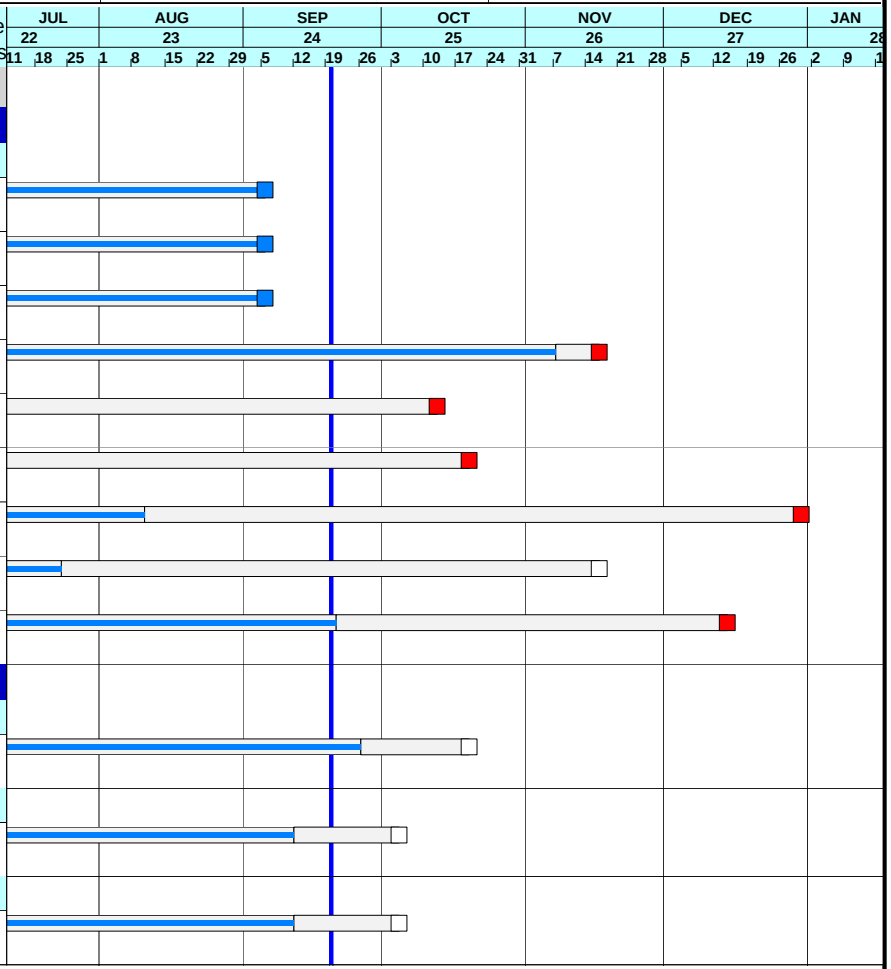
APPENDIX L
CONSTRUCTION PROGRAMME

Data Date 20SEP05
Run Date 27SEP05 17:35

3 MONTH ROLLING PROGRAMME

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

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
GENERAL & PRELIMINARIES									
SUBMITTALS & APPROVALS									
DRAWING SUBMITTAL & APPROVAL									
8014	Prep. & Sub. Combined Services Dwgs for ENT	48	20MAR04A	05SEP05A	100	100	0		-446
8023	Prep. & Sub. Independ't Services Dwgs for ENT	48	24JUN04A	05SEP05A	100	100	0		-362
8031	Prep. & Sub. Comb. Services Dwgs for SHT&T3&LCK	48	20JUL04A	05SEP05A	100	100	0		-314
8034	Prep.& Sub. Independ't Serv. Dwgs for SHT&T3&LCK	48	04AUG04A	16NOV05	98	100	48	-8	-283
8024	Engineer Comment / Approve ENT ISD Submissions	18	06AUG04A	12OCT05	75	100	18	-68	-373
8030	Res-sub. & Approv of ENT ISD	24	06SEP04A	19OCT05	50	100	24	-68	-355
8035	Engineer Comment / Approve SHT&T3LCK ISD Sub.	24	13SEP04A	30DEC05	70	100	84	-8	-295
8032	Engineer Comment / Approve SHT&T3&LCK CSD Sub.	18	25OCT04A	16NOV05	70	100	48	40	-355
8033	Re-sub. & Approv. of SHT & T3 & LCK CSD	24	28JUN05A	14DEC05	50	100	24	-8	-355
SEM INTERFACE WITH SHT & T3									
SHATIN HEIGHTS TUNNEL									
2458	Apprv.for Det.Engineering of Tnnl.Vent.Fans	24	08JUL04A	19OCT05	95	100	24	122	-482
SHT RC FULL ENCLOSURE									
2473	Apprv.for Det.Engineering of Encl.Vent.Fans	12	07JUL04A	04OCT05	95	100	12	142	-533
T3 UNDERPASS									
2481	Apprv.for Det.Engineering of T3 Underpass	12	07JUL04A	04OCT05	95	100	12	142	-533



Leighton–Kumagai Joint Venture

LEIGHTON - KUMAGAI JV
R8- EAGLE'S NEST TUNNEL

DETAILED WORKS PROGRAMME REVISION C

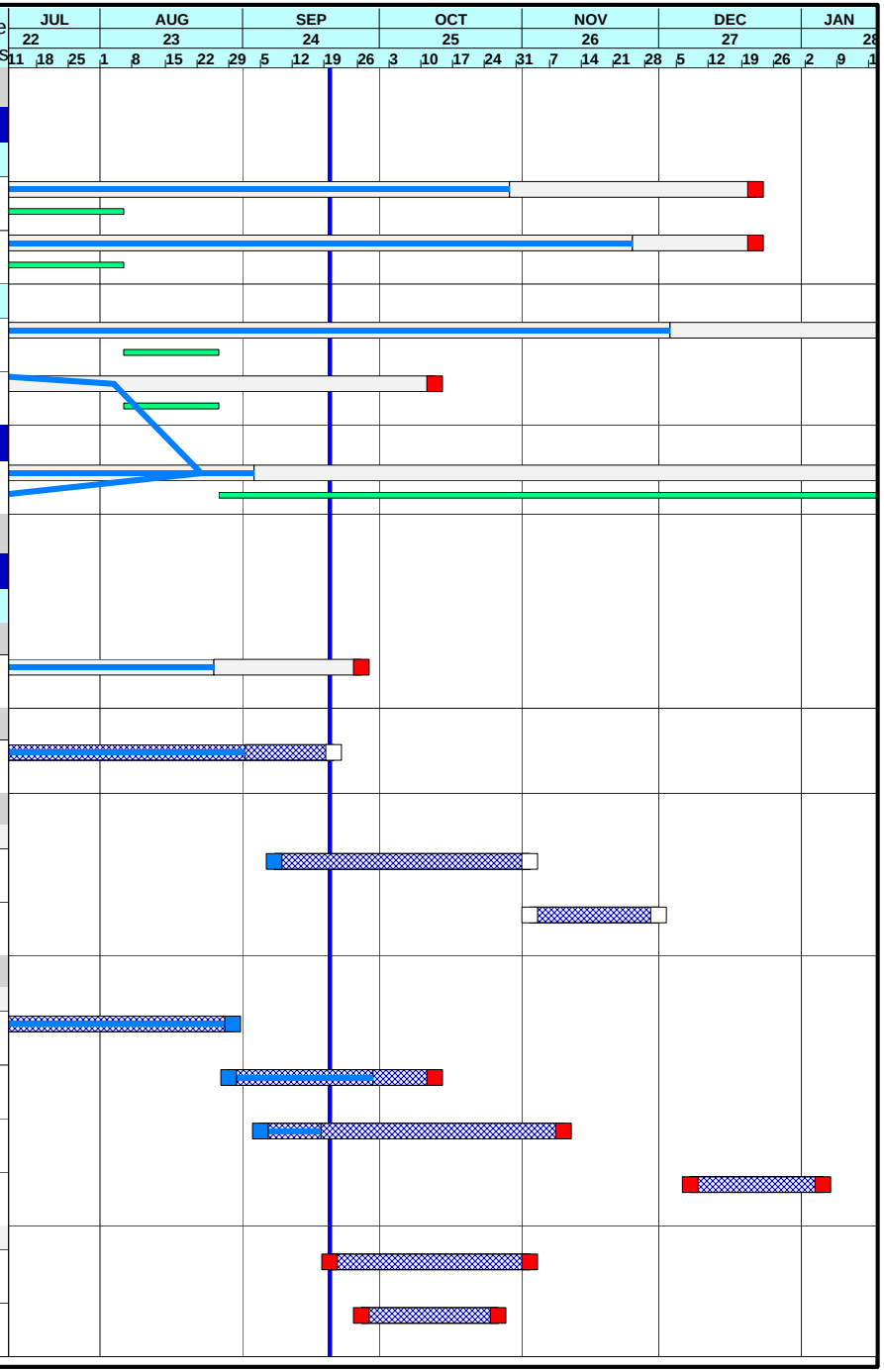
Proj. Name: W11C
Layout: 3 MONTHS ROLLING PROGRAMME
Filter: 3 MONTH ROLLING PROGRAMME
Current Proj: W11C
Target 1 Proj: BLRC
Taget 2 Proj: EOT3

Sheet 1 of 44

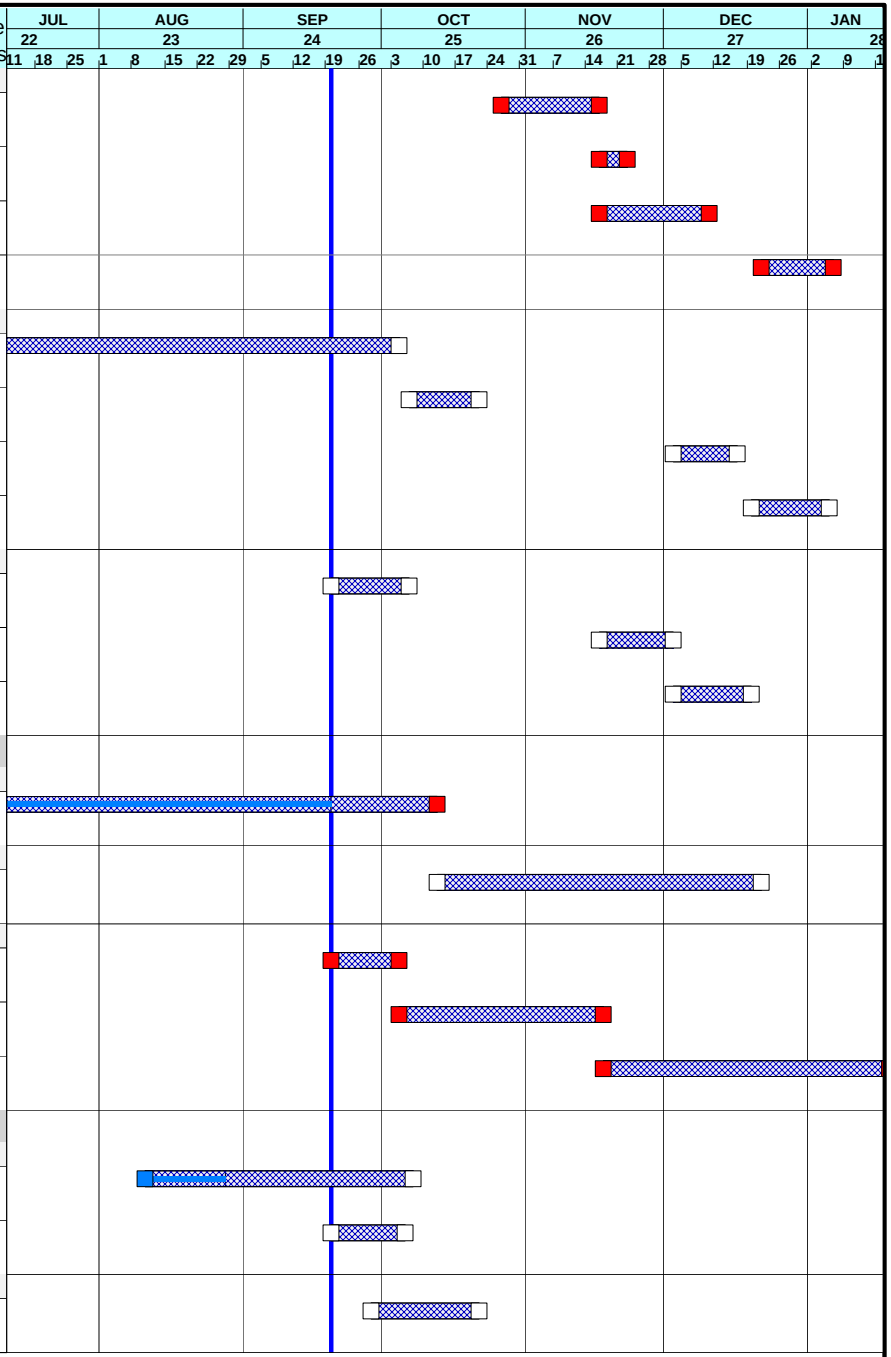
LKJV/ENT/DWP/B

Date	Revision	Checked	Approved
27SEP05	Prog update September	IT	RB

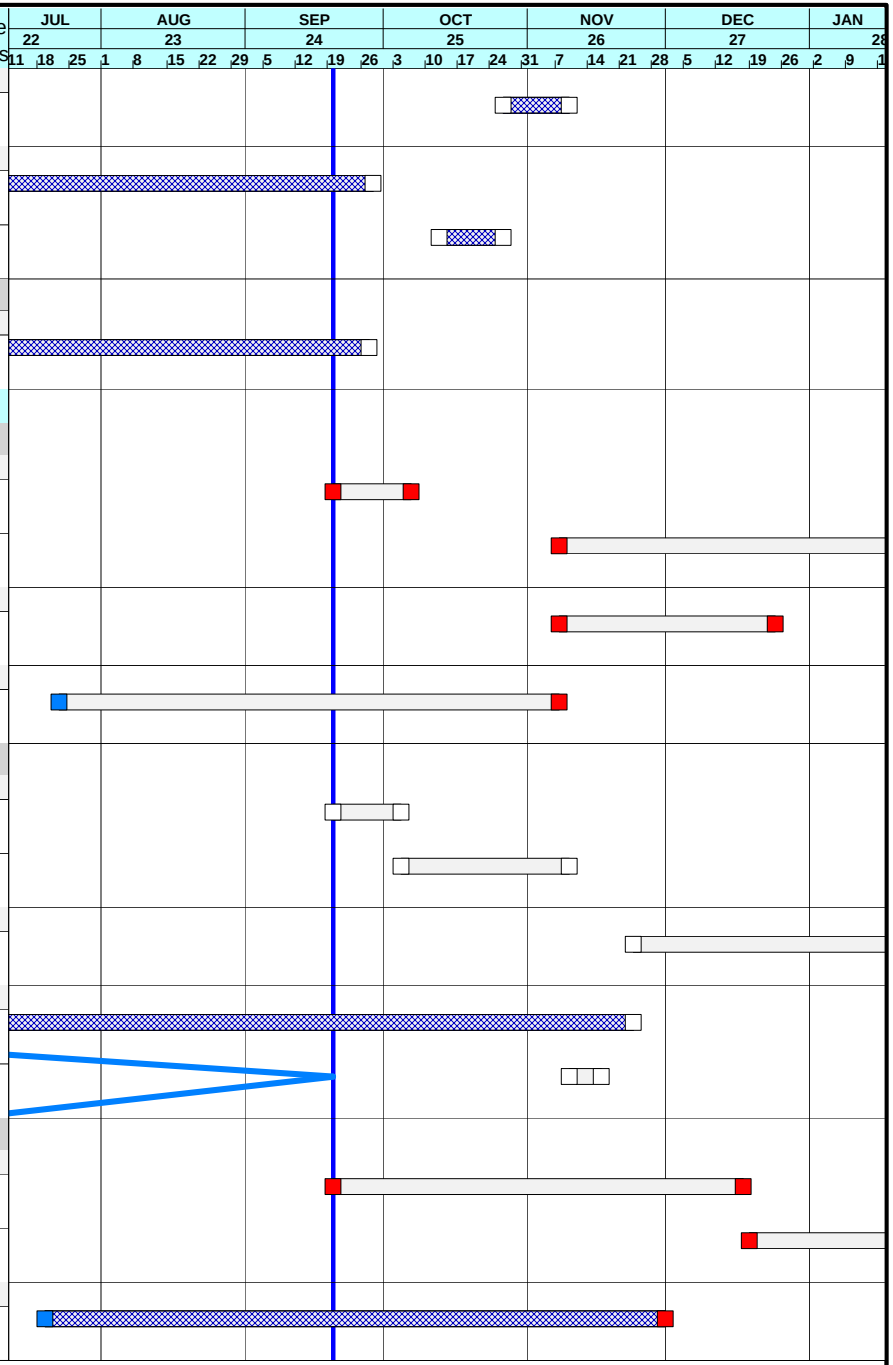
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
LAI CHI KOK VIADUCT									
SUBMITTALS & APPROVALS									
E&M EQPT./MTRL SUBMITTALS									
8313	LCKVd-Sub. Enclosure Lgt sys (incl Excision NEs)	78	02JUL04A	21DEC05	90	100	78	-115	-115
8319	LCKVd-Sub. Elect Power sys (incl Excision NEs)	78	02JUL04A	21DEC05	95	100	78	5	-115
E&M EQPT./MTRL.APPROVALS BY ENGINEER									
8314	LCKVd-App.Enclosure Lgt sys (incl Excision NEs)	18	05AUG04A	03APR06	80	100	156	-115	-175
8318	LCKVd-App. Elect Power sys (incl Excision NEs)	18	07DEC04A	12OCT05	65	100	18	5	-37
PROCUREMENT - MATERIAL									
8320	LCKVd-Proc & Manuf. Elect Power sys (incl Excisi	180	20MAY05A	08MAY06	30	100	180	5	-19
BUTTERFLY VALLEY									
CONSTRUCTION WORKS									
EARTHWORKS & SLOPEWORKS									
SITE CLEARANCE & TEMPORARY ACCESS									
2235	WA2 Slope Site Clearance BV-S2	90	22DEC03A	26SEP05	95	100	6	-100	-339
SLOPE 11NW-A/C435									
3794	11NW-A/C435 hydro-seeding & tensar mat	24	11MAR05A	20SEP05	90	100	1	347	-431
SLOPE SP-S2 & SP-S3									
SLOPE STABILISATION (SOIL NAILS,ROCK BOLTS ETC)									
1110	SP-S2/S3 Inst.Soil Nails & Test (97nr.w/3rig)	18	08SEP05A	02NOV05	0	100	36	249	-379
3798	SP-S2/S3 hydro-seeding & tensar mat	24	03NOV05	30NOV05	0	100	24	288	-379
SLOPE BV-S2									
EXCAVATION (SOFT & ROCK)									
2683	BV-S2/7 Slope excavation (soft & rock)	56	27APR05A	29AUG05A	100	100	0		-222
2689	BV-S2/8 Slope excavation (rock & soft)	82	29AUG05A	12OCT05	70	100	18	-100	-168
2692	BV-S2/9 Slope excavation (rock & some soft)	83	05SEP05A	09NOV05	20	100	36	-70	-155
2695	BV-S2/10 Slope excavation (rock & some soft)	22	08DEC05	05JAN06	0	100	22	-100	-168
SLOPE STABILISATION (SOIL NAILS,ROCK BOLTS ETC)									
2691	BV-S2/8 Inst.Rock bolts & Test (60nr.w/3.rig)	22	20SEP05	02NOV05	0	100	22	-73	-228
2690	BV-S2/8 Row B1 Soil Nails & Test 21nr.w/1.rig	12	27SEP05	26OCT05	0	100	12	-100	-168



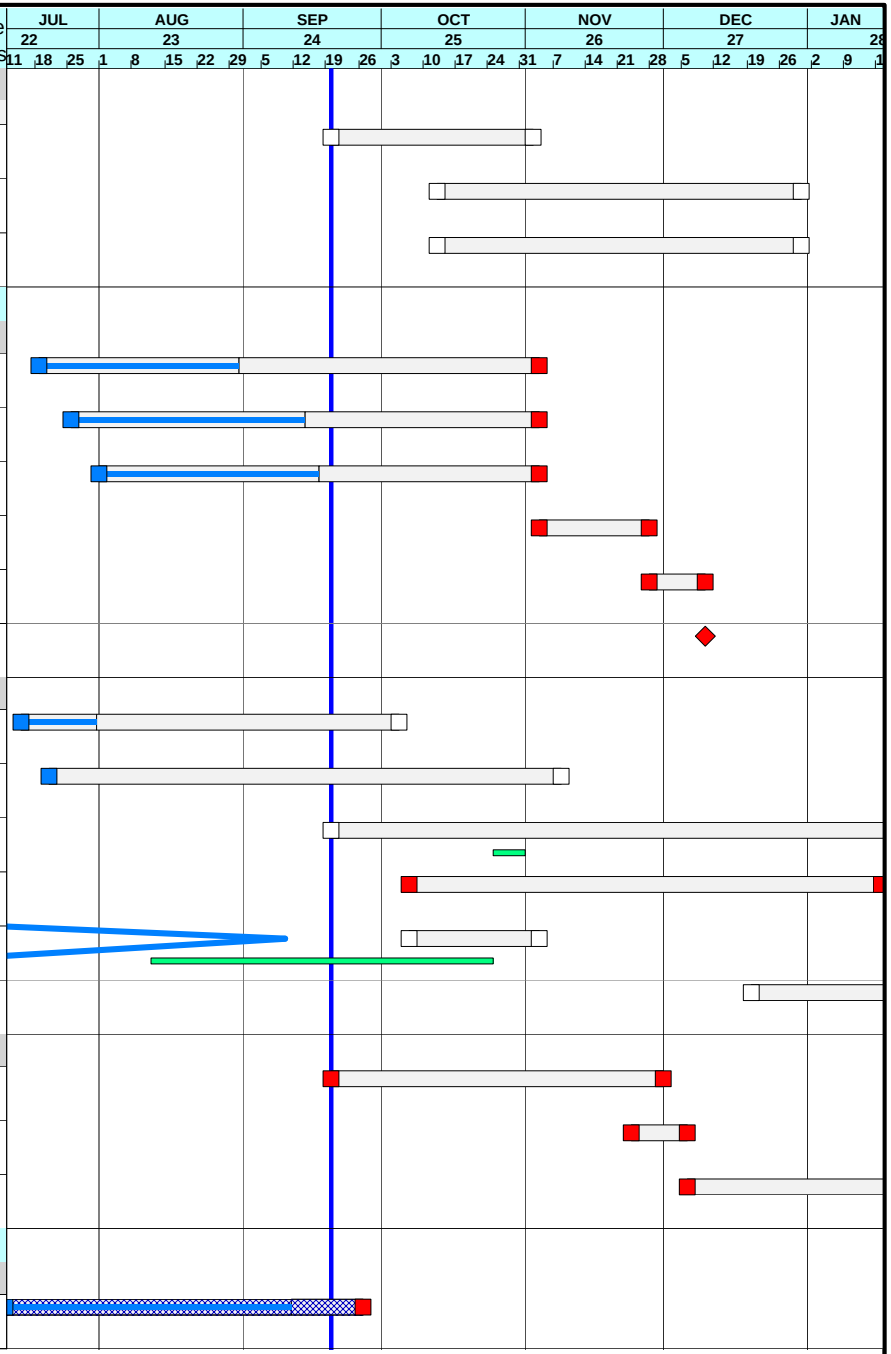
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
SLOPE STABILISATION (SOIL NAILS,ROCK BOLTS ETC)									
2693	BV-S2/8 RowD5/D6 Soil Nails & Test 64nr.w/2.rig	18	27OCT05	16NOV05	0	100	18	-100	-168
2694	BV-S2/9 Inst.Rock bolts & Test (4nr.w/1.rig)	5	17NOV05	22NOV05	0	100	5	-100	-168
3664	BV-S2/9 Row B2 Soil Nails & Test 38nr.w/1.rig	21	17NOV05	10DEC05	0	100	21	-100	-168
2696	BV-S2/10 Row B3 Soil Nails & Test 39nr.w/2.rig	11	22DEC05	06JAN06	0	100	11	-100	-168
HYDRO-SEEDING & TENSAR MAT									
3803	BV-S2 Berm 6 hydro-seeding & tensar mat	12	25MAR05A	04OCT05	50	100	12	312	-233
3804	BV-S2 Berm 7 hydro-seeding & tensar mat	12	07OCT05	21OCT05	0	100	12	310	-217
3805	BV-S2 Berm 8 hydro-seeding & tensar mat	12	03DEC05	16DEC05	0	100	12	274	-168
3811	BV-S2 Berm 9 hydro-seeding & tensar mat	12	20DEC05	05JAN06	0	100	12	248	-168
SURFACE DRAINAGE									
3694	BV-S2 Berm 7 Surface drainage	14	20SEP05	06OCT05	0	100	14	280	-217
3695	BV-S2 Berm 8 Surface drainage	14	17NOV05	02DEC05	0	100	14	246	-168
3696	BV-S2 Berm 9 Surface drainage	14	03DEC05	19DEC05	0	100	14	246	-168
SLOPE BV-S3									
COMPACTED FILLING									
1987	BV-S3 Compact Fill to +56.0mPD ch.1+740 to 1+860	36	20JUN05A	12OCT05	80	100	18	-141	-252
HYDRO-SEEDING & TENSAR MAT									
3806	BV-S3 hydro-seeding & tensarmat to +41.0mPD	60	13OCT05	21DEC05	0	100	60	652	-252
SURFACE DRAINAGE									
1981	BV-S3 Slope Surface Drainage +33.5mPD	12	20SEP05	04OCT05	0	100	12	-141	-282
1982	BV-S3 Slope Surface Drainage +41.0mPD	37	05OCT05	17NOV05	0	100	37	-141	-271
1983	BV-S3 Slope Surface Drainage +48.5mPD	50	18NOV05	18JAN06	0	100	50	-141	-271
SLOPE BV-S4									
SLOPE STABILISATION (SOIL NAILS,ROCK BOLTS ETC)									
2358	BV-S4/4a Row A2/A3 Soil Nail & Test 67nr.w/2rig	19	11AUG05A	07OCT05	30	100	15	115	-310
2352	BV-S4/4b Row A2/A3 Soil Nail & Test 28nr.w/2rig	13	20SEP05	05OCT05	0	100	13	120	-406
SLOPE FINISHES									
1139	11NW&434 BV-S4/1-2-3bcd-4b Hydro-seed/Tensarmat	18	29SEP05	21OCT05	0	100	18	119	-326



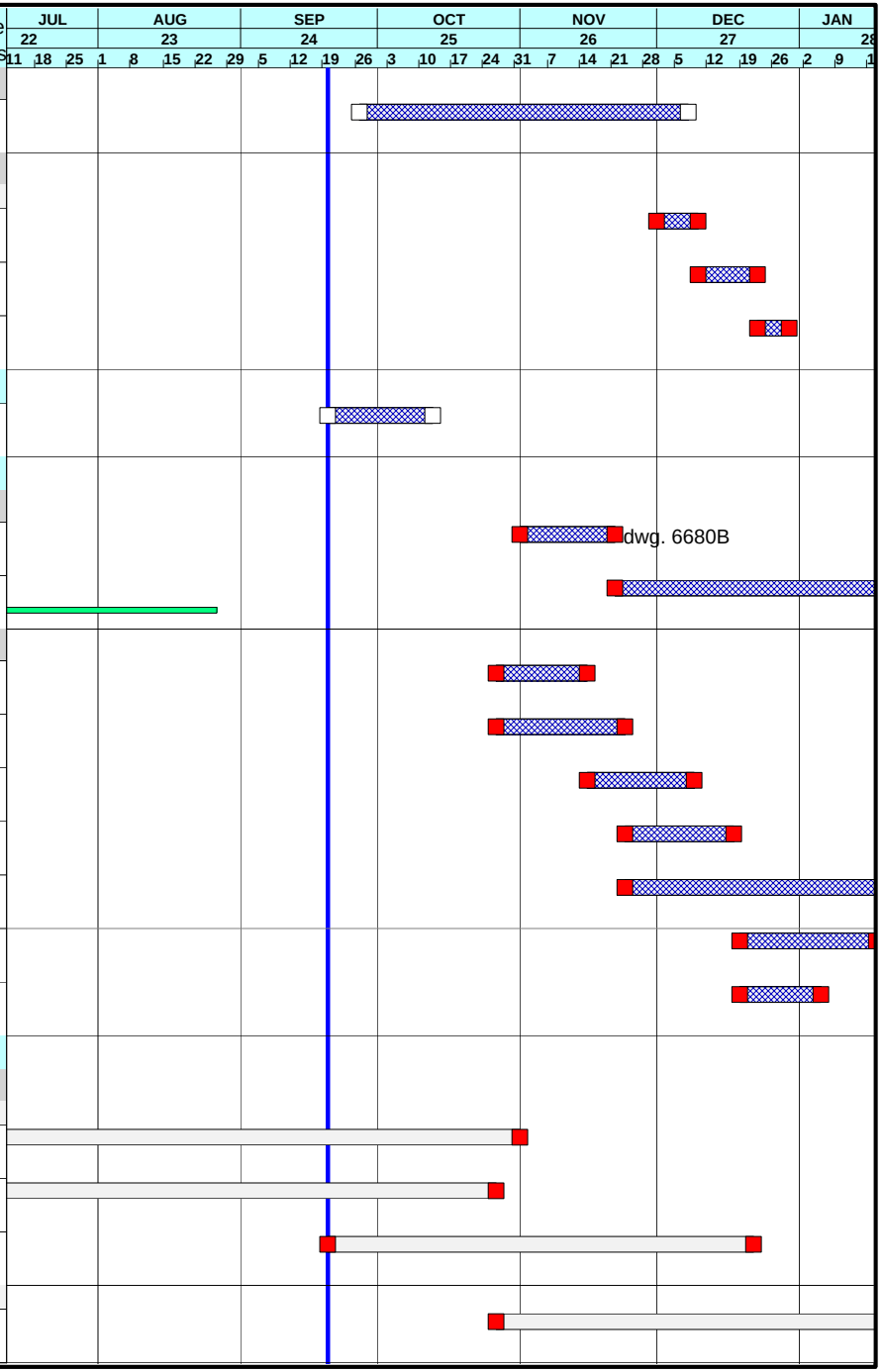
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
SLOPE FINISHES									
2380	BV-S4/3a-4a & 5 hydro-seeding & tensarmat	12	27OCT05	09NOV05	0	100	12	115	-302
SURFACE DRAINAGE									
3705	BV-S4/3 Surface Drainage	8	17MAR05A	28SEP05	25	100	8	119	-412
3706	BV-S4/4 Surface Drainage	12	13OCT05	26OCT05	0	100	12	115	-322
SLOPE SP-S1									
SURFACE DRAINAGE									
3711	Sp-S1/4 Surface Drainage	7	06JUL04A	27SEP05	40	100	7	341	-343
RC STRUCTURES									
RETAINING WALL BV-R1									
PILING WORKS									
1140	BV-R1(C) Pre-Bore & Report	14	20SEP05	06OCT05	0	100	14	-53	-231
1141	BV-R1(C) Bored Pile 22nr	61	08NOV05	20JAN06	0	100	61	-73	-172
CONCRETE WORKS									
1145	BV-R1(A) RC Base Slab ch.2+060	4	08NOV05	24DEC05	0	100	4	-35	-176
EXCAVATION (SOFT & ROCK)									
2700	BV-R1 Excavation (BV-S2/8 rock)	61	23JUL05A	07NOV05	0	100	18	-73	-172
RETAINING WALL BV-R2									
CONCRETE WORKS									
1116	BV-R2(C) Pile Capping Beam	12	20SEP05	04OCT05	0	100	12	171	-204
1117	BV-R2(C) RC Wall	30	05OCT05	09NOV05	0	100	30	171	-204
FINISHES									
1123	BV-R2 Wall finishes	60	24NOV05	13FEB06	0	100	60	171	-174
BACKFILLING									
1122	BV-R2(A&B) Granular Drain & Compacted Backfill	36	07APR05A	23NOV05	5	100	36	179	-144
1126	BV-R2(C) Granular Drain & Compacted Backfill	6	10NOV05	16NOV05	0	100	6	221	0
STEPPED CHANNEL & BOX CULVERT									
CONCRETE WORKS									
1911	Box culvert bays 5-15 ch.2+010 to 2+110	55	20SEP05	17DEC05	0	100	75	-166	-176
1161	Box culvert bays 16 & 17 ch.2+110 to 2+140	18	19DEC05	25JAN06	0	100	18	-71	-180
EXCAVATION (SOFT & ROCK)									
1912	Box culvert rock exc.bay 5-15 Ch.2+010 to 2+110	60	20JUL05A	30NOV05	0	100	60	-166	-180



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	INLET HEADWALLS								
	INLET HEAD WALL								
3715	Inlet headwall @SP-S2/3	30	20SEP05	02NOV05	0	100	30	312	-361
3796	Inlet headwall ch.1+810	66	13OCT05	30DEC05	0	100	66	264	-252
3797	Inlet headwall ch.1+830	66	13OCT05	30DEC05	0	100	66	264	-252
	WSD WORKS								
	WSD 900 MAIN DIVERSION								
1929	Inst.900.dia pipe (incl.thrust blocks) westside	90	19JUL05A	03NOV05	40	100	37	10	-271
1928	Pipe bridge 'A' (DN900) - Bridge section	90	26JUL05A	03NOV05	50	100	37	10	-271
1174	Inst.DN900 pipe (incl.thrust blocks) to BV-S4	66	01AUG05A	03NOV05	50	100	37	10	-289
3163	DN900 main clean/pressure test & WSD approve	54	04NOV05	27NOV05	0	100	24	12	-297
1175	DN900 connection by WSD	12	28NOV05	09DEC05	0	100	12	12	-363
1176	DN900 WSD Diversion Implemented	0		09DEC05	0	100	0	12	-309
	WSD 2x600 MAIN DIVERSION								
1166	Construct DN600 Pipe Bridge 'D'	18	15JUL05A	04OCT05	20	100	12	74	-213
1169	Inst.2xDN600 WSD Pipe down BV-S2/6-7	90	21JUL05A	08NOV05	0	100	41	98	-218
1168	DN600 connection by WSD	6	20SEP05	20FEB06	0	100	6	67	-86
1164	Inst.DN600 WSD Pipe in Pipe Tunnel & valley	36	07OCT05*	16JAN06	0	100	83	-128	-229
1167	Inst.DN600 WSD Pipe along BV-S2/8 (south)	60	07OCT05*	03NOV05	0	100	23	72	-9
1163	Inst.DN600 WSD Pipe along BV-S2/8 (north)	90	20DEC05*	26JAN06	0	100	30	63	-166
	WSD 200 MAIN								
2338	Inst.DN200 pipe (incl.thrust blocks) to BV-S4	60	20SEP05	30NOV05	0	100	60	-19	-318
2340	DN200 connection by WSD	12	24NOV05	05DEC05	0	100	12	-22	-394
3164	DN200 main clean/pressure test & WSD approve	54	06DEC05	28JAN06	0	100	54	-22	-394
	TERRAIN MITIGATION								
	NTMM - BV-S2								
2392	NTMM - Constr.Peforated Drain Channel	24	11JUL05A	26SEP05	80	100	6	-100	-198



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NTMM - BV-S2									
2350	NTMM - Afforestation of Area	60	27SEP05	07DEC05	0	100	60	282	-198
NTMM - CULVERT 'A'									
SOIL STABILISATION (SOIL NAILS,ROCK BOLTS ETC)									
2384	Culvert 'A' Prep.access for Soil Nails Ch.2+140	8	01DEC05	09DEC05	0	100	8	-71	-180
2385	Culvert A-Soil Nails & Test ch.2+140 19nr.w/1rig	11	10DEC05	22DEC05	0	100	11	-71	-180
2386	Culvert 'A' - excavate gabion benches Ch.2+140	4	23DEC05	29DEC05	0	100	4	-71	-180
RECREATED STREAM									
3808	Recreated stream DN525 pipe (east) ch.1+740	18	20SEP05	12OCT05	0	100	18	64	-391
EXCISION WORKS - NOISE BARRIERS & ENCLOSURES									
NOISE BARRIER (SB)									
2740	SB Barrier.Fnds.-Piling (C2)	18	01NOV05	21NOV05	0	100	18	-51	-168
2741	SB Barrier.Fnds.-RC Base (C2)	58	22NOV05	08FEB06	0	100	58	-51	-129
NOISE SEMI-ENCLOSURE [SB)									
1177	SB Semi-Encl.Fnds. - Piling (C3)	17	27OCT05	15NOV05	0	100	17	-196	-234
2738	SB Semi-Encl.Fnds. - Piling (C3,C4,I2)	24	27OCT05	23NOV05	0	100	24	-203	-234
2733	SB Semi-Encl.Fnds. - RC Base (C3)	20	16NOV05	08DEC05	0	100	20	-195	-234
2734	SB Semi-Encl.Fnds. - Piling (C4)	21	24NOV05	17DEC05	0	100	21	-203	-241
2739	SB Semi-Encl.Fnds.- RC Base (C3,C4,I2)	51	24NOV05	25JAN06	0	100	51	-196	-234
2735	SB Semi-Encl.Fnds.- RC Base (C4)	23	19DEC05	17JAN06	0	100	23	-203	-241
2736	SB Semi-Encl.Fnds.- Piling (I2)	13	19DEC05	05JAN06	0	100	13	-193	-241
SB/NB ROADWORKS & FINISHES									
ROADS - FORMATION									
FILLING									
1103	BV Compact.Fill to Form.ch.1+920 to 2+020	84	14JUN04A	31OCT05	70	100	34	-203	-202
1102	BV Compact.Fill to Form.ch.2+020 - 2+200	48	11AUG04A	26OCT05	65	100	30	-203	-234
2732	BV Compact.Fill to Form.ch.1+860 to 1+920	78	20SEP05	21DEC05	0	100	78	-147	-204
DRAINAGE									
2381	SB/NB Sth.Appr.Rd.Drainage ch.2+030 - 2+200	114	27OCT05	20MAR06	0	100	114	-173	-234



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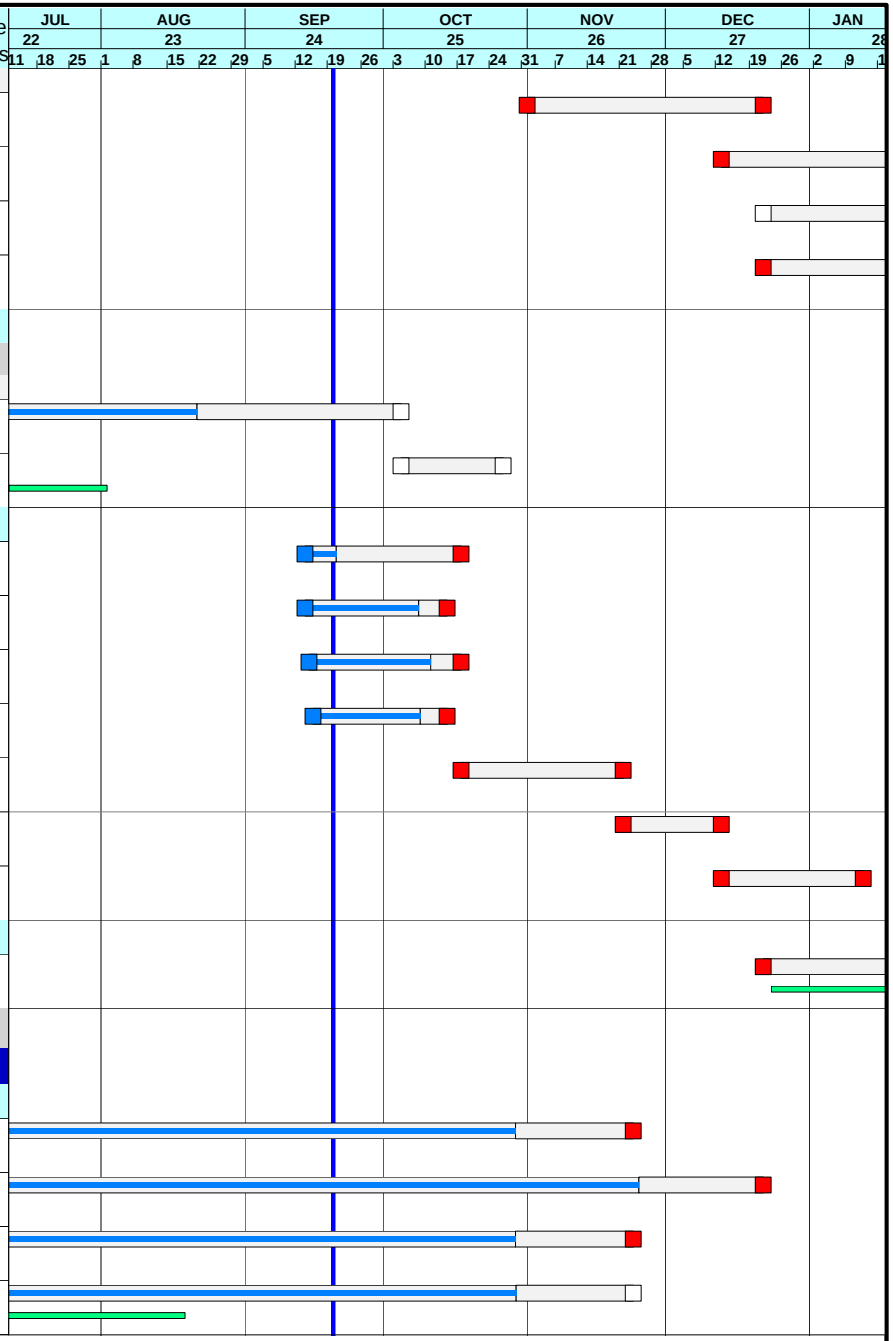
DRAINAGE									
1178	BV.Appr.Rd.Drainage ch.1+920 to 1+960	44	01NOV05	21DEC05	0	100	44	-109	-202
2726	SB/NB Sth.Appr.Rd.Drain Testing ch.2+030 - 2+200	42	13DEC05	11APR06	0	100	42	-173	-234
2721	BV.Appr.Rd.Drain Testing ch.1+920 to 1+960	30	22DEC05	06FEB06	0	100	30	125	-202
2727	BV.Appr.Rd.Drainage ch.1+780 to 1+920	62	22DEC05	15MAR06	0	100	62	-147	-204
EVA ROADWORKS & FINISHES									
SB (EAST SIDE) EVA ROADWORKS									
DRAINAGE									
1979	SB EVA rd.drainage (east) ch.2+000 to 2+200	31	11APR05A	04OCT05	75	100	12	179	-71
1978	SB EVA rd.drain testing (east) ch.2+000 to 2+200	18	05OCT05	26OCT05	0	100	18	179	-71
EXCISION WORK-SHEK LEI PUI WATER TREATMENT PLANT									
2747	Soilid Barrier Type II - Structural Steelwork	30	14SEP05A	17OCT05	20	100	22	-172	-200
2749	Soilid Barrier Type III - Structural Steelwork	24	14SEP05A	14OCT05	80	100	20	-122	-155
2748	Soilid Barrier Type I - Structural Steelwork	18	15SEP05A	17OCT05	80	100	20	-142	-182
2750	Soilid Barrier Type IV - Structural Steelwork	18	16SEP05A	14OCT05	80	100	18	-98	-137
2751	Soilid Barrier Type II - Cladding	30	18OCT05	21NOV05	0	100	30	-172	-200
2752	Soilid Barrier Type I - Cladding	18	22NOV05	12DEC05	0	100	18	-172	-200
2753	Soilid Barrier Type III - Cladding	24	13DEC05	12JAN06	0	100	24	-172	-200
LANDSCAPING & ESTABLISHMENT									
1183	Sth.Appr.Hard Landscaping	150	22DEC05	14MAR07	0	0	150	-83	-201
ENT SOUTH PORTAL VENTILATION BUILDING									
SUBMITTALS & APPROVALS									
E&M EQPT.& MATERIAL.SUBMITTALS									
8201	EntSpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	23NOV05	95	100	54	-80	-214
8204	EntSpBldg-Sub.TVF, Ductworks & Control sys	78	02JUL04A	21DEC05	95	100	78	-80	-217
8209	EntSpBldg-Sub.HV/`LV main & submain cable sys	54	02JUL04A	23NOV05	95	100	54	-122	-181
8212	EntSpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	23NOV05	95	100	54	46	-80



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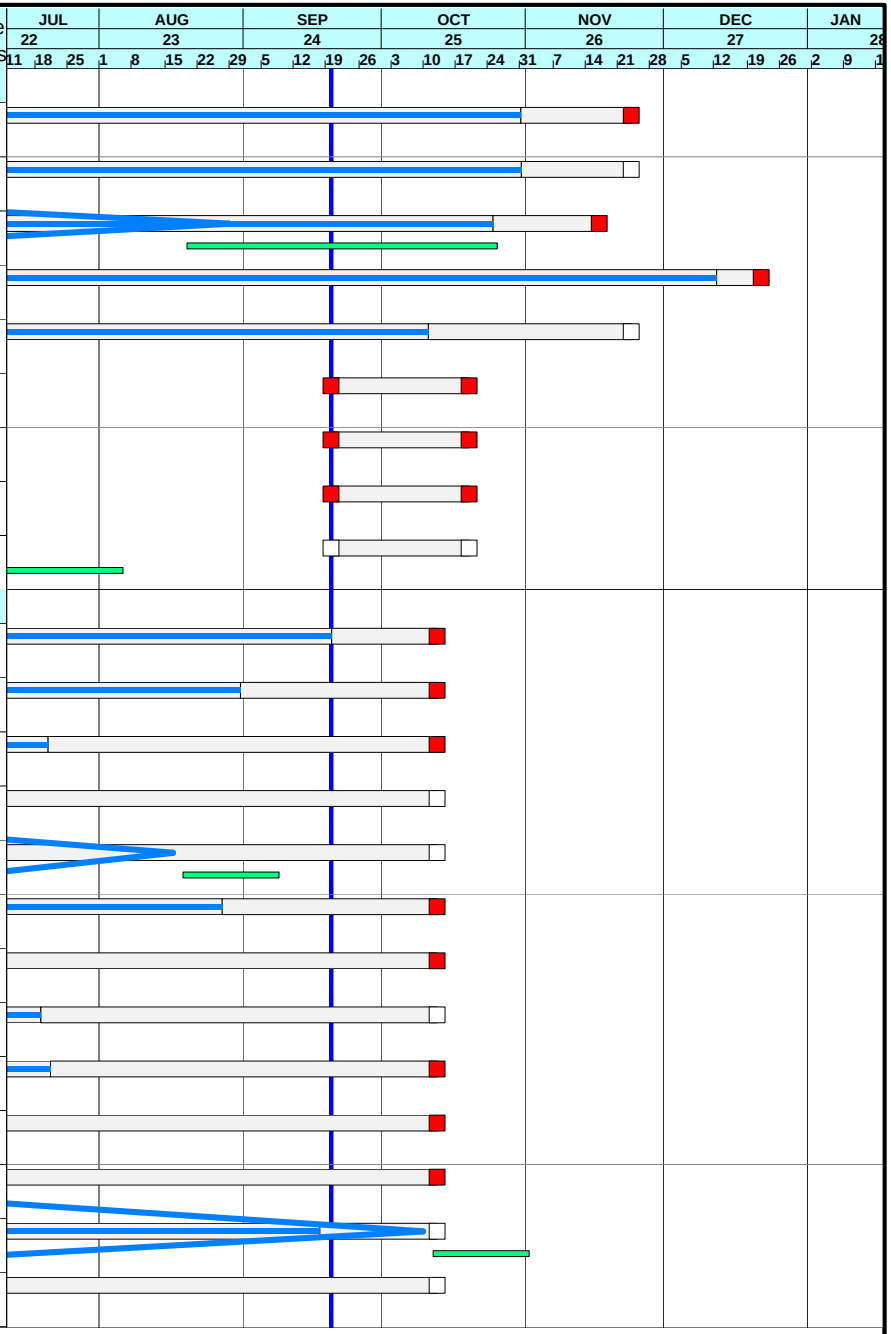
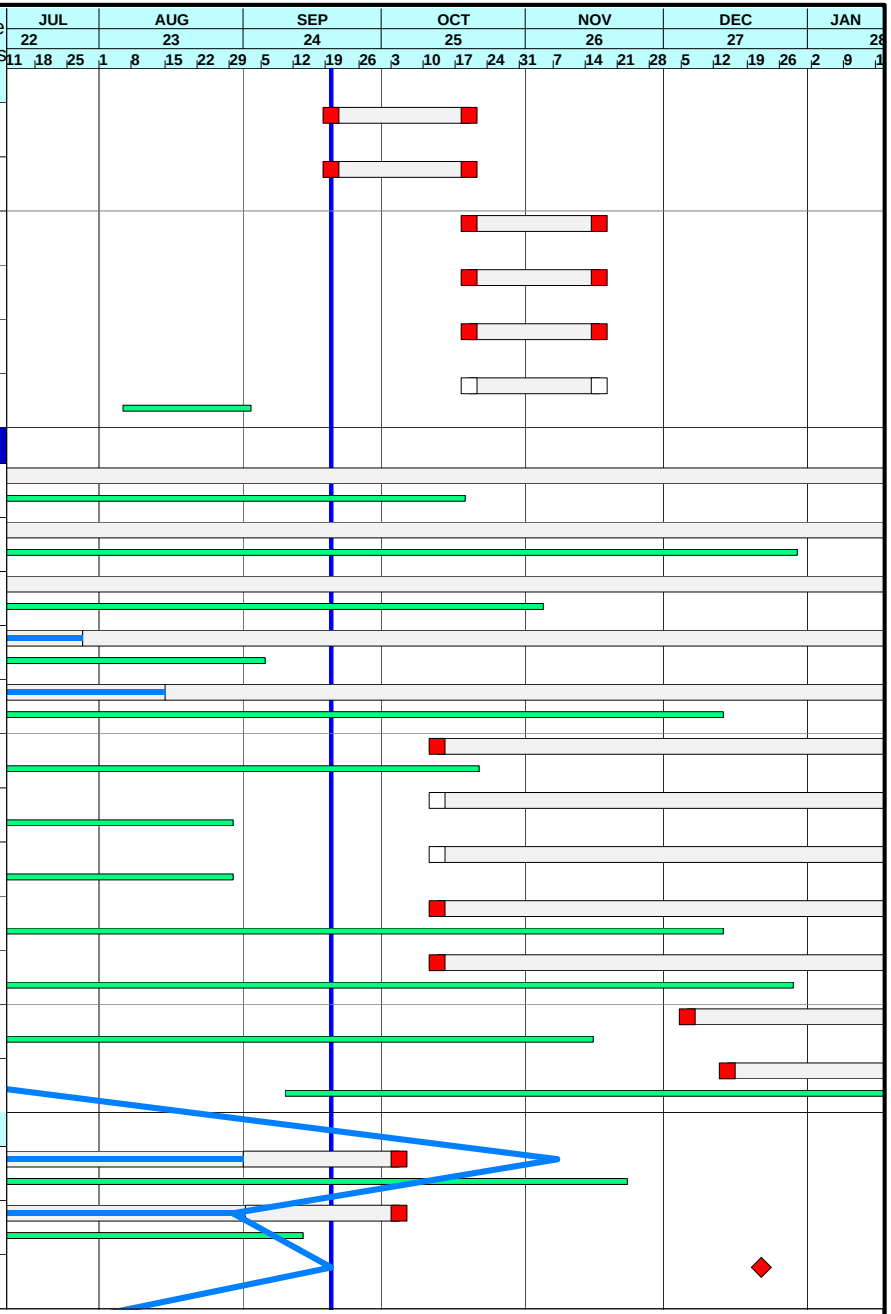
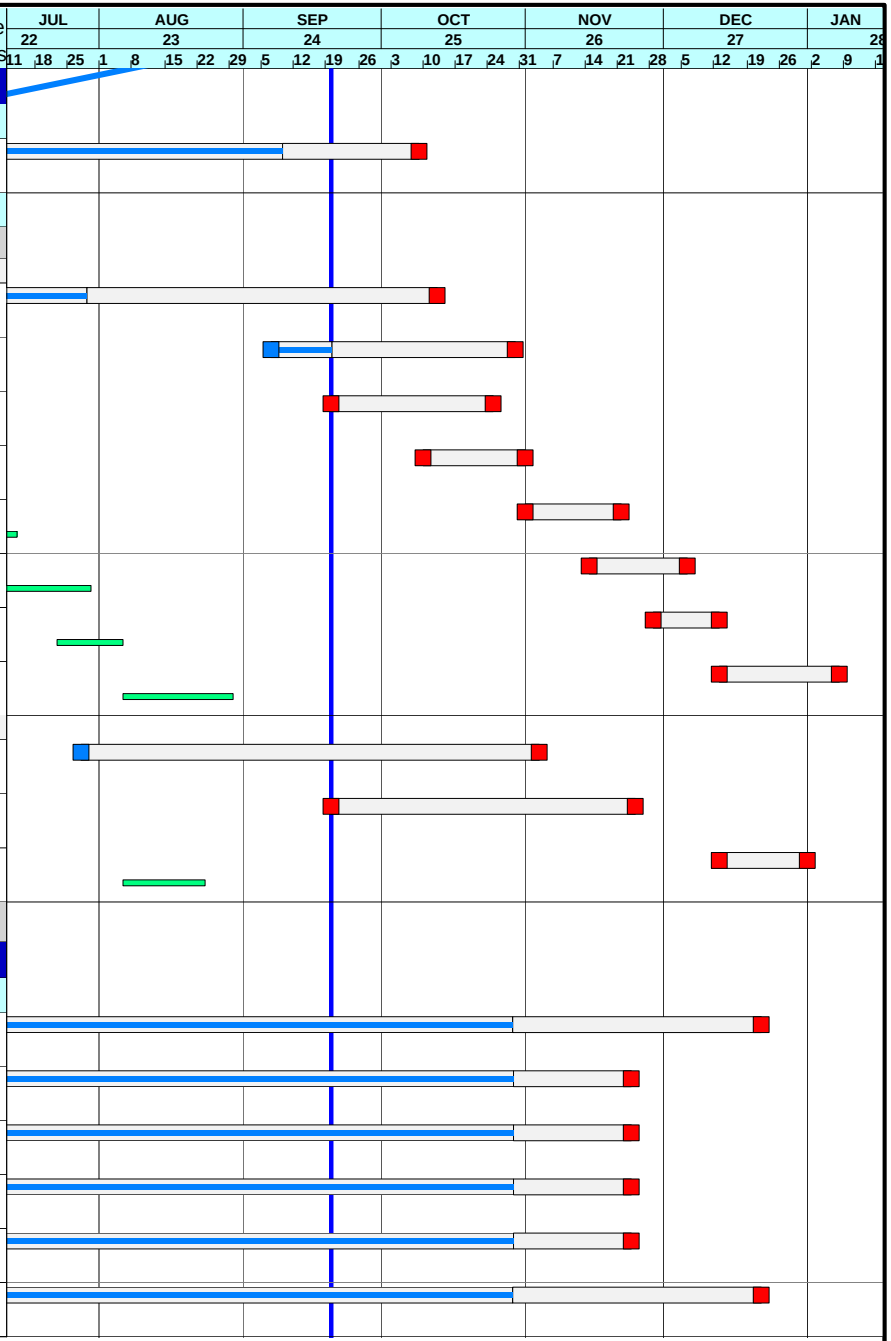
E&M EQPT.& MATERIAL.SUBMITTALS									
8210	EntSpBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	23NOV05	95	100	54	-8	-166
8207	EntSpBldg-Sub.FS wet sys	54	05AUG04A	23NOV05	95	100	54	22	-203
8208	EntSpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	16NOV05	95	50	48	-2	-19
8200	EntSpBldg-Sub.CMCS & ELV sys	78	26AUG04A	21DEC05	98	100	78	-56	-193
8205	EntSpBldg-Sub.PD irrig. sys	54	04FEB05A	23NOV05	85	100	54	22	-209
1918	SP.Bldg. - Prep & submit door & window detail	24	20SEP05	19OCT05	0		24	-20	-115
1940	SP.Bldg. - Prep & sub balustrade & metal wks	24	20SEP05	19OCT05	0	100	24	-56	-173
1942	SP.Bldg. - Prep & sub aluminium cladding	24	20SEP05	19OCT05	0	100	24	-20	-175
1944	SP.Bldg. - Prep & sub fall arrest system	24	20SEP05	19OCT05	0		24	34	-61
E&M EQPT.& MATERIAL APPROVALS									
6001	EntSpBldg-App. HV power dist. sys	18	14JUL04A	12OCT05	95	100	18	-134	-175
6002	EntSpBldg-App. LV power dist. sys	18	13AUG04A	12OCT05	90	100	18	-140	-151
8491	EntSpBldg-App. building related luminaires	18	18AUG04A	12OCT05	80	100	18	-74	-116
6006	EntSpBldg-App. FS wet sys	18	04SEP04A	12OCT05	60	100	18	22	-149
6036	EntSpBldg-App. FS AFA & FM200 sys	18	14SEP04A	12OCT05	70	100	18	46	-26
6192	EntSpBldg-App. of CMCS & ELV sys	18	20SEP04A	12OCT05	88	100	18	-56	-115
6005	EntSpBldg-App. MVAC mech.vent. sys	18	23SEP04A	12OCT05	60	100	18	-8	-112
6003	EntSpBldg-App. PD cleans. & flush water sys	18	04NOV04A	12OCT05	75	100	18	22	-155
6742	EntSpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	12OCT05	75	100	18	-80	-160
6760	EntSpBldg-App. TVF, Ductworks & Control sys	18	12NOV04A	12OCT05	70	100	18	-80	-139
7615	EntSpBldg-App. HV/LV main & submain cable sys	18	07DEC04A	12OCT05	65	100	18	-122	-127
6013	EntSpBldg-App. MVAC Package AC Unit sys	18	01FEB05A	12OCT05	90	0	18	58	17
6004	EntSpBldg-App. PD irrig. sys	18	05MAY05A	12OCT05	30	100	18	22	-155



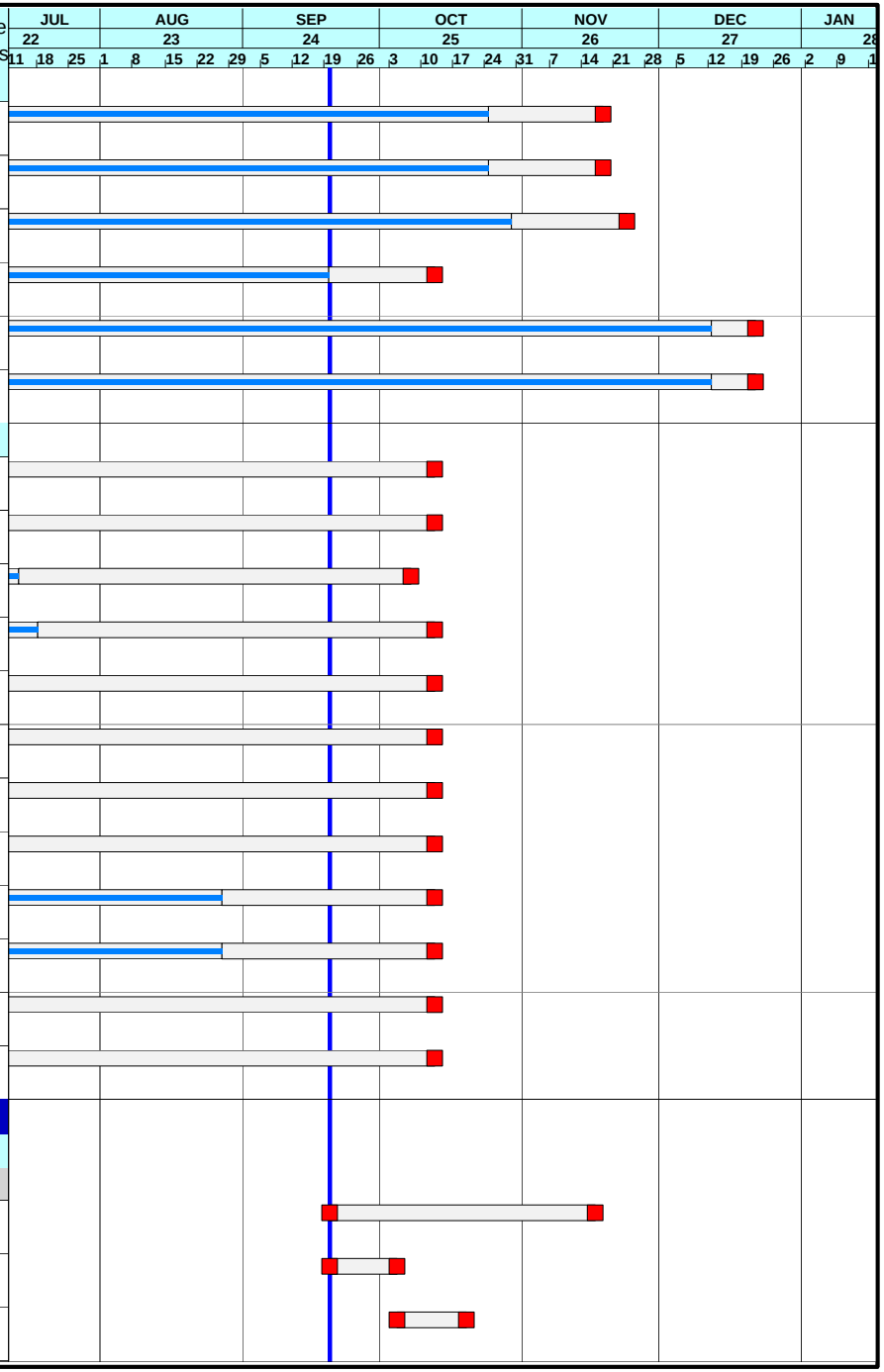
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT.& MATERIAL APPROVALS									
1939	SP.Bldg. - Approve louvre details	24	20SEP05	19OCT05	0		24	4	-151
1947	SP.Bldg. - Approve slate cladding design	24	20SEP05	19OCT05	0		24	4	-151
1919	SP.Bldg. - Approve door & window details	24	20OCT05	16NOV05	0		24	-20	-115
1941	SP.Bldg. - Approve balustrade & metal works	24	20OCT05	16NOV05	0	100	24	-56	-173
1943	SP.Bldg. - Approve aluminium cladding	24	20OCT05	16NOV05	0		24	-20	-175
1945	SP.Bldg. - Approve fall arrest system	24	20OCT05	16NOV05	0		24	34	-61
PROCUREMENT - MATERIAL									
6007	EntSpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	20JUN06	15	90	180	-170	-193
6193	EntSpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	19MAY06	15	60	180	-66	-107
6743	EntSpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	08MAY06	8	80	180	-80	-142
6012	EntSpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	20FEB06	20	100	120	22	-131
6761	EntSpBldg-Proc & Manuf. TVF,Ductwks & Cont'l sys	180	09JUN05A	08MAY06	20	70	180	-44	-109
6009	EntSpBldg-Proc & Manuf. MVAC mech.vent. sys	120	13OCT05	13MAR06	0	80	120	-8	-112
6010	EntSpBldg-Proc & Manuf. Cleans & flush water sys	120	13OCT05	13MAR06	0	100	120	22	-155
6011	EntSpBldg-Proc & Manuf. PD irrig. sys	120	13OCT05	13MAR06	0	100	120	22	-155
7616	EntSpBldg-Proc & Manuf. HV/LV cable	180	13OCT05	29MAY06	0	70	180	-122	-127
8492	EntSpBldg-Proc & Manf bldg related luminaires	180	13OCT05	29MAY06	0	60	180	-74	-116
6008	EntSpBldg-Proc & Manuf. LV power dist. equip't	180	06DEC05	24JUL06	0	80	180	-186	-197
6079	EntSpBldg-Proc & Manuf. FS AFA & FM200 sys	120	15DEC05	22MAY06	0	10	120	-8	-80
ABWF WORKS									
1951	SP.Bldg. - Procure aluminium cladding	180	19APR05A	04OCT05	80	80	12	-14	41
1950	SP.Bldg. - Procure balustrade & metal works	60	21APR05A	04OCT05	80	100	12	-50	-17
2030	SP.Bldg. - Initial deliver balust & metal works	0	22DEC05		0		0	-56	0



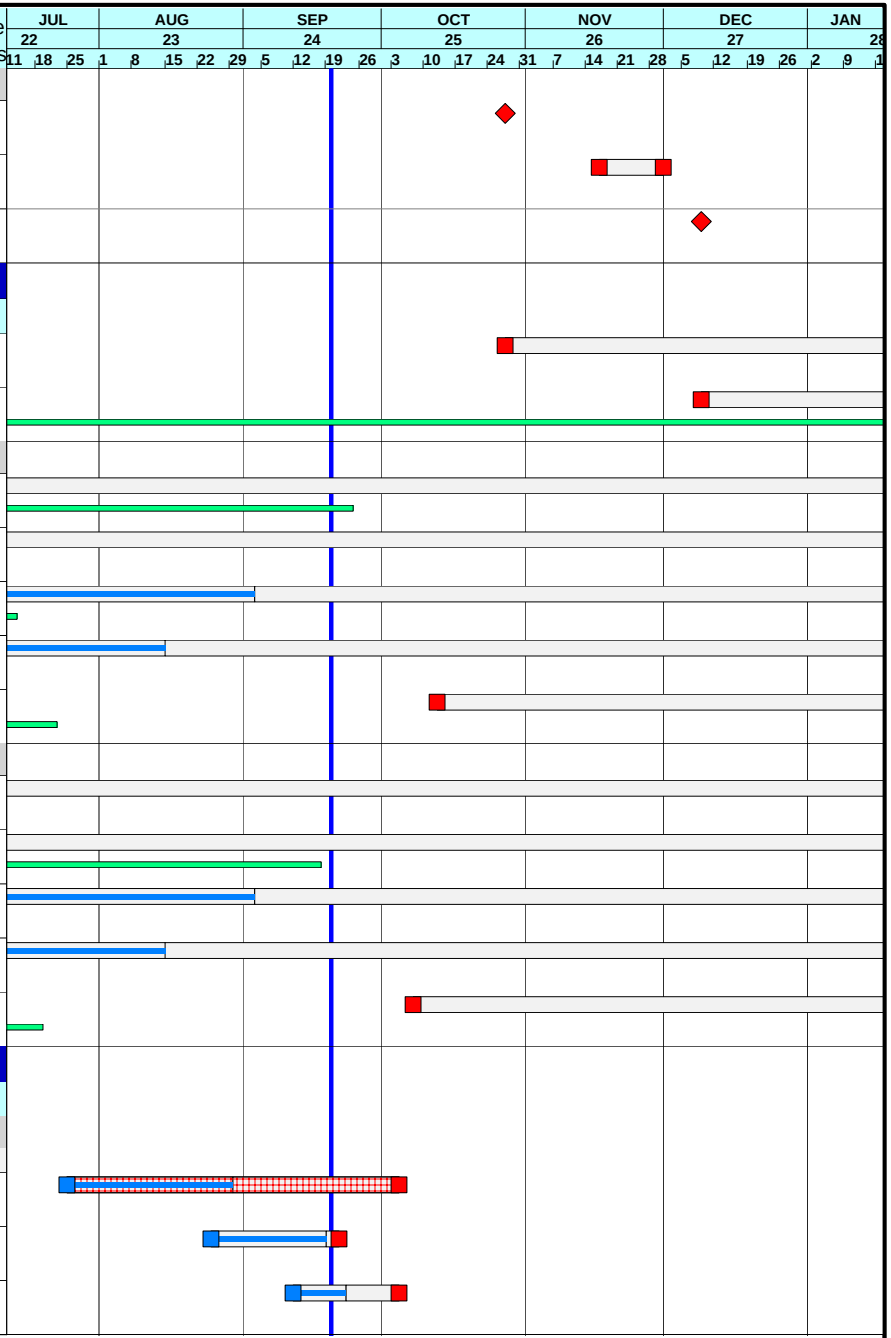
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
CONSTRUCTION									
SUBSTRUCTURE									
1188	SP.Bldg. - RC Fnd & Drainage GL.H-S/10-12	24	14MAY05A	08OCT05	80	100	16	-102	-109
SUPERSTRUCTURE									
RC WORKS									
NB CARRIAGEWAY & CENTRAL RESERVE									
1194	SP.Bldg. - Nth Bound C/Way RC Base Slab	18	14MAY05A	12OCT05	50	100	18	-74	-103
1195	SP.Bldg. - Nth Bound C/Way RC Ret. Wall W1	24	07SEP05A	29OCT05	25	100	33	-89	-94
1189	SP.Bldg. - RC Cols. & Walls to 1FL.GL.H-S/10-12	18	20SEP05	24OCT05	0	100	18	-96	-109
1190	SP.Bldg. - RC Walls to Tanks/Pits GL.H-S/10-12	18	10OCT05	31OCT05	0	100	18	-102	-109
1191	SP.Bldg. - RC S/Slab 1FL.+72.50mPD GL.H-S/10-12	18	01NOV05	21NOV05	0	100	18	-102	-109
1192	SP.Bldg. - RC Cols.& Walls to 2FL.GL.H-S/10-12	18	15NOV05	05DEC05	0	100	18	-102	-107
1193	SP.Bldg. - RC S/Slab LPL.+75.80mPD GL.H-S/10-12	12	29NOV05	12DEC05	0	100	12	-102	-107
1196	SP.Bldg - RC Trans Slab 2FL.+80.45mPD GL.H-S/2-7	20	13DEC05	07JAN06	0	100	20	-102	-107
SB CARRIAGEWAY									
1206	SP.Bldg. - Sth Bound C/Way RC Base Slab	18	28JUL05A	03NOV05	0	100	37	-81	-140
1207	SP.Bldg. - Sth Bound C/Way RC Ret Wall W2	24	20SEP05	24NOV05	0	100	24	-81	-134
1208	SP.Bldg - RC Trans Slab 2FL.+80.45mPD GL.H-S/1-2	15	13DEC05	31DEC05	0	100	15	-96	-107
EAGLES NEST TUNNEL									
SUBMITTALS & APPROVALS									
E&M EQPT./ MTRL.DETAIL SUBMITTAL									
8214	EntRtNb-Sub.Tunnel Lgt sys	78	02JUL04A	21DEC05	90	100	78	-188	-325
8216	EntRtNb-Sub.LV main & submain dist sys	54	02JUL04A	23NOV05	95	100	54	-158	-309
8217	EntRtNb-Sub.TVS control sys	54	02JUL04A	23NOV05	95	100	54	-56	-175
8220	EntRtSb&VA-Sub.TVS control sys	54	02JUL04A	23NOV05	95	100	54	-56	-187
8222	EntRtSb&VA-Sub.LV main & submain dist. sys	54	02JUL04A	23NOV05	95	100	54	-170	-319
8223	EntRtSb&VA-Sub.Tunnel Lgt sys	78	02JUL04A	21DEC05	90	100	78	-191	-328



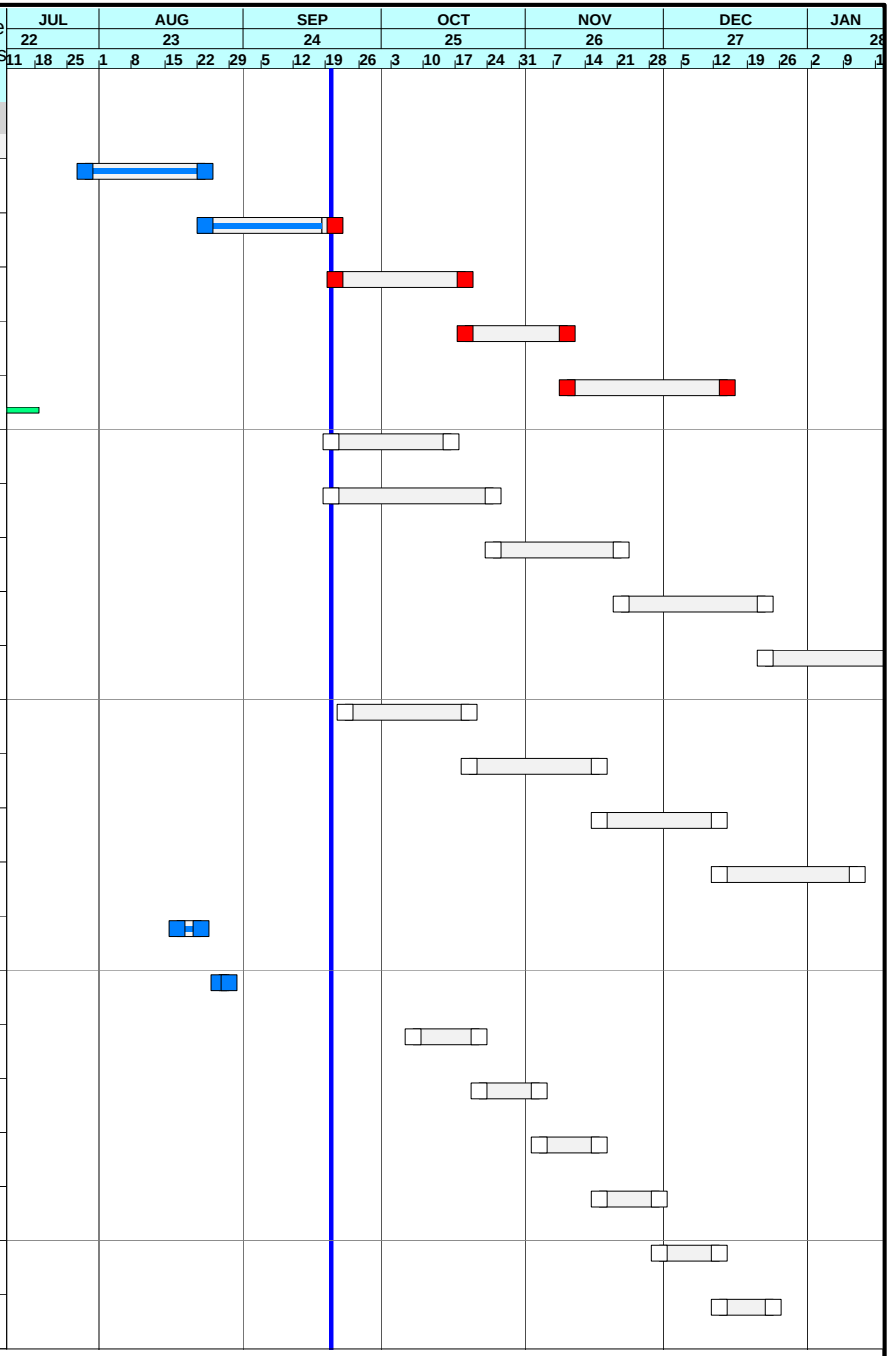
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT./ MTRL.DETAIL SUBMITTAL									
8215	EntRtNb-Sub.FS AFA & Linear sys	54	05JUL04A	18NOV05	95	100	50	-188	-387
8219	EntRtSb&VA-Sub.FS AFA & Linear sys	54	05JUL04A	18NOV05	95	100	50	-188	-396
8218	EntRtNb-Sub.TVS in Tunnel	54	07JUL04A	23NOV05	95	100	54	-182	-319
8224	EntRtSb&VA-Sub.TVS in Tunnel	54	07JUL04A	12OCT05	95	100	18	-182	-295
8213	EntRtNb-Sub.CMCS & ELV sys	78	26AUG04A	21DEC05	98	100	78	-86	-271
8221	EntRtSb&VA-Sub.CMCS & ELV sys	78	26AUG04A	21DEC05	98	100	78	-86	-277
E&M EQPT./MTRL.APPROVAL BY ENGINEER									
7618	EntRtSb&VA-App. TVS in Tunnel	18	29JUL04A	12OCT05	70	100	18	-182	-277
7621	EntRtNb-App. TVS in Tunnel	18	29JUL04A	12OCT05	70	100	18	-182	-265
6808	EntRtSb&VA-App. Tunnel Lgt sys	18	05AUG04A	07OCT05	80	100	15	-191	-247
6878	EntRtNb-App. Tunnel Lgt sys	18	05AUG04A	12OCT05	80	100	18	-188	-247
6802	EntRtSb&VA-App. LV main & submain dist. sys	18	13AUG04A	12OCT05	65	100	18	-170	-265
6882	EntRtNb-App. LV main & submain dist. sys	18	13AUG04A	12OCT05	65	100	18	-158	-255
6785	EntRtSb&VA-App. FS AFA & Linear sys	18	14SEP04A	12OCT05	70	100	18	-188	-346
6880	EntRtNb-App. FS AFA & Linear sys	18	14SEP04A	12OCT05	70	100	18	-188	-337
6798	EntRtSb&VA-App. CMCS & ELV sys	18	20SEP04A	12OCT05	88	100	18	-86	-199
6877	EntRtNb-App. CMCS & ELV sys	18	20SEP04A	12OCT05	88	100	18	-86	-193
6795	EntRtSb&VA-App. TVS control sys	18	12NOV04A	12OCT05	70	100	18	-56	-133
6884	EntRtNb-App. TVS control sys	18	12NOV04A	12OCT05	70	100	18	-56	-121
DESIGN & ENGINEERING									
PERMANENT WORKS									
TUNNEL									
1657	Design/ICE Check Tunnel Clading	48	20SEP05	16NOV05	0	100	48	-72	-140
1667	Design/ICE Check X-passage/Adit Fire Doors	12	20SEP05	04OCT05	0	100	12	-175	-304
1668	Eng Approve Dsg X-passage/Adit Fire Doors	12	05OCT05	19OCT05	0	100	12	-175	-304



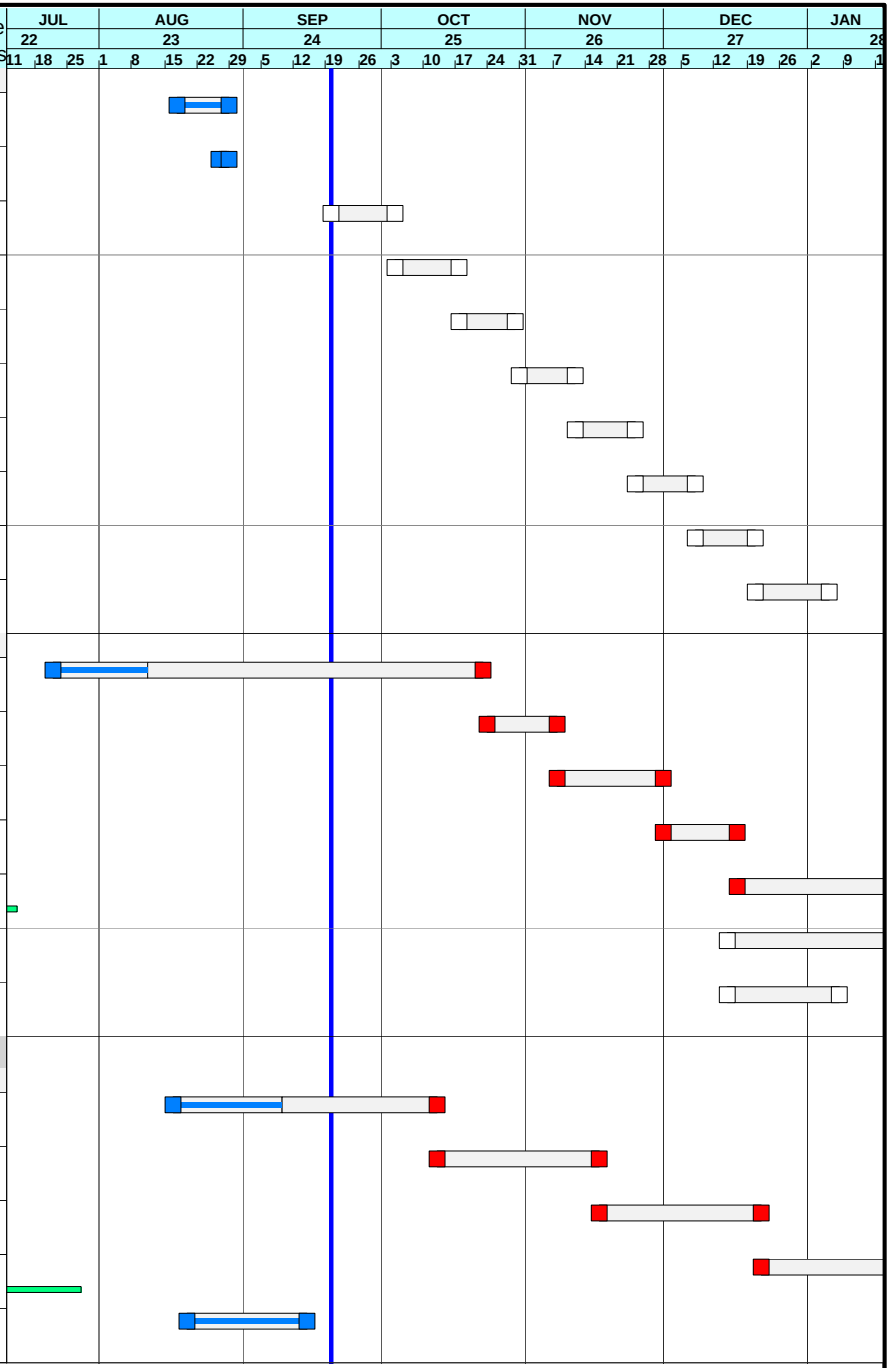
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
TUNNEL									
1669	Issue Constr Dwgs X-passage/Adit Fire Doors	0		27OCT05	0	100	0	-175	-304
1659	Eng Approve Dsg Tunnel Clading	12	17NOV05	30NOV05	0	100	12	-72	-140
1658	Issue Constr Dwgs Tunnel Clading	0		08DEC05	0	100	0	-72	-140
PROCUREMENT - MATERIAL									
TUNNEL									
1685	Order/Manufact/Del Fire Doors	100	28OCT05	04MAR06	0	100	100	-175	-254
1660	Order/Manufact/Del Tunnel Cladding	200	09DEC05	19AUG06	0	30	200	-72	-140
NORTHBOUND TUNNEL									
6879	EntRtNb-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	06JUL06	15	95	180	-135	-224
6883	EntRtNb-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	08MAY06	15	100	180	-188	-319
6885	EntRtNb-Proc & Manuf. ES Cabling	180	20MAY05A	08MAY06	30	100	180	-158	-237
7622	EntRtNb-Proc & Manuf. TVS in Tunnel	180	09JUN05A	08MAY06	20	100	180	-182	-247
6881	EntRtNb-Proc & Manuf. Tunnel Lgt sys	180	13OCT05	29MAY06	0	100	180	-188	-247
SOUTHBOUND TUNNEL & V.A TUNNEL									
6786	EntRtSb&VA-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	08MAY06	15	100	180	-188	-328
6799	EntRtSb&VA-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	28JUN06	15	100	180	-129	-224
6803	EntRtSb&VA-Proc & Manuf. ES Cabling	180	20MAY05A	08MAY06	30	100	180	-170	-247
7619	EntRtSb&VA-Proc & Manuf. TVS in Tunnel	180	09JUN05A	08MAY06	20	100	180	-182	-259
6809	EntRtSb&VA-Proc & Manuf. Tunnel Lgt sys	180	08OCT05	25MAY06	0	100	180	-191	-247
CONSTRUCTION WORKS									
TUNNEL PREPARATION WORKS									
TUNNEL LINING									
SOUTH PORTAL									
3222	Erect OHVD form NB at SP	24	25JUL05A	04OCT05	50	100	12	-148	-172
1279	Erect Lining Form SB at SP	24	25AUG05A	21SEP05	90	100	2	-132	-163
3178	Erect OHVD Form SB at SP	24	12SEP05A	04OCT05	50	100	12	-127	-149



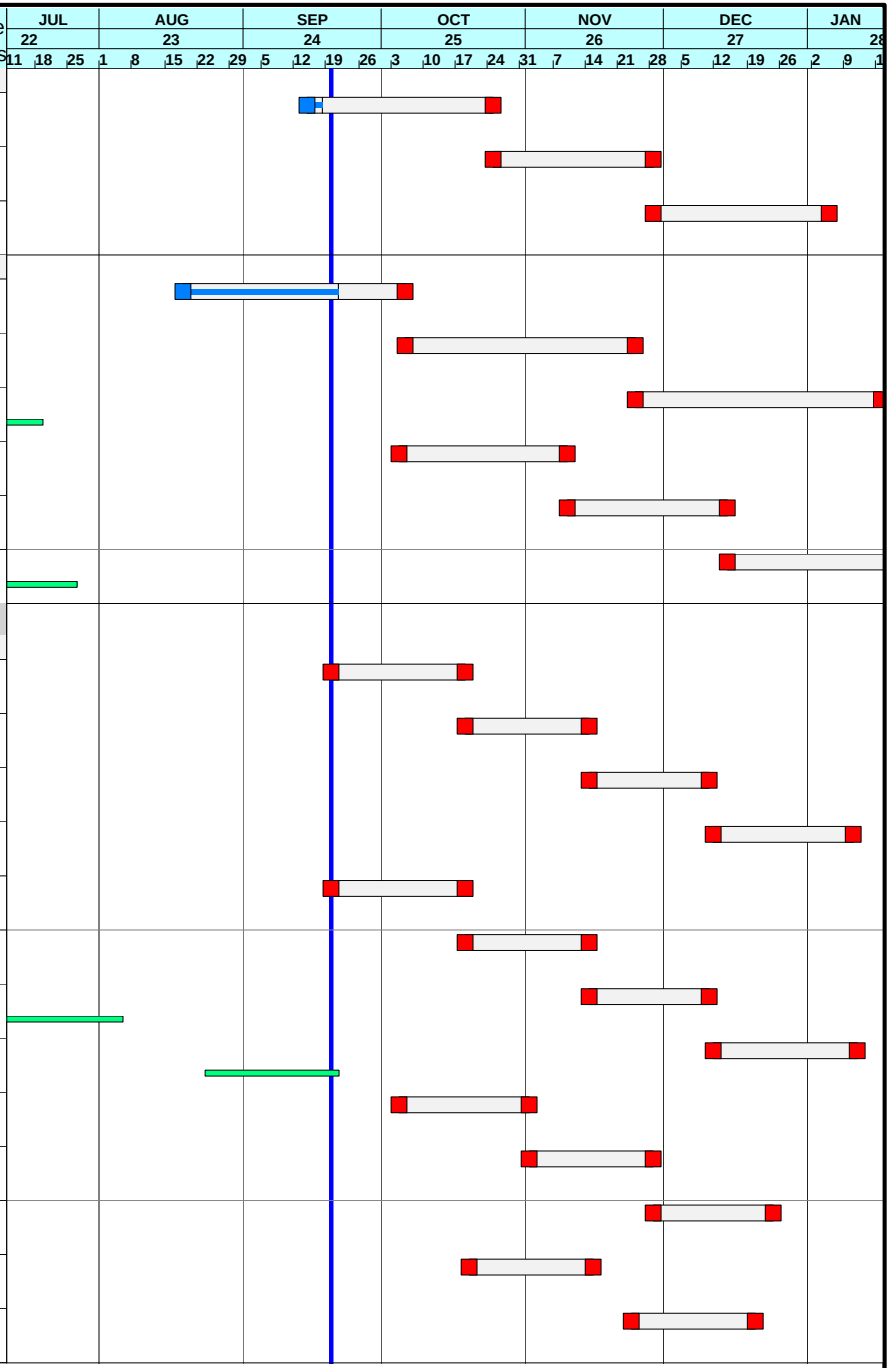
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTHBOUND TUNNEL DRIVE									
TUNNEL INVERT									
NORTH PORTAL									
3204	NB Kicker/form part Service Trough (fr.NP) 139m	22	29JUL05A	23AUG05A	100	100	0		-151
3205	NB Kicker/form part Service Trough (fr.NP) 150m	17	24AUG05A	20SEP05	90	100	1	-110	-145
3206	NB Kicker/form part Service Trough (fr.NP) 148m	22	21SEP05	18OCT05	0	100	22	-110	-143
3207	NB Kicker/form part Service Trough (fr.NP) 129m	19	19OCT05	09NOV05	0	100	19	-110	-140
3208	NB Kicker/form part Service Trough (fr.NP) 118m	30	10NOV05	14DEC05	0	100	30	-110	-125
3181	NB exc.grnd/foul water drain trough 116m(fr.NP)	21	20SEP05	15OCT05	0	100	21	110	-278
3182	NB exc.grnd/foul water drain trough 149m (fr.NP)	28	20SEP05	24OCT05	0	100	28	110	-255
3183	NB exc.grnd/foul water drain trough 128m(fr.NP)	24	25OCT05	21NOV05	0	100	24	110	-260
3184	NB exc.grnd/foul water drain trough 139m(fr.NP)	27	22NOV05	22DEC05	0	100	27	110	-262
3185	NB exc.grnd/foul water drain trough 150m(fr.NP)	28	23DEC05	27JAN06	0	100	28	110	-260
3191	NB Invert Cleaning (fr.NP 116m)	20	23SEP05	19OCT05	0	100	20	112	-278
3192	NB Invert Cleaning (fr.NP 149m)	24	20OCT05	16NOV05	0	100	24	112	-272
3193	NB Invert Cleaning (fr.NP 128m)	22	17NOV05	12DEC05	0	100	22	112	-272
3194	NB Invert Cleaning (fr.NP 139m)	23	13DEC05	11JAN06	0	100	23	112	-272
3365	NB Foulwater Gulley ENF-40 to ENF-41 [55m]	12	18AUG05A	22AUG05A	100	100	0		-196
3364	NB Foulwater Gulley ENF-39 to ENF-40 [50m]	14	27AUG05A	28AUG05A	100	100	0		-187
3363	NB Foulwater Gulley ENF-38 to ENF-39 [50m]	11	08OCT05	21OCT05	0	100	11	484	-220
3362	NB Foulwater Gulley ENF-37 to ENF-38 [50m]	11	22OCT05	03NOV05	0	100	11	484	-220
3361	NB Foulwater Gulley ENF-36 to ENF-37 [49m]	11	04NOV05	16NOV05	0	100	11	484	-220
3360	NB Foulwater Gulley ENF-35 to ENF-36 [50m]	11	17NOV05	29NOV05	0	100	11	484	-220
3359	NB Foulwater Gulley ENF-34 to ENF-35 [50m]	11	30NOV05	12DEC05	0	100	11	484	-220
3358	NB Foulwater Gulley ENF-33 to ENF-34 [49m]	11	13DEC05	24DEC05	0	100	11	484	-220



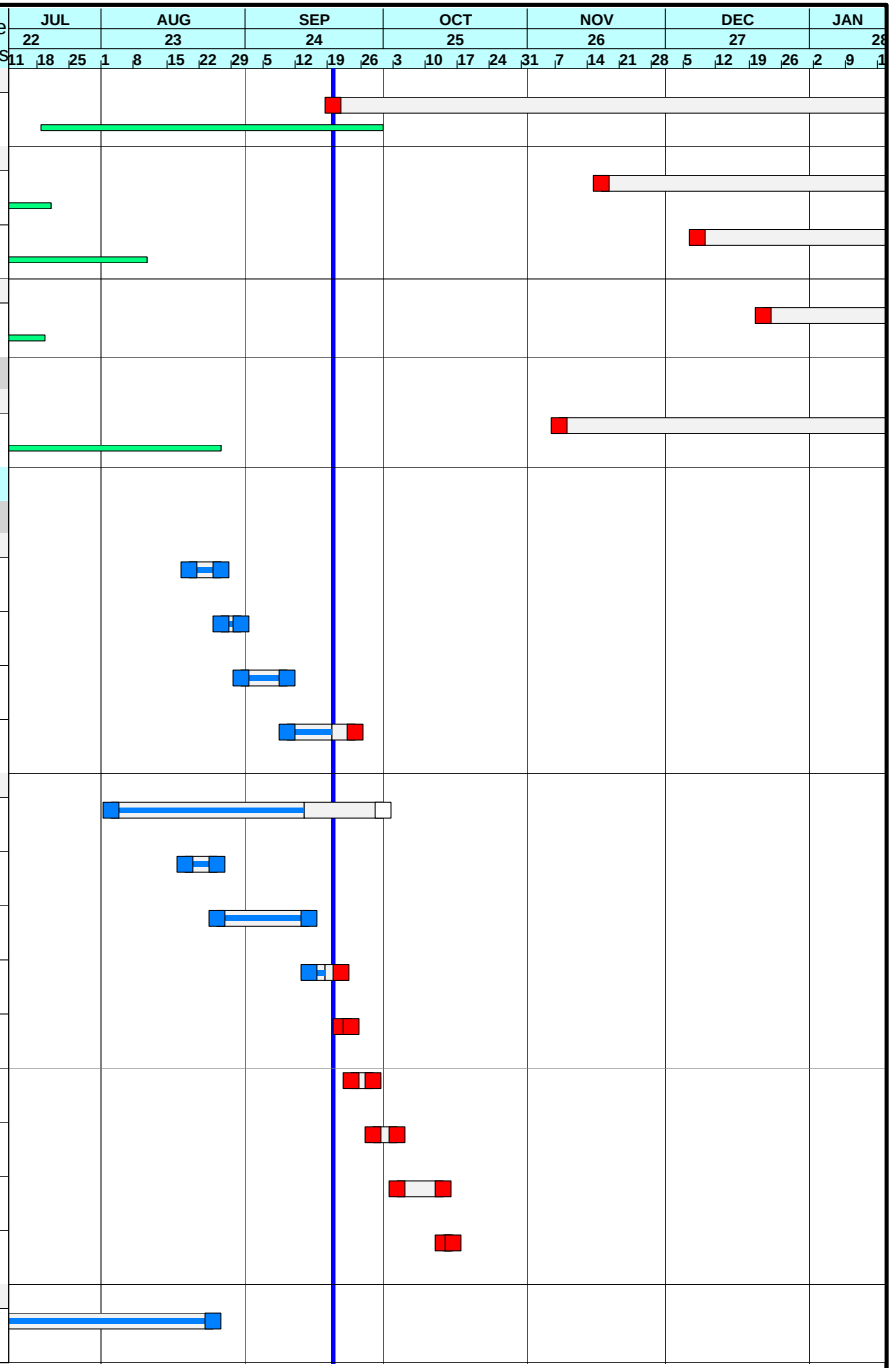
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTH PORTAL									
3450	NB Ground water ENG-39 to ENG-40 [50m]	11	18AUG05A	28AUG05A	100	100	0		-190
3452	NB Ground water ENG-41B to ENG-41A	6	27AUG05A	28AUG05A	100	100	0		-195
3449	NB Ground water ENG-38 to ENG-39 [50m]	11	20SEP05	03OCT05	0	100	11	499	-208
3448	NB Ground water ENG-37 to ENG-38 [50m]	11	04OCT05	17OCT05	0	100	11	499	-208
3447	NB Ground water ENG-36 to ENG-37 [49m]	11	18OCT05	29OCT05	0	100	11	499	-208
3446	NB Ground water ENG-35 to ENG-36 [50m]	11	31OCT05	11NOV05	0	100	11	499	-208
3445	NB Ground water ENG-34 to ENG-35 [50m]	11	12NOV05	24NOV05	0	100	11	499	-208
3444	NB Ground water ENG-33 to ENG-34 [49m]	11	25NOV05	07DEC05	0	100	11	499	-208
3443	NB Ground water ENG-32 to ENG-33 [49m]	11	08DEC05	20DEC05	0	100	11	499	-208
3442	NB Ground water ENG-31 to ENG-32 [50m]	11	21DEC05	05JAN06	0	100	11	499	-208
SOUTH PORTAL									
3226	NB Kicker/form part Service Trough (fr.SP) 253m	35	22JUL05A	22OCT05	22	100	27	-149	-176
3227	NB Kicker/form part Service Trough (fr.SP) 90m	13	24OCT05	07NOV05	0	100	13	-92	-176
3228	NB Kicker/form part Service Trough (fr.SP) 146m	20	08NOV05	30NOV05	0	100	20	-92	-170
3229	NB Kicker/form part Service Trough (fr.SP) 100m	14	01DEC05	16DEC05	0	100	14	-92	-162
3230	NB Kicker/form part Service Trough (fr.SP) 199m	28	17DEC05	21JAN06	0	100	28	-92	-159
3210	NB exc.grnd/foul water drain trough 253m(fr.SP)	50	15DEC05	22FEB06	0	100	50	38	-297
3216	NB Invert Cleaning [fr.SP] 253m	18	15DEC05	07JAN06	0	100	18	38	-262
TUNNEL LINING									
NORTH PORTAL									
3239	NB NP Arch Lining 150m Tch.2+430 to 2+280	30	17AUG05A	12OCT05	41	100	18	-148	-153
3240	NB NP Arch Lining 150m Tch.2+280 to 2+130	30	13OCT05	16NOV05	0	100	30	-146	-153
3241	NB NP Arch Lining 150m Tch.2+130 to 1+980	30	17NOV05	21DEC05	0	100	30	-146	-153
3242	NB NP Arch Lining 150m Tch.1+980 to 1+830	30	22DEC05	06FEB06	0	100	30	-146	-153
3248	NB NP OHVD 150m Tch.2+580 to 2+430	30	20AUG05A	14SEP05A	100	100	0		-149



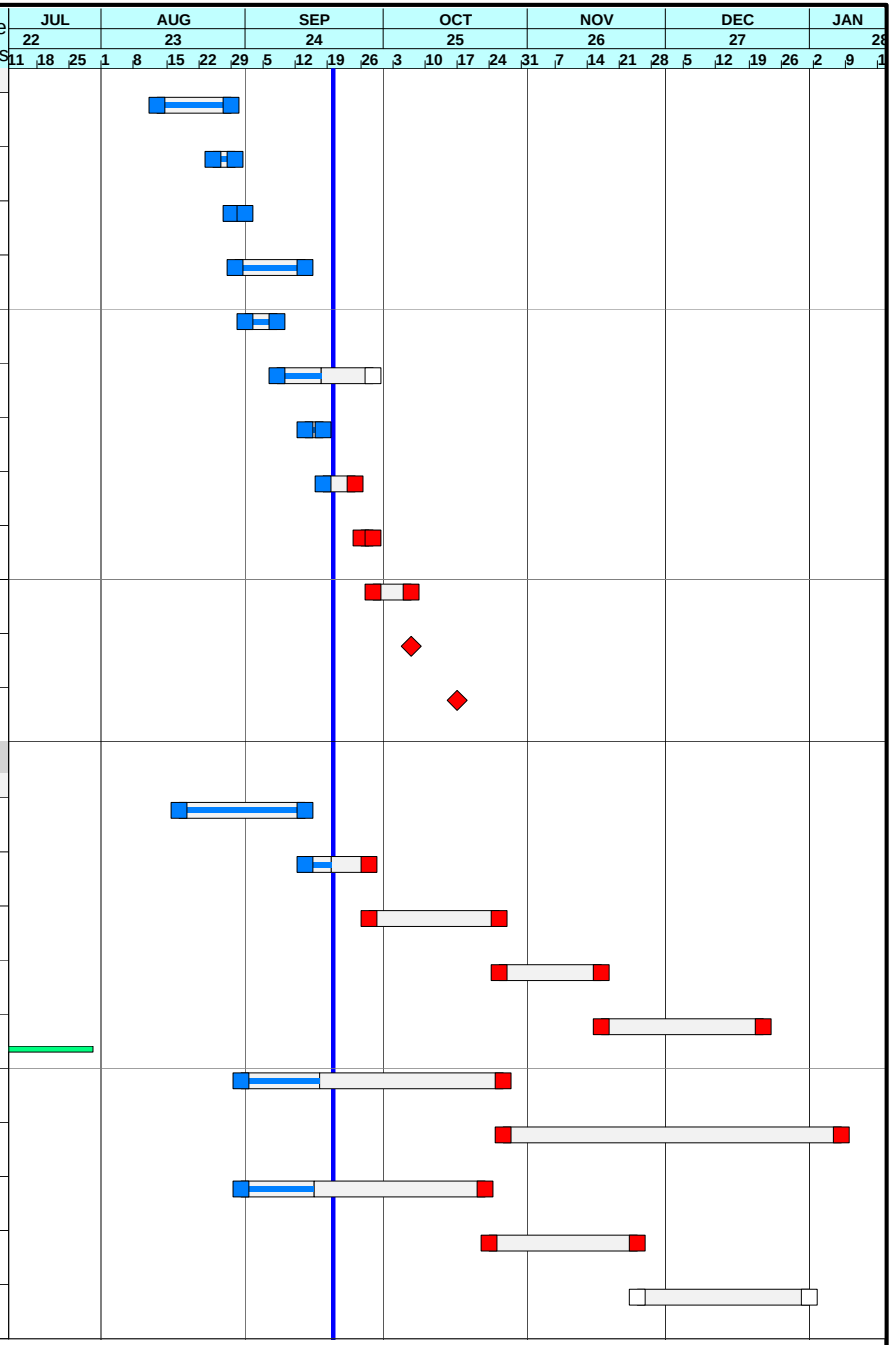
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTH PORTAL									
3249	NB NP OHVD 150m Tch.2+430 to 2+280	30	15SEP05A	24OCT05	8	100	28	-148	-151
3250	NB NP OHVD 150m Tch.2+280 to 2+130	30	25OCT05	28NOV05	0	100	30	-148	-151
3251	NB NP OHVD 150m Tch.2+130 to 1+980	30	29NOV05	05JAN06	0	100	30	-148	-151
SOUTH PORTAL									
3310	NB SP Arch Lining 150m Tch.1+063 to 1+213	42	19AUG05A	05OCT05	70	100	13	-149	-149
3311	NB SP Arch Lining 150m Tch.1+213 to 1+363	42	06OCT05	24NOV05	0	100	42	-149	-149
3312	NB SP Arch Lining 150m Tch.1+363 to 1+513	42	25NOV05	16JAN06	0	100	42	-149	-149
3314	NB NP OHVD 150m Tch.1+063 to 1+213	30	05OCT05	09NOV05	0	100	30	-148	-172
3315	NB NP OHVD 150m Tch.1+213 to 1+363	30	10NOV05	14DEC05	0	100	30	-148	-160
3316	NB NP OHVD 150m Tch.1+363 to 1+513	30	15DEC05	23JAN06	0	100	30	-149	-149
TUNNEL FINISHING WORKS									
SERVICE TROUGH & UTILITIES									
3527	NB service trough 150m Tch.3+030 to 2+880 fr.NP	23	20SEP05	18OCT05	0	100	23	-211	-243
3528	NB service trough 150m Tch.2+880 to 2+730 fr.NP	23	19OCT05	14NOV05	0	100	23	-203	-243
3529	NB service trough 150m Tch.2+730 to 2+580 fr.NP	23	15NOV05	10DEC05	0	100	23	-203	-243
3530	NB service trough 150m Tch.2+580 to 2+430 fr.NP	23	12DEC05	10JAN06	0	100	23	-203	-236
3537	NB service trough 150m Tch.1+063 to 1+213 fr.SP	23	20SEP05	18OCT05	0	100	23	-99	-144
3538	NB service trough 150m Tch.1+213 to 1+363 fr.SP	23	19OCT05	14NOV05	0	100	23	-99	-125
3539	NB service trough 150m Tch.1+363 to 1+513 fr.SP	23	15NOV05	10DEC05	0	100	23	-99	-106
3540	NB service trough 160m Tch.1+513 to 1+673 fr.SP	24	12DEC05	11JAN06	0	100	24	-99	-91
3511	NB NP 200 main 183m Tch.3+063 to 2+880 fr.NP	23	05OCT05	01NOV05	0	100	23	-211	-267
3512	NB NP 200 main 150m Tch.2+880 to 2+730 fr.NP	23	02NOV05	28NOV05	0	100	23	-211	-266
3513	NB NP 200 main 150m Tch.2+730 to 2+580 fr.NP	23	29NOV05	24DEC05	0	100	23	-211	-259
3520	NB SP 200 main 150m Tch.1+063 to 1+213 fr.SP	23	20OCT05	15NOV05	0	100	23	-119	-172
3521	NB SP 200 main 150m Tch.1+213 to 1+363 fr.SP	23	24NOV05	20DEC05	0	100	23	-126	-160



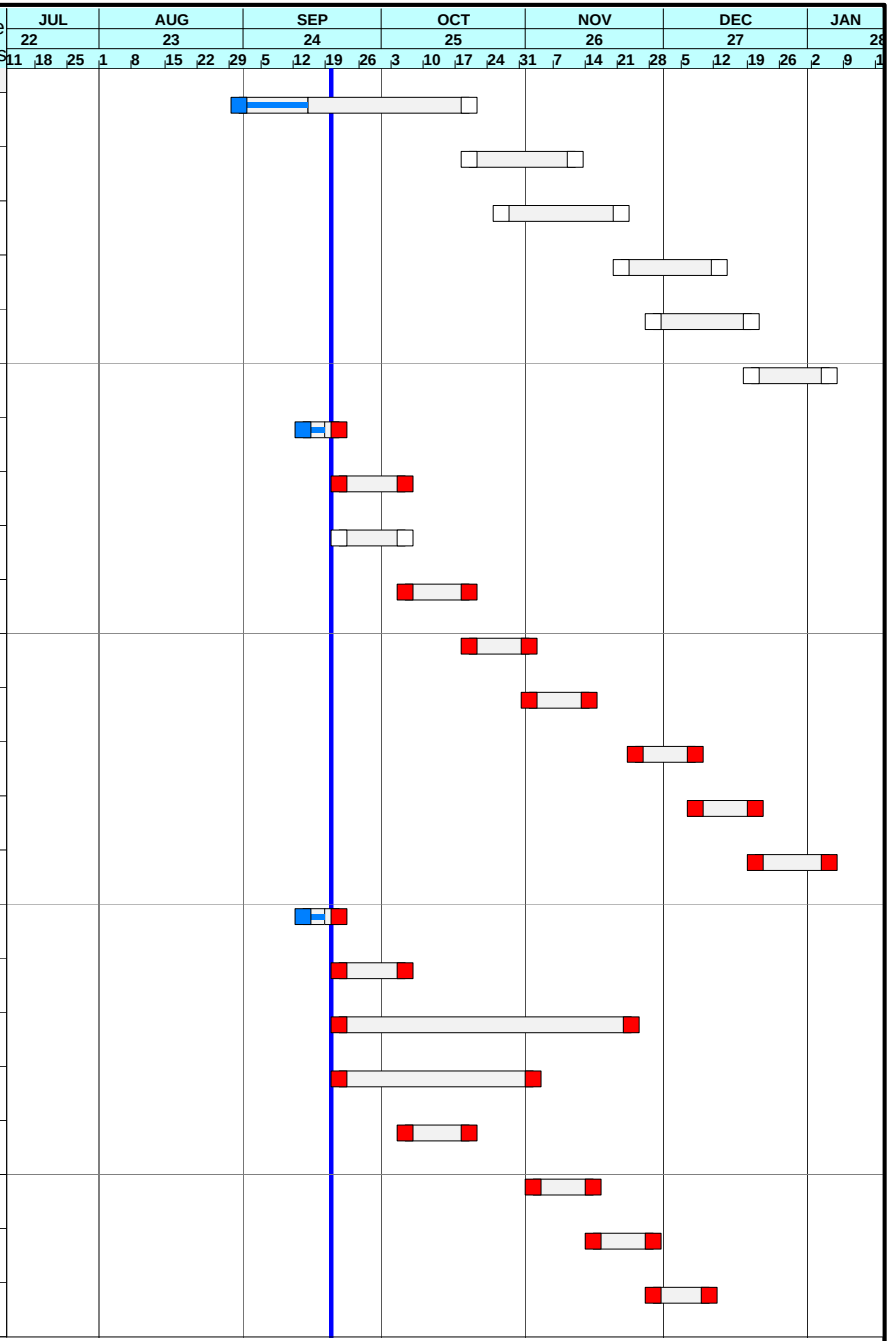
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
SERVICE TROUGH & UTILITIES									
3641	NB NP - Remain 50% TCSS Contain't KD6	63	20SEP05	14JUN06	0	90	63	-201	-201
DRAINAGE & RC SLAB									
3583	NB Invert Drainage & RC.Slab - rightside 650m	54	17NOV05	21JAN06	0	100	54	-33	-153
3587	NB Invert Drainage & RC.Slab - leftside 650m	54	08DEC05	20FEB06	0	100	54	-1	-153
WALL PANELS									
3606	NB VE Panel Support System - rightside 650m	23	22DEC05	20JAN06	0	100	23	-112	-153
TUNNEL VENTILATION SYSTEM									
TUNNEL VENTILATION									
6896	EntRtNb-TVS Tunnel vent. & SE 1st fix	72	08NOV05	10FEB06	0	100	72	-66	-131
TUNNEL DRIVE SOUTHBOUND									
TUNNEL EXCAVATION & PRIMARY SUPPORT									
NORTH PORTAL									
3112	D&B SB 10m Tch.2+009 to 1+999 fr.NP*	4	20AUG05A	26AUG05A	100	100	0		-116
3113	D&B SB 20m Tch.1+999 to 1+979 fr.NP	3	27AUG05A	30AUG05A	100	100	0		-116
3114	D&B SB 31m Tch.1+979 to 1+948 fr.NP	5	31AUG05A	09SEP05A	100	100	0		-119
3115	D&B SB 41m Tch.1+948 to 1+907 fr.NP	6	10SEP05A	24SEP05	66	100	5	-62	-126
SOUTH PORTAL									
3165	D&B SB LH Tch.1+152 to 1+302 (150m)	42	03AUG05A	30SEP05	71	100	10	111	-150
3135	D&B (limit) SB 10m UH Tch.1+272 to 1+282 fr.SP	2	19AUG05A	25AUG05A	100	100	0		-130
3136	D&B (limit) SB 20m UH Tch.1+282 to 1+302 fr.SP	4	26AUG05A	14SEP05A	100	100	0		-142
3137	D&B SB 20m FF Tch.1+302 to 1+322 fr. SP	4	15SEP05A	21SEP05	50	100	2	-145	-145
3138	D&B SB 10m FF Tch.1+322 to 1+332 fr.SP->VA	2	22SEP05	23SEP05	0	100	2	-145	-151
3139	D&B SB 20m FF Tch.1+332 to 1+352 fr.SP->VA	4	24SEP05	28SEP05	0	100	4	-145	-157
3140	D&B SB 10m FF Tch.1+352 to 1+362 fr.SP->VA	3	29SEP05	03OCT05	0	100	3	-145	-164
3141	D&B SB 20m FF Tch.1+362 to 1+382 fr.SP->VA	8	04OCT05	13OCT05	0	100	8	-145	-175
3142	D&B SB 10m UH Tch.1+382 to 1+392 fr.SP->VA	2	14OCT05	15OCT05	0	100	2	-145	-185
VENTILATION ADIT									
3119	D&B SB 84m Ch.1652 to 1736 fr.VA->NP	13	14MAR05A	24AUG05A	100	100	0		-109



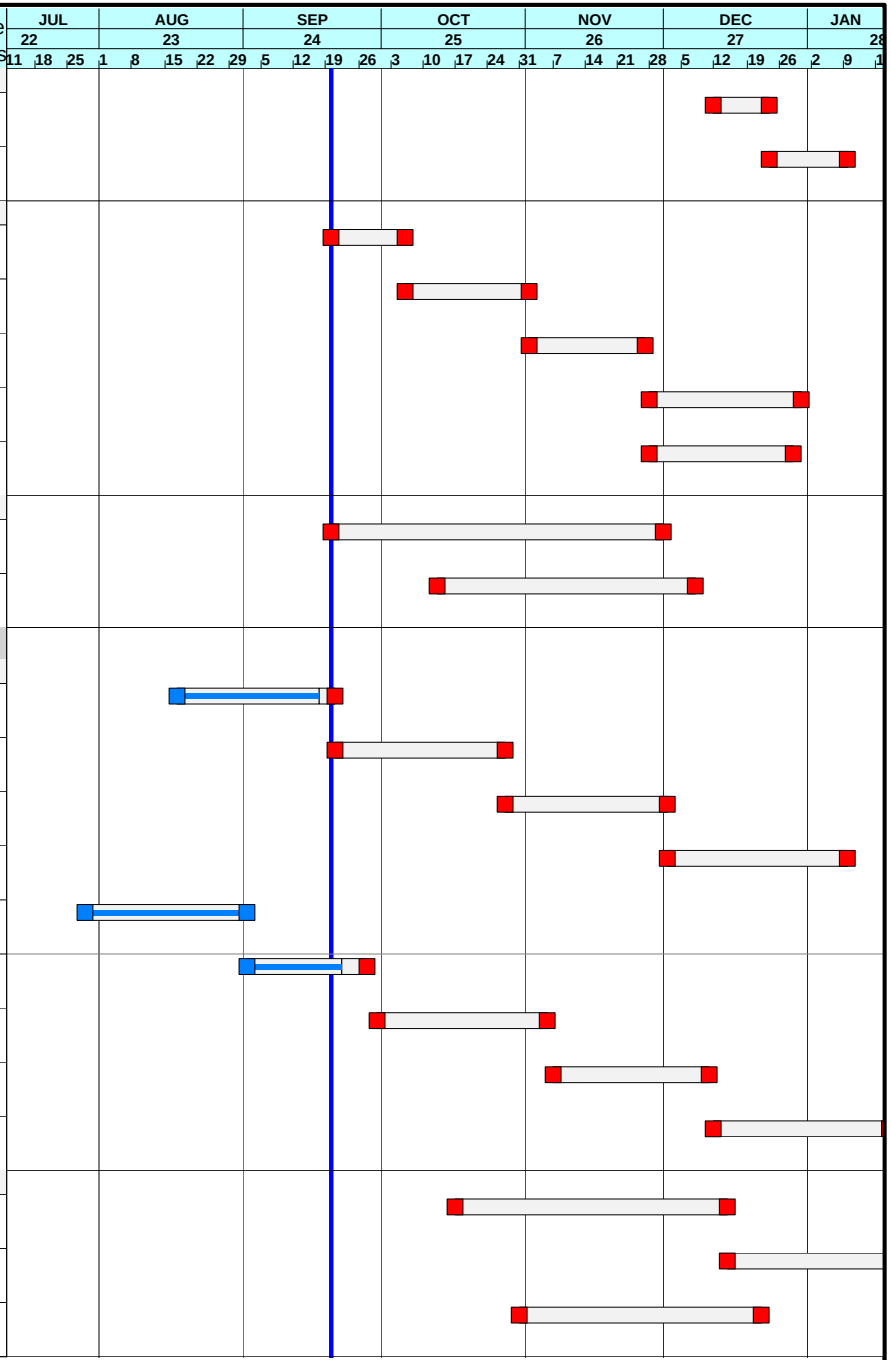
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
VENTILATION ADIT									
3125	D&B SB 51m UH Tch.1+574 to 1+523 fr.VA->SP	11	13AUG05A	28AUG05A	100	100	0		-175
3120	D&B SB 10m Ch.1736 to 1746 fr.VA->NP	2	25AUG05A	29AUG05A	100	100	0		-111
3145	D&B SB 10m UH Tch.1+523 to 1+513 fr.VA->SP	2	29AUG05A	31AUG05A	100	100	0		-176
3121	D&B SB 60m Ch.1746 to 1806 fr.VA->NP	10	30AUG05A	13SEP05A	100	100	0		-113
3144	D&B SB 30m UH Tch.1+513 to 1+483 fr.VA->SP	6	01SEP05A	07SEP05A	100	100	0		-176
3143	D&B SB 91m UH Tch.1+483 to 1+392 fr.VA->SP	19	08SEP05A	28SEP05	46	100	8	722	-174
3118	D&B SB 10m Ch.1806 to 1816 fr.VA->NP	2	14SEP05A	17SEP05A	100	100	0		-115
4148	D&B SB 41m Ch.1816 to 1857 fr.VA->NP	6	18SEP05A	24SEP05	2	100	5	-90	-115
3117	D&B SB 10m Ch.1857 to 1867 fr.VA->NP	3	26SEP05	28SEP05	0	100	3	-71	-115
3116	D&B SB 40m Ch.1867 to 1907 fr.VA->NP	6	29SEP05	06OCT05	0	100	6	-71	-129
1291	D&B SB Breakthrough No.2 VA-NP	0	07OCT05		0	100	0	-85	-147
3162	D&B SB Breakthrough No.1 VA-SP	0	17OCT05		0	100	0	-145	-164
TUNNEL INVERT									
NORTH PORTAL									
1934	SB Kicker/form part Service Trough (fr.NP) 150m	22	18AUG05A	13SEP05A	100	100	0		-141
1935	SB Kicker/form part Service Trough (fr.NP) 137m	17	14SEP05A	27SEP05	41	100	7	-105	-132
1936	SB Kicker/form part Service Trough (fr.NP) 152m	22	28SEP05	25OCT05	0	100	22	-97	-125
1937	SB Kicker/form part Service Trough (fr.NP) 142m	19	26OCT05	16NOV05	0	100	19	-86	-124
1913	SB Kicker/form part Service Trough (fr.NP) 213m	30	17NOV05	21DEC05	0	100	30	-86	-121
3500	SB Invert lining type 'D' 121m - Rightside	60	31AUG05A	26OCT05	30	100	30	-116	-222
3501	SB Invert lining type 'D' 121m - Leftside	60	27OCT05	07JAN06	0	100	60	-79	-222
1306	SB exc.grnd/foul water drain trough 146m (fr.NP)	27	31AUG05A	22OCT05	30	100	27	-159	-316
1568	SB exc.grnd/foul water drain trough 156m (fr.NP)	28	24OCT05	24NOV05	0	100	28	-113	-311
1569	SB exc.grnd/foul water drain trough 162m (fr.NP)	30	25NOV05	31DEC05	0	100	30	492	-311



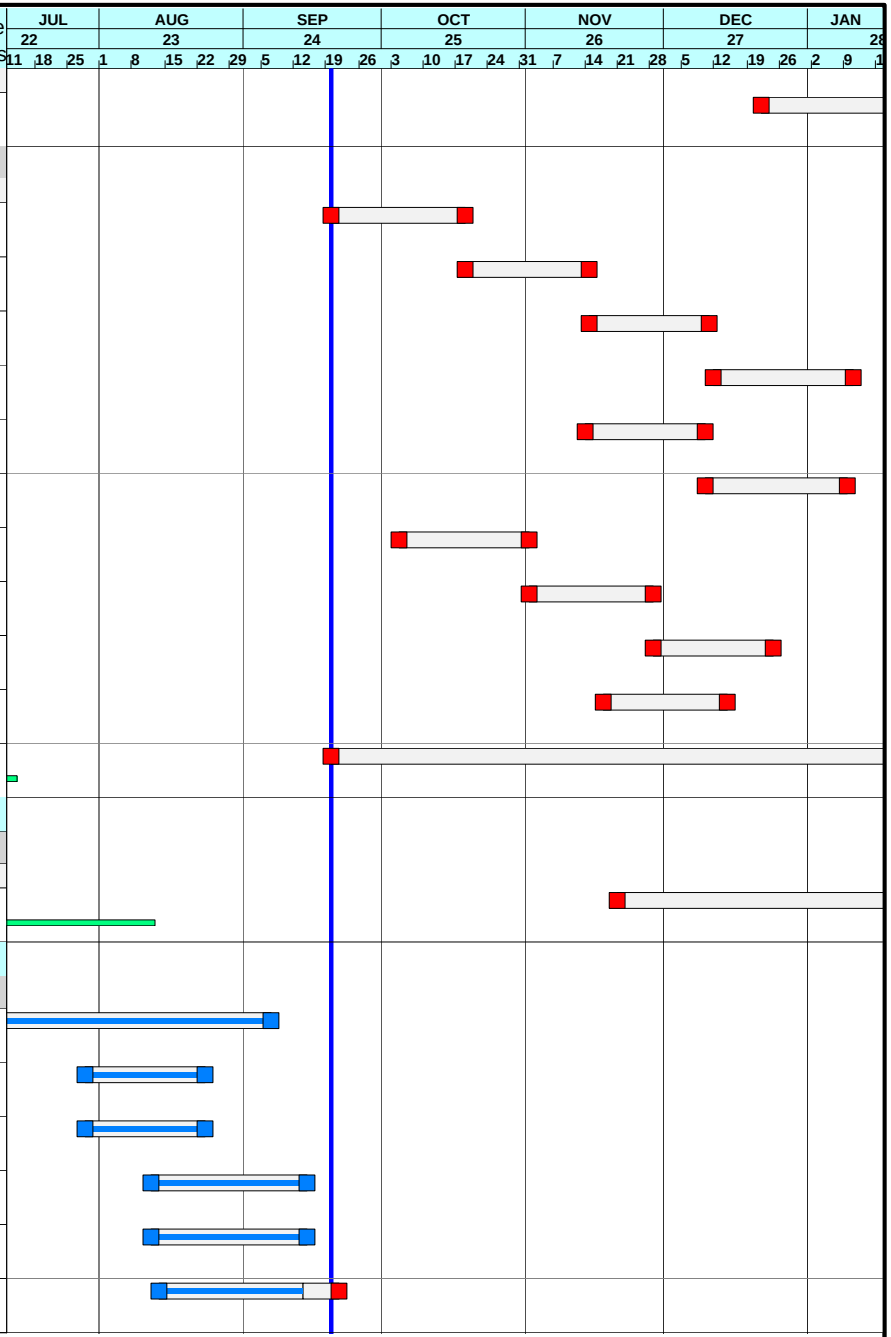
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTH PORTAL									
1593	SB Invert Cleaning (fr.NP) 146m	24	31AUG05A	19OCT05	30	100	24	624	-310
1594	SB Invert Cleaning (fr.NP) 156m	20	20OCT05	11NOV05	0	100	20	624	-297
1595	SB Invert Cleaning (fr.NP) 162m	22	27OCT05	21NOV05	0	100	22	624	-275
1596	SB Invert Cleaning (fr.NP) 152m	18	22NOV05	12DEC05	0	100	18	624	-266
1597	SB Invert Cleaning (fr.NP) 150m	18	29NOV05	19DEC05	0	100	18	624	-241
1598	SB Invert Cleaning (fr.NP) 137m	12	20DEC05	05JAN06	0	100	12	624	-227
3408	SB Foulwater Gulley ESF-40 to ESF-41 [55m]	12	14SEP05A	21SEP05	60	100	2	-104	-230
3407	SB Foulwater Gulley ESF-39 to ESF-40 [50m]	11	22SEP05	05OCT05	0	100	11	-104	-230
3409	SB Foulwater Gulley ESF-41 to ESF-42 [48m]	11	22SEP05	05OCT05	0	100	11	717	-230
3406	SB Foulwater Gulley ESF-38 to ESF-39 [50m]	11	06OCT05	19OCT05	0	100	11	-104	-230
3405	SB Foulwater Gulley ESF-37 to ESF-38 [50m]	11	20OCT05	01NOV05	0	100	11	-104	-230
3404	SB Foulwater Gulley ESF-36 to ESF-37 [50m]	11	02NOV05	14NOV05	0	100	11	-104	-230
3403	SB Foulwater Gulley ESF-35 to ESF-36 [50m]	11	25NOV05	07DEC05	0	100	11	-113	-239
3402	SB Foulwater Gulley ESF-34 to ESF-35 [50m]	11	08DEC05	20DEC05	0	100	11	-113	-239
3401	SB Foulwater Gulley ESF-33 to ESF-34 [52m]	11	21DEC05	05JAN06	0	100	11	-113	-239
3495	SB Ground water ESG-40 to ESG-41B [55m]	12	14SEP05A	21SEP05	60	100	2	-116	-230
3494	SB Ground water ESG-39 to ESG-40 [50m]	11	22SEP05	05OCT05	0	100	11	-104	-230
3496	SB Ground water ESG-41B to ESG-41A	18	22SEP05	23NOV05	0	100	18	-79	-186
3497	SB Ground water ESG-41B to ESG-42 [153m]	34	22SEP05	02NOV05	0	100	34	-116	-230
3493	SB Ground water ESG-38 to ESG-39 [50m]	11	06OCT05	19OCT05	0	100	11	-104	-230
3492	SB Ground water ESG-37 to ESG-38 [50m]	11	03NOV05	15NOV05	0	100	11	-116	-230
3491	SB Ground water ESG-36 to ESG-37 [50m]	11	16NOV05	28NOV05	0	100	11	-116	-230
3490	SB Ground water ESG-35 to ESG-36 [50m]	11	29NOV05	10DEC05	0	100	11	-116	-230



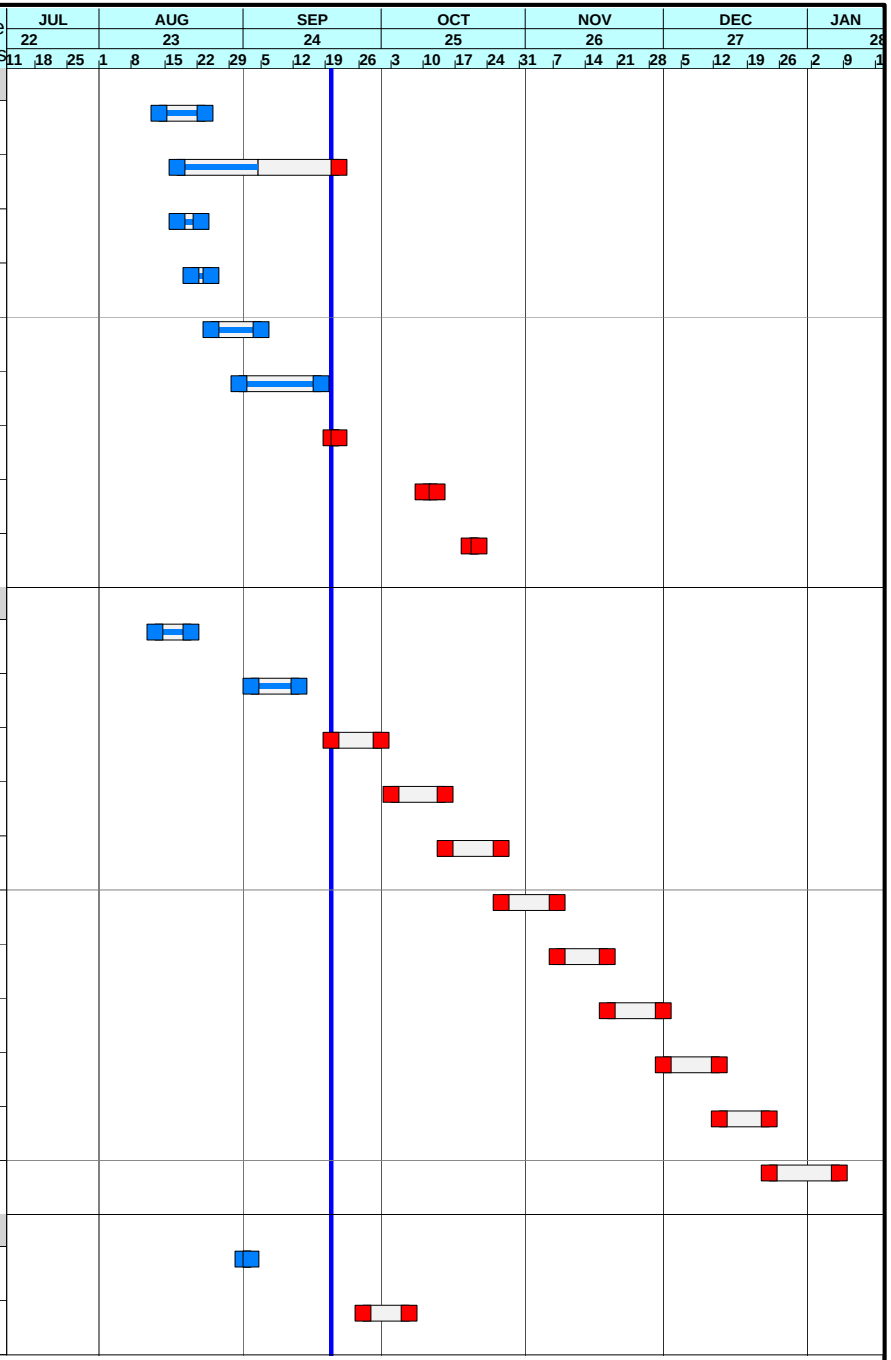
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTH PORTAL									
3489	SB Ground water ESG-34 to ESG-35 [50m]	11	12DEC05	23DEC05	0	100	11	-116	-230
3488	SB Ground water ESG-33 to ESG-34 [52m]	11	24DEC05	09JAN06	0	100	11	-116	-230
SOUTH PORTAL									
3741	SB Kicker/form part Service Trough (fr.SP) 89m	13	20SEP05	05OCT05	0	100	13	-136	-185
3742	SB Kicker/form part Service Trough (fr.SP) 150m	22	06OCT05	01NOV05	0	100	22	-111	-160
3743	SB Kicker/form part Service Trough (fr.SP) 150m	22	02NOV05	26NOV05	0	100	22	-111	-160
3744	SB Kicker/form part Service Trough (fr.SP) 192m	27	28NOV05	30DEC05	0	100	27	-103	-160
1583	SB exc.grnd/foul water drain trough 89m(fr.SP)	25	28NOV05	28DEC05	0	100	25	-105	-280
VENTILATION ADIT									
1586	SB exc.grnd/foul water drain trough 342m(fr.VA)	60	20SEP05	30NOV05	0	100	60	-172	-191
3166	SB Invert Cleaning (fr.SP 342m)	48	13OCT05	07DEC05	0	100	48	-172	-191
TUNNEL LINING									
NORTH PORTAL									
2189	SB NP Arch Lining 150m Tch.2+585 to 2+435	30	18AUG05A	20SEP05	90	100	1	-159	-174
2190	SB NP Arch Lining 150m Tch.2+435 to 2+285	30	21SEP05	27OCT05	0	100	30	-159	-174
2191	SB NP Arch Lining 150m Tch.2+285 to 2+135	30	28OCT05	01DEC05	0	100	30	-159	-174
2192	SB NP Arch Lining 150m Tch.2+135 to 1+985	30	02DEC05	09JAN06	0	100	30	-159	-174
3155	SB NP OHVD 150m Tch.2+735 to 2+585	30	29JUL05A	01SEP05A	100	100	0		-178
3156	SB NP OHVD 150m Tch.2+585 to 2+435	30	02SEP05A	27SEP05	79	100	6	-157	-169
3157	SB NP OHVD 150m Tch.2+435 to 2+285	30	30SEP05	05NOV05	0	100	30	-159	-171
3158	SB NP OHVD 150m Tch.2+285 to 2+135	30	07NOV05	10DEC05	0	100	30	-159	-171
3159	SB NP OHVD 150m Tch.2+135 to 1+985	30	12DEC05	18JAN06	0	100	30	-159	-171
SOUTH PORTAL									
1320	SB SP Arch Lining 150m Tch.1+063 to 1+213	30	17OCT05	14DEC05	0	100	30	-172	-191
3167	SB SP Arch Lining 150m Tch.1+213 to 1+363	30	15DEC05	21JAN06	0	100	30	-172	-191
3172	SB SP OHVD 150m Tch.1+063 to 1+213	30	31OCT05	21DEC05	0	100	30	-163	-185



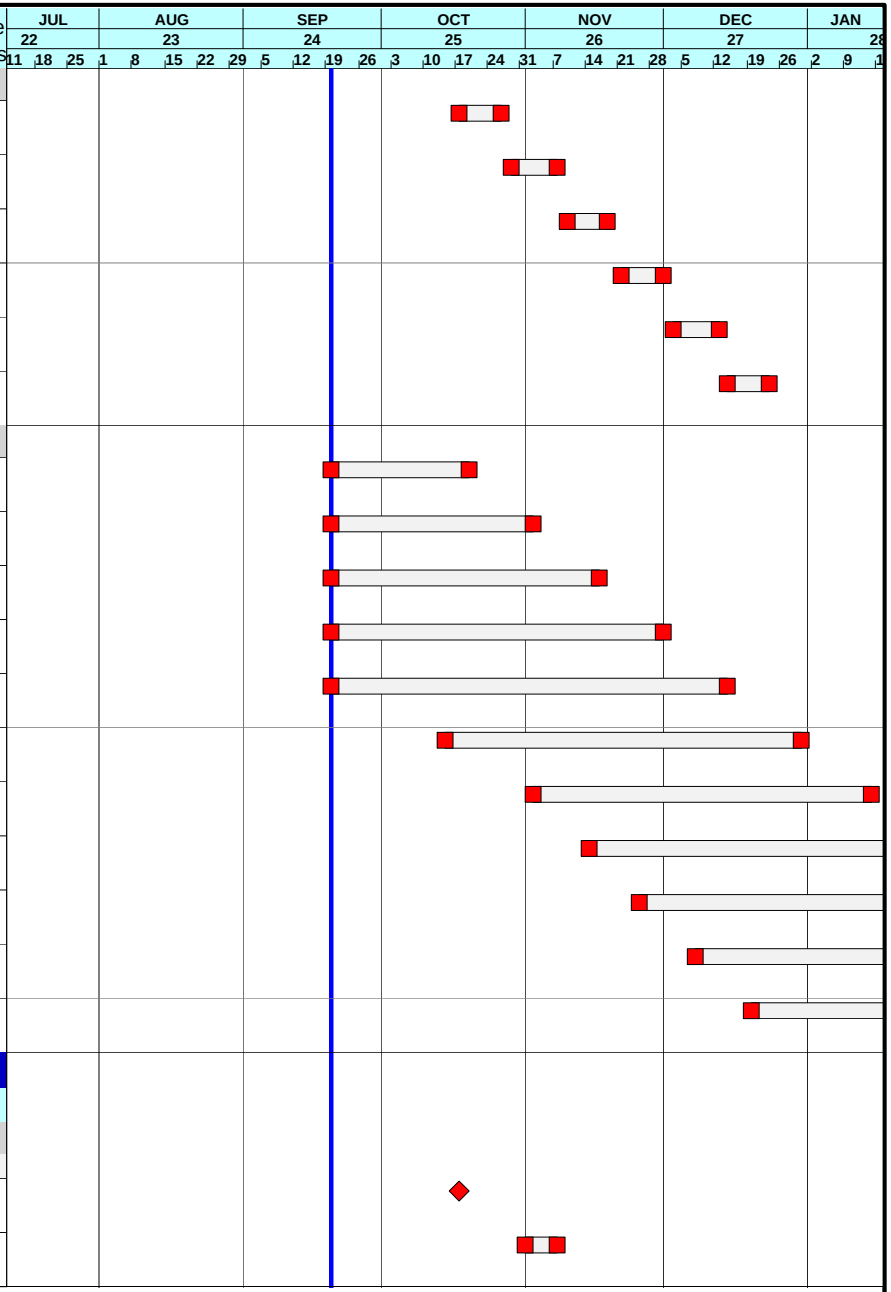
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
SOUTH PORTAL									
3173	SB SP OHVD 150m Tch.1+213 to 1+363	30	22DEC05	06FEB06	0	100	30	-163	-185
TUNNEL FINISHING WORKS									
SERVICE TROUGH & UTILITIES									
3560	SB service trough 150m Tch.3+035 to 2+885 fr.NP	23	20SEP05	18OCT05	0	100	23	-211	-266
3561	SB service trough 150m Tch.2+885 to 2+735 fr.NP	23	19OCT05	14NOV05	0	100	23	-203	-259
3562	SB service trough 150m Tch.2+735 to 2+585 fr.NP	23	15NOV05	10DEC05	0	100	23	-203	-252
3563	SB service trough 150m Tch.2+585 to 2+435 fr.NP	23	12DEC05	10JAN06	0	100	23	-203	-245
3570	SB service trough 150m Tch.1+063 to 1+213 fr.SP	23	14NOV05	09DEC05	0	100	23	-133	-166
3571	SB service trough 150m Tch.1+213 to 1+363 fr.SP	23	10DEC05	09JAN06	0	100	23	-133	-159
3545	SB NP 200 main 150m Tch.3+035 to 2+885 fr.NP	23	05OCT05	01NOV05	0	100	23	-211	-282
3546	SB NP 200 main 150m Tch.2+885 to 2+735 fr.NP	23	02NOV05	28NOV05	0	100	23	-211	-275
3547	SB NP 200 main 150m Tch.2+735 to 2+585 fr.NP	23	29NOV05	24DEC05	0	100	23	-211	-268
3555	SB SP 200 main 150m Tch.1+063 to 1+213 fr.SP	23	18NOV05	14DEC05	0	100	23	-131	-174
3642	SB & VA - 50% TCSS Contain't from NP KD6	66	20SEP05	07MAR06	0	100	66	-189	-190
SOUTHBOUND & VENTILATION ADIT TUNNEL									
TUNNEL VENTILATION SYSTEM									
TUNNEL VENTILATION									
6764	EntRtSb&VA-TVS Tunnel vent. & SE 1st fix	72	21NOV05	23FEB06	0	100	72	-77	-154
CROSS PASSAGES									
X-PASSAGE EXCAVATION									
2583	Excavate Part Cross Passage CP.2 from SB	16	29JUN05A	06SEP05A	100	100	0		-193
2558	Excavate Part Cross Passage CP.11 from NB	2	29JUL05A	23AUG05A	100	100	0		-123
2579	Excavate Part Cross Passage CP.11 from SB	2	29JUL05A	23AUG05A	100	100	0		-122
2566	Excavate Part Cross Passage CP.3 from NB	2	12AUG05A	14SEP05A	100	100	0		-171
2584	Excavate Part Cross Passage CP.3 from SB	2	12AUG05A	14SEP05A	100	100	0		-156
2560	Excavate Part Cross Passage CP.9 from NB	2	14AUG05A	21SEP05	80	100	2	-92	-108



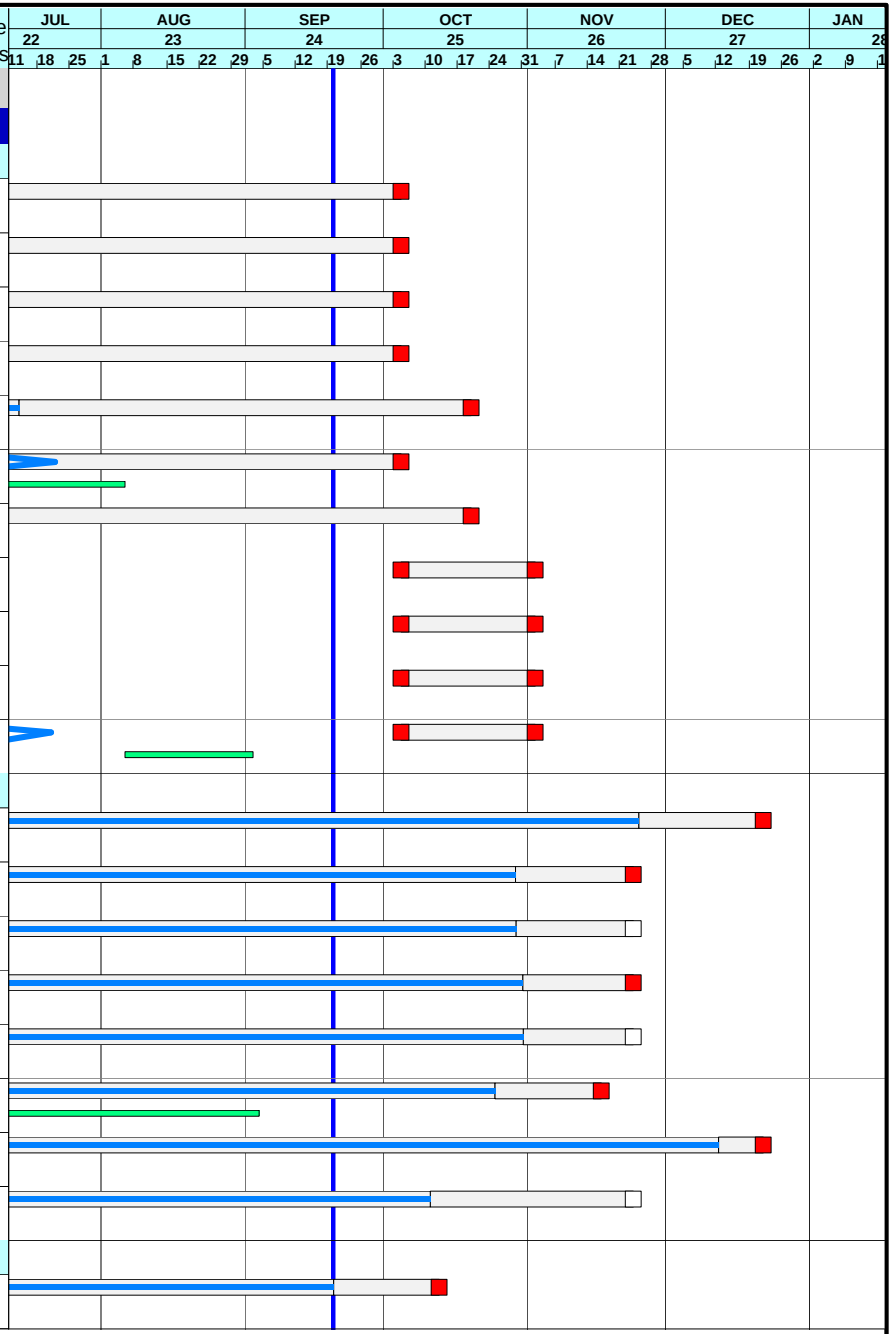
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
X-PASSAGE EXCAVATION									
2581	Excavate Part Cross Passage CP.9 from SB	2	14AUG05A	23AUG05A	100	100	0		-86
2565	Excavate Part Cross Passage CP.4 from NB	2	18AUG05A	21SEP05	50	100	2	-86	-157
2585	Excavate Part Cross Passage CP.4 from SB	2	18AUG05A	22AUG05A	100	100	0		-117
2561	Excavate Part Cross Passage CP.8 from NB	2	21AUG05A	24AUG05A	100	100	0		-83
2582	Excavate Part Cross Passage CP.8 from SB	2	25AUG05A	04SEP05A	100	100	0		-104
2563	Excavate Part Cross Passage CP.6 from NB	2	31AUG05A	17SEP05A	100	100	0		-101
2586	Excavate Part Cross Passage CP.5 from SB	2	20SEP05	21SEP05	0	100	2	-68	-128
2587	Excavate Part Cross Passage CP.6 from SB	2	10OCT05	12OCT05	0	100	2	-68	-128
2564	Excavate Part Cross Passage CP.5 from NB	2	20OCT05	21OCT05	0	100	2	-86	-157
X-PASSAGE LINING									
2594	Invert Clean & Lining to CP.16	10	13AUG05A	20AUG05A	100	100	0		-170
2595	Invert Clean & Lining to CP.15	10	03SEP05A	12SEP05A	100	100	0		-178
2596	Invert Clean & Lining to CP.14	10	20SEP05	30SEP05	0	100	10	-160	-184
2597	Invert Clean & Lining to CP.13	10	03OCT05	14OCT05	0	100	10	-160	-184
2598	Invert Clean & Lining to CP.12	10	15OCT05	26OCT05	0	100	10	-160	-179
2599	Invert Clean & Lining to CP.11	10	27OCT05	07NOV05	0	100	10	-160	-174
2600	Invert Clean & Lining to CP.10	10	08NOV05	18NOV05	0	100	10	-160	-165
2603	Invert Clean & Lining to CP.2	10	19NOV05	30NOV05	0	100	10	-160	-165
2604	Invert Clean & Lining to CP.3	10	01DEC05	12DEC05	0	100	10	-160	-165
2601	Invert Clean & Lining to CP.9	10	13DEC05	23DEC05	0	100	10	-160	-165
2602	Invert Clean & Lining to CP.8	10	24DEC05	07JAN06	0	100	10	-160	-165
X-PASSAGE INVERT									
2614	Invert Lining to CP.16	8	01SEP05A	02SEP05A	100	100	0		-161
2615	Invert Lining to CP.15	8	27SEP05	06OCT05	0	100	8	-120	-178



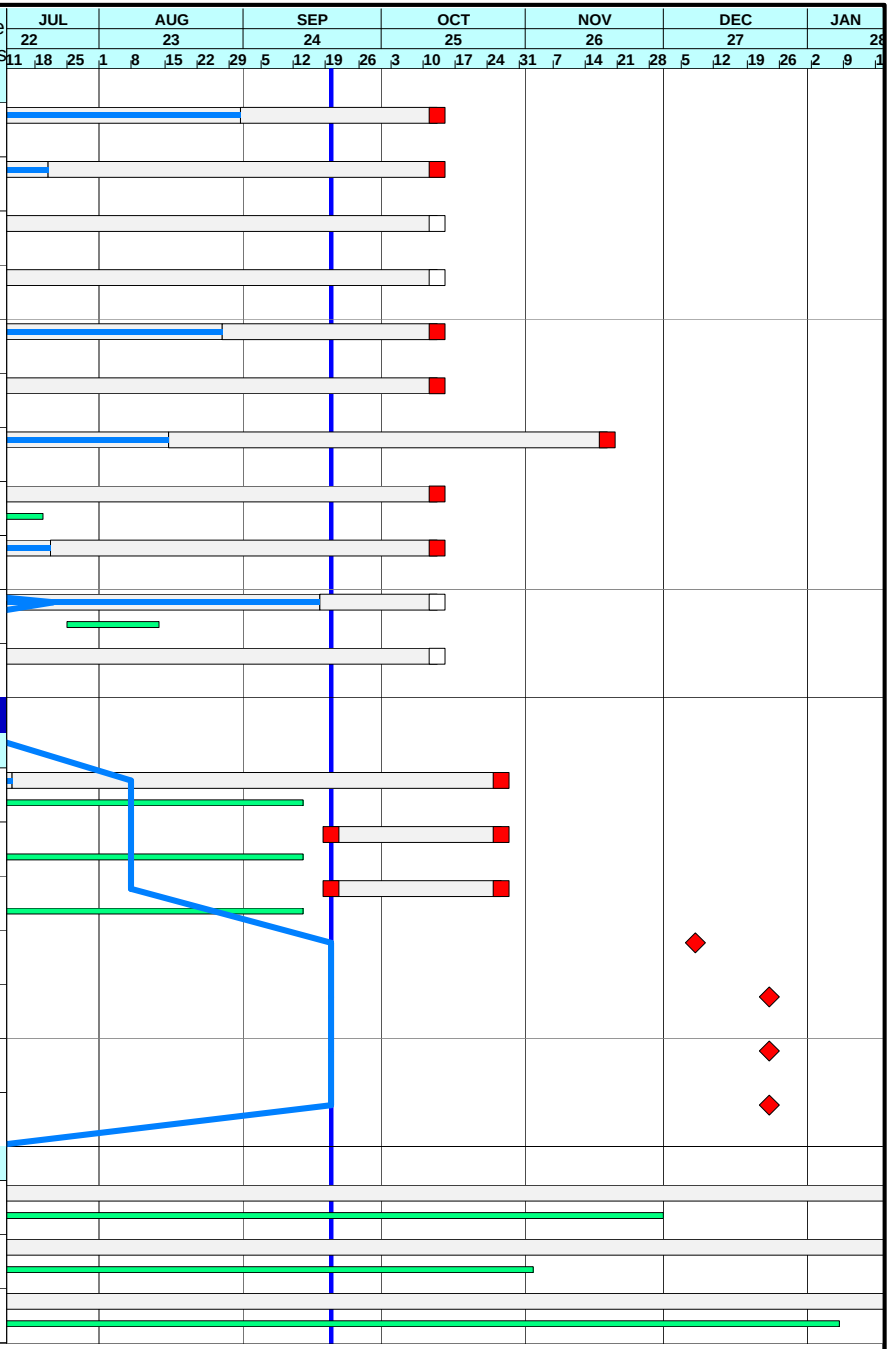
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
X-PASSAGE INVERT									
2616	Invert Lining to CP.14	8	18OCT05	26OCT05	0	100	8	-128	-184
2617	Invert Lining to CP.13	8	29OCT05	07NOV05	0	100	8	-130	-184
2618	Invert Lining to CP.12	8	10NOV05	18NOV05	0	100	8	-132	-179
2619	Invert Lining to CP.11	8	22NOV05	30NOV05	0	100	8	-134	-174
2620	Invert Lining to CP.10	8	03DEC05	12DEC05	0	100	8	-136	-165
2623	Invert Lining to CP.2	8	15DEC05	23DEC05	0	100	8	-116	-165
X-PASSAGE FINISHING WORKS									
2630	Construct Rooms (incl.ABWF) at CP.20	24	20SEP05	19OCT05	0	100	24	-158	-208
2631	Construct Rooms (incl.ABWF) at CP.19	24	20SEP05	02NOV05	0	100	24	-158	-208
2632	Construct Rooms (incl.ABWF) at CP.18	24	20SEP05	16NOV05	0	100	24	-158	-208
2633	Construct Rooms (incl.ABWF) at CP.17	24	20SEP05	30NOV05	0	100	24	-158	-208
2634	Construct Rooms (incl.ABWF) at CP.16	24	20SEP05	14DEC05	0	100	24	-158	-208
2635	Construct Rooms (incl.ABWF) at CP.15	24	15OCT05	30DEC05	0	100	24	-158	-208
2636	Construct Rooms (incl.ABWF) at CP.14	24	03NOV05	14JAN06	0	100	24	-158	-208
2637	Construct Rooms (incl.ABWF) at CP.13	24	15NOV05	06FEB06	0	100	24	-158	-208
2638	Construct Rooms (incl.ABWF) at CP.12	24	26NOV05	20FEB06	0	100	24	-158	-208
2639	Construct Rooms (incl.ABWF) at CP.11	24	08DEC05	06MAR06	0	100	24	-158	-208
2640	Construct Rooms (incl.ABWF) at CP.10	24	20DEC05	20MAR06	0	100	24	-158	-208
TESTING & COMMISSIONING									
EAGLE'S NEST TUNNEL									
STATUTORY INSPECTIONS									
FSD INSPECTION									
6917	EntRt-All FS design approved by FSD (MHJV)	0	18OCT05		0	100	0	-84	-143
6918	EntRt-Issue, endorse & submit FSI 314 to FSD	6	01NOV05	07NOV05	0	100	6	-84	-143



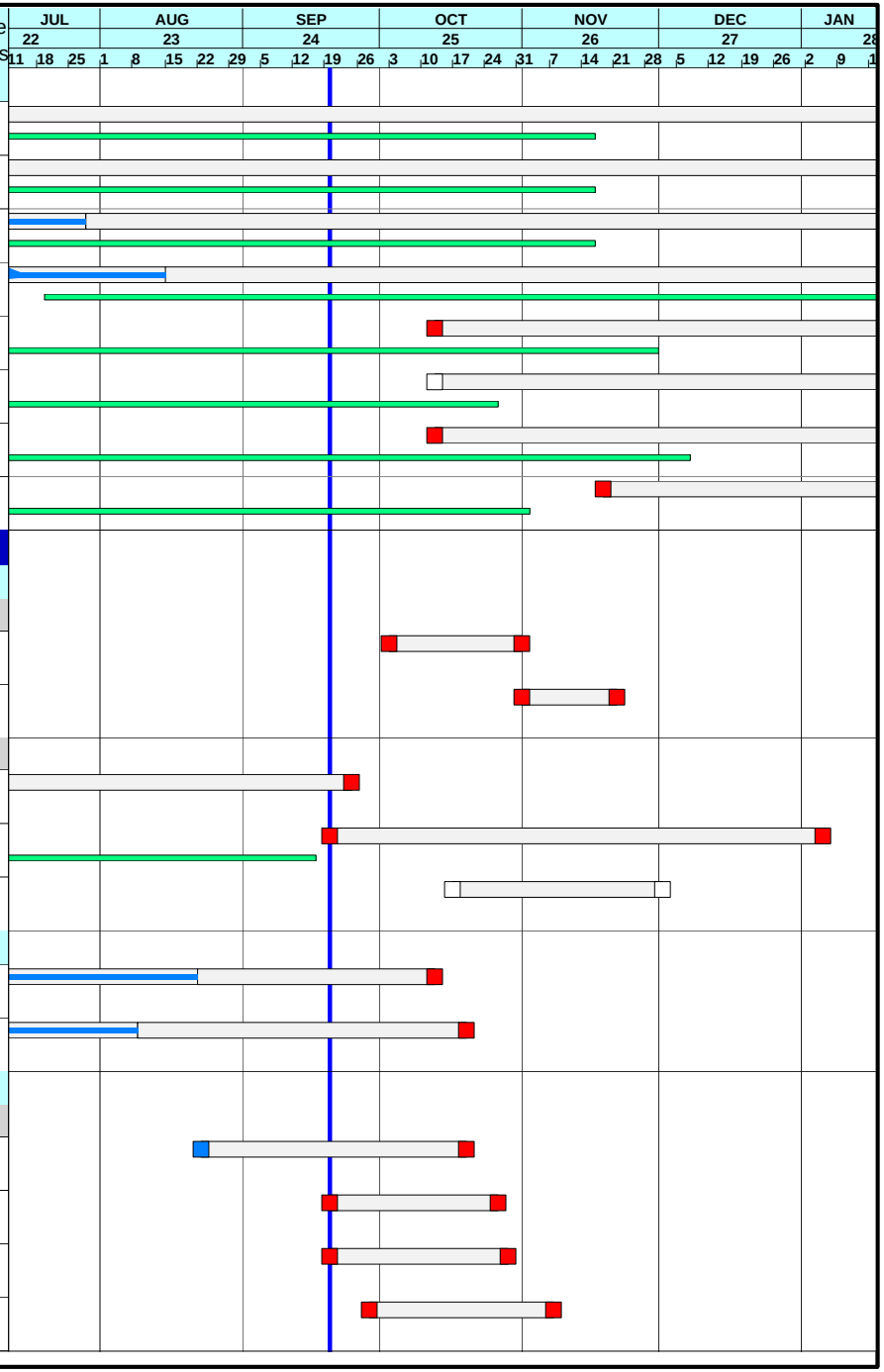
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
VENTILATION ADIT & BUILDING									
SUBMITTALS & APPROVALS									
ABWF & BUILDER'S WORKS									
1973	VA Bldg. - Prep & submit louvre details	90	22NOV04A	04OCT05	50	100	12	-55	-163
1985	VA Bldg. - Prep & sub aluminium cladding	90	22NOV04A	04OCT05	0	100	12	-49	-163
1975	VA Bldg. - Prep & sub balustrade & metal wks	90	24NOV04A	04OCT05	0	100	12	-49	-161
1971	VA Bldg. - Prep & submit door & window detail	90	03FEB05A	04OCT05	40	100	12	-49	-103
1974	VA Bldg. - Approve louvre details	24	07APR05A	19OCT05	50	100	24	-67	-151
1989	VA Bldg. - Prep & sub fall arrest system	90	19APR05A	04OCT05	0	100	12	-49	-49
1991	VA Bldg. - Approve slate cladding	24	15JUN05A	19OCT05	0	100	24	-67	-151
1972	VA Bldg. - Approve door & window details	24	05OCT05	02NOV05	0		24	-49	-103
1976	VA Bldg. - Approve balustrade & metal works	24	05OCT05	02NOV05	0		24	-49	-161
1988	VA Bldg. - Approve aluminium cladding	24	05OCT05	02NOV05	0		24	-49	-163
1990	VA Bldg. - Approve fall arrest system	24	05OCT05	02NOV05	0		24	-49	-49
E&M EQPT./MTRL.DETAIL SUBMITTAL									
8232	VaBldg-Sub.TVF, Ductworks & Control sys	78	02JUL04A	21DEC05	95	100	78	-5	-148
8234	VaBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	23NOV05	95	100	54	-57	-204
8231	VaBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	23NOV05	95	100	54	55	-144
8229	VaBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	23NOV05	95	100	54	-95	-192
8228	VaBldg-Sub.FS wet sys	54	05AUG04A	23NOV05	95	100	54	55	-144
8233	VaBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	16NOV05	95	100	48	1	-60
8230	VaBldg-Sub.CMCS & ELV sys	78	26AUG04A	21DEC05	98	100	78	-53	-186
8235	VaBldg-Sub.PD irrig. sys	54	04FEB05A	23NOV05	85	100	54	31	-162
E&M EQPT./MTRL.APPROVAL BY ENGINEER									
6578	VaBldg-App. HV power dist. sys	18	14JUL04A	12OCT05	95	100	18	-59	-162



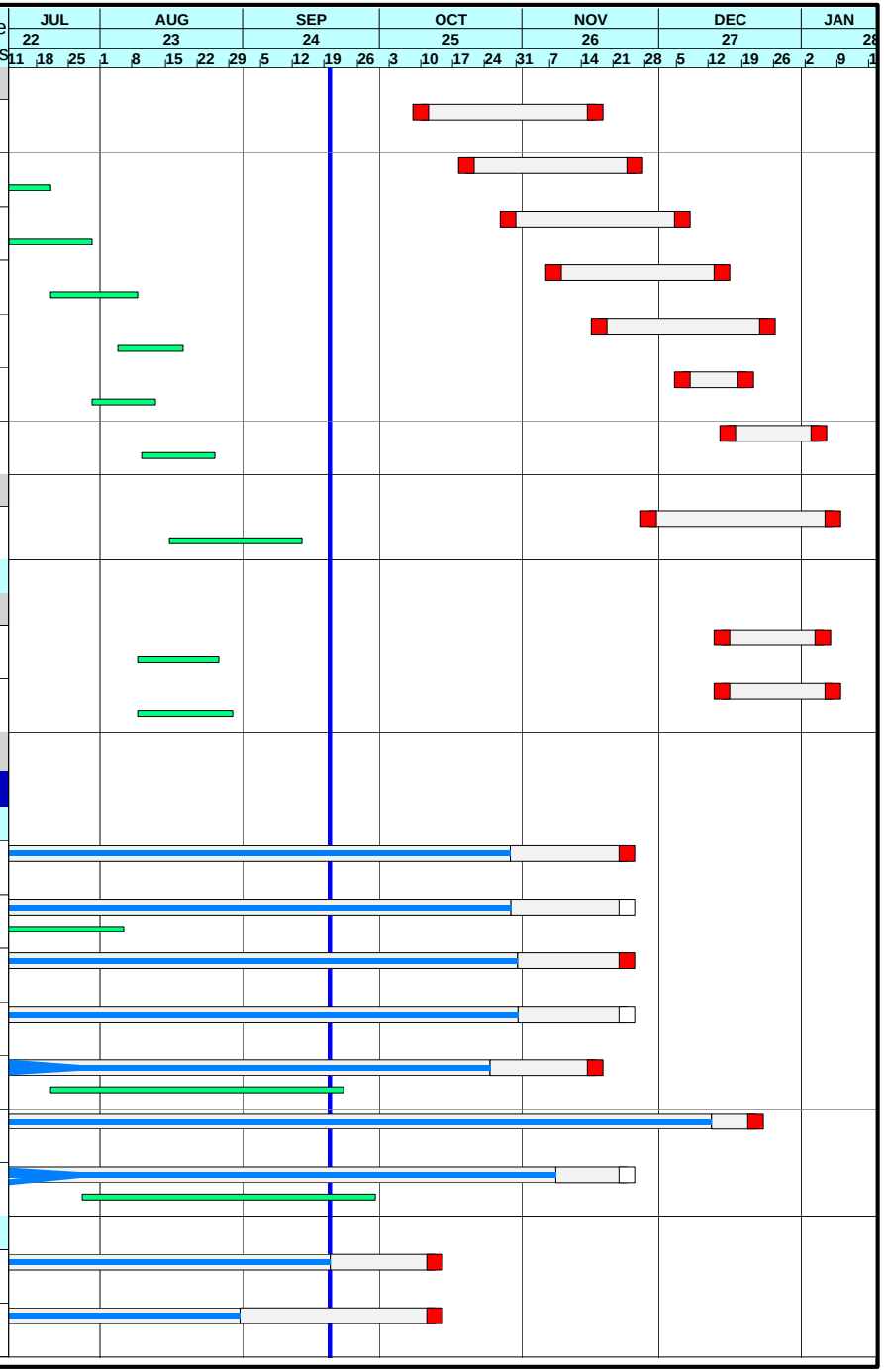
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT./MTRL.APPROVAL BY ENGINEER									
6579	VaBldg-App. LV power dist. sys	18	13AUG04A	12OCT05	90	100	18	-53	-138
8495	VaBldg-App. building related luminaires	18	18AUG04A	12OCT05	80	100	18	-59	-132
6581	VaBldg-App. FS wet sys	18	04SEP04A	12OCT05	60	100	18	55	-90
6590	VaBldg-App. FS AFA & FM200 sys	18	14SEP04A	12OCT05	70	100	18	55	-90
6587	VaBldg-App. of CMCS & ELV sys	18	20SEP04A	12OCT05	88	100	18	-53	-108
6582	VaBldg-App. MVAC mech.vent. sys	18	23SEP04A	12OCT05	60	100	18	-95	-138
6580	VaBldg-App. PD all fresh & flush water sys	18	04NOV04A	18NOV05	75	100	50	-13	-134
6850	VaBldg-App. TVF, Ductworks & Control sys	18	12NOV04A	12OCT05	70	100	18	-5	-70
6864	V6aBldg-App. MVAC MCC, power & control sys	18	12NOV04A	12OCT05	75	100	18	-57	-150
8515	VaBldg-App. MVAC Package AC Unit sys	18	01FEB05A	12OCT05	90	100	18	49	-48
7590	VaBldg-App. PD irrig. sys	18	05MAY05A	12OCT05	30	100	18	31	-108
PROCUREMENT									
ARCHITECTURAL									
1992	VA Bldg. - Procure doors & windows	120	29MAR05A	26OCT05	50	100	30	-63	-35
1994	VA Bldg. - Procure balustrade & metal works	30	20SEP05	26OCT05	0	100	30	-63	-35
1995	VA Bldg. - Procure aluminium cladding	30	20SEP05	26OCT05	0	100	30	-63	-35
2034	VA Bldg. - Initial delivery fall arrest system	0	08DEC05		0		0	-49	0
2032	VA Bldg. - Initial delivery doors & windows	0	24DEC05		0		0	-63	0
2035	VA Bldg. - Initial delivery balust & metal works	0	24DEC05		0		0	-63	0
2038	VA Bldg. - Initial delivery aluminium cladding	0	24DEC05		0		0	-63	0
E&M MATERIALS									
6584	VaBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	08MAY06	20	70	180	-53	-120
6583	VaBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	08MAY06	15	80	180	-59	-144
6591	VaBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	08MAY06	15	50	180	-53	-90



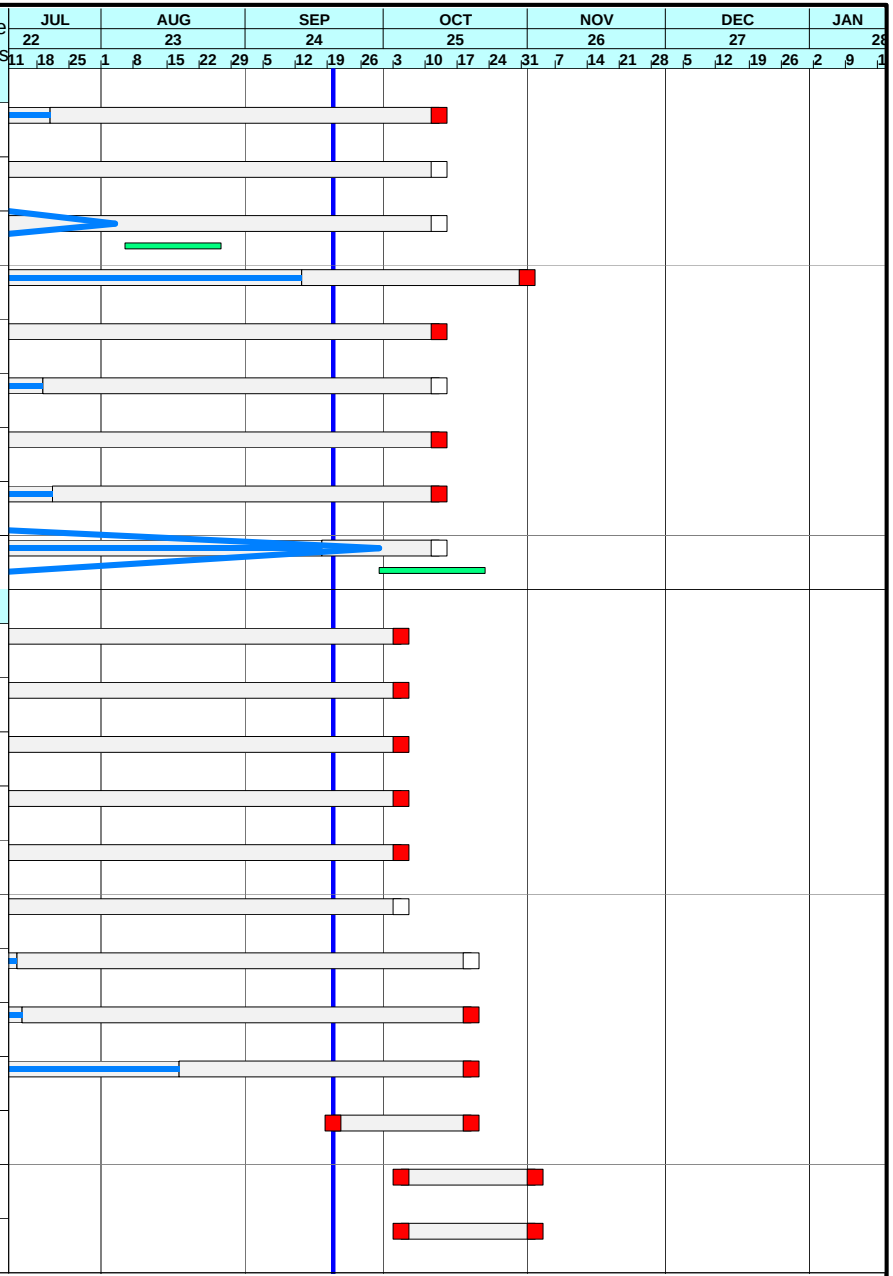
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M MATERIALS									
6636	VaBldg-Proc & Manuf. FS AFA & FM200 sys	120	25MAR05A	22FEB06	15	60	120	53	-74
6865	VaBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	08MAY06	8	80	180	-57	-132
6586	VaBldg-Proc & Manuf. FS wet sys	120	06JUN05A	22FEB06	20	70	120	53	-74
6851	VaBldg-Proc & Manuf. TVF, Ductwks & Cont'l sys	180	09JUN05A	08MAY06	20	30	180	-5	-52
6588	VaBldg-Proc & Manuf. MVAC mech.vent. sys	180	13OCT05	29MAY06	0	80	180	-95	-138
7591	VaBldg-Proc & Manuf. PD irrig. sys	120	13OCT05	13MAR06	0	90	120	31	-108
8496	VaBldg-Proc & Manf bldg related luminaires	180	13OCT05	29MAY06	0	80	180	-59	-132
6585	VaBldg-Proc & Manuf. PD fresh & flush water sys	120	19NOV05	24APR06	0	90	120	-13	-134
CONSTRUCTION WORKS									
ADIT TUNNEL									
TUNNEL LINING									
1535	VA Portal Lining (20m) Bldg.	24	03OCT05*	31OCT05	0	100	24	-37	-140
1536	VA Form Portal Transition Structure VA Bldg.	18	01NOV05	21NOV05	0	100	18	-37	-146
VA TRANSITION STRUCTURE									
1565	VA Excav.VA-RT LH Junction 54m w/CP.7	10	05MAR05A	24SEP05	52	100	5	-43	-243
1924	VA RC Tnl Interface upper part	88	20SEP05	05JAN06	0	100	88	-78	-90
1923	VA RC Tnl Interface Lower part	40	17OCT05	01DEC05	0	100	40	669	-151
SUBSTRUCTURE									
1642	VA Bldg. Fnd.GL.A-F/1-6 +101.7mPD	24	23APR05A	12OCT05	70	100	18	-107	-124
6589	VaBldg Drainage & Earth mat	48	23APR05A	19OCT05	60	100	24	-107	-142
SUPERSTUCTURE									
RC WORKS									
1538	VA Bldg.RC.Walls/Cols to GL GL.D-F/1-6	18	23AUG05A	19OCT05	0	100	24	-107	-107
1537	VA Bldg.RC Base LPL GL.D-F/1-6 +105.00mPD	18	20SEP05	26OCT05	0	100	18	-73	-124
1539	VA Bldg.RC.GL S/Slab GL.C-F/1-6 +109.60mPD	16	20SEP05	28OCT05	0	100	16	-107	-107
1540	VA Bldg.RC Walls/Cols to 1FL GL.C-F/1-6	16	29SEP05	07NOV05	0	100	16	-107	-107



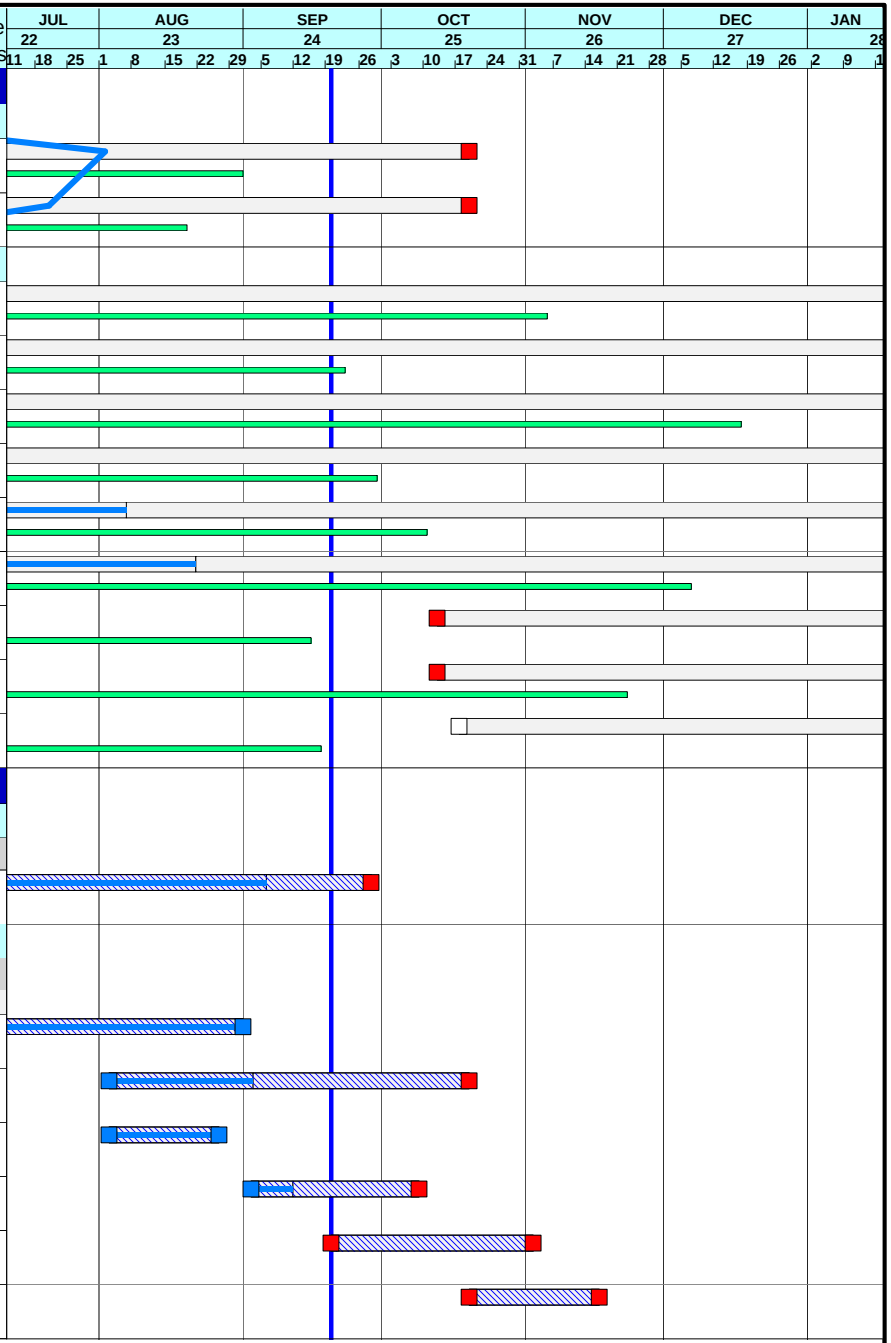
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
RC WORKS									
1541	VA Bldg.RC S/Slab 1FL.GL.C-F/1-6 +116.70mPD	16	10OCT05	16NOV05	0	100	16	-107	-107
1542	VA Bldg.RC Walls/Cols to 2FL GL.C-F/1-6	16	20OCT05	25NOV05	0	100	16	-107	-107
1543	VA Bldg.RC S/Slab 2FL GL.C-F/1-6 +124.95mPD	16	29OCT05	05DEC05	0	100	16	-107	-107
1544	VA Bldg.RC Walls/Cols to URFL GL.C-F/1-6	16	08NOV05	14DEC05	0	100	16	-106	-107
1545	VA Bldg.RC S/Slab URFL +131.65mPD	12	18NOV05	24DEC05	0	100	12	-105	-107
1547	VA Bldg.RC.Grnd.Slab GL.A-C/1-6 +109.60mPD	12	06DEC05	19DEC05	0	100	12	-107	-107
1548	VA Bldg.RC.Walls/Cols to 1F GL.A-C/1-6	14	16DEC05	04JAN06	0	100	14	-107	-107
STRUCTURAL STEELWORKS									
1546	VA Bldg.Struct.Steelworks URFL +131.65mPD	24	29NOV05	07JAN06	0	100	24	-79	-95
ARCHITECTURAL & BUILDER'S WORKS									
BUILDER'S WORKS									
1553	VA.Bldg.W/Proof Tanks/Pits & Test GL.H-S/10-12	16	15DEC05	05JAN06	0	100	16	-106	-107
1554	VA.Bldg.Plinths LPL.	18	15DEC05	07JAN06	0	100	18	-96	-107
ENT NORTH PORTAL VENTILATION BUILDING									
SUBMITTALS & APPROVALS									
E&M EQPT.& MATERIAL.SUBMITTALS									
8260	EntNpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	23NOV05	95	100	54	-104	-243
8257	EntNpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	23NOV05	95	100	54	34	-91
8254	EntNpBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	23NOV05	95	100	54	-128	-255
8253	EntNpBldg-Sub.FS wet sys	54	05AUG04A	23NOV05	95	100	54	46	-175
8259	EntNpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	16NOV05	95	100	48	-2	-45
8255	EntNpBldg-Sub.CMCS & ELV sys	78	28AUG04A	21DEC05	98	100	78	-56	-201
8256	EntNpBldg-Sub.MVAC Package AC Units	54	17JAN05A	23NOV05	95	90	54	46	-45
E&M EQPT.& MATERIAL APPROVALS									
6196	EntNpBldg-App. HV power dist. sys	18	14JUL04A	12OCT05	95	100	18	-104	-195
6197	EntNpBldg-App. LV power dist. sys	18	13AUG04A	12OCT05	90	100	18	-110	-159



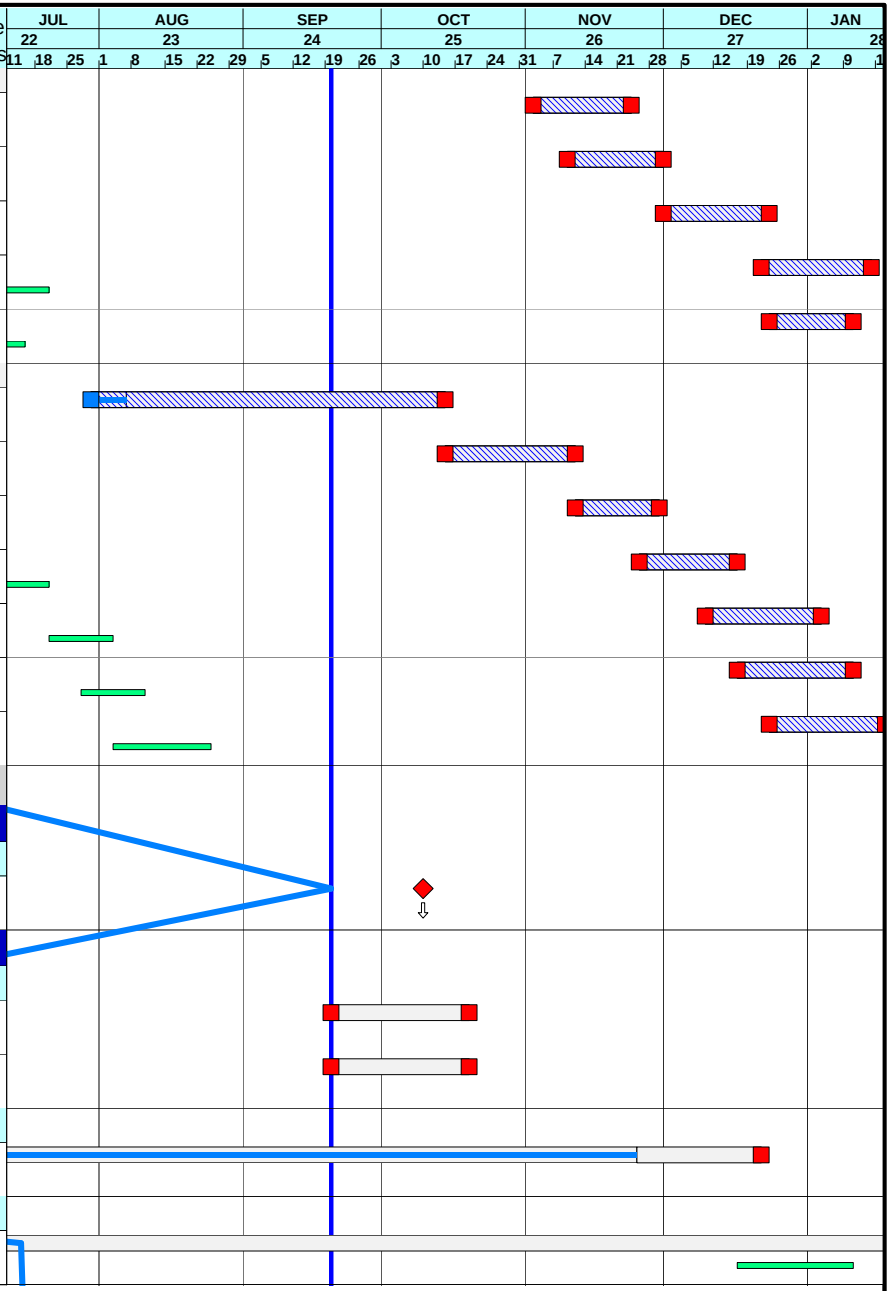
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT.& MATERIAL APPROVALS									
8499	EntNpBldg-App. building related luminaires	18	18AUG04A	12OCT05	80	100	18	-50	-145
6199	EntNpBldg-App. FS wet sys	18	04SEP04A	12OCT05	60	100	18	46	-121
6210	EntNpBldg-App. FS AFA & FM200 sys	18	14SEP04A	12OCT05	70	100	18	34	-37
6203	EntNpBldg-App. CMCS & ELV sys	18	20SEP04A	31OCT05	88	100	18	-72	-139
6200	EntNpBldg-App. MVAC mech.vent. sys	18	23SEP04A	12OCT05	60	100	18	-128	-201
6198	EntNpBldg-App. PD cleans. & flush water sys	18	04NOV04A	12OCT05	75	100	18	28	-139
6823	EntNpBldg-App. TVF, Ductworks & Control sys	18	12NOV04A	12OCT05	70	100	18	-56	-133
6837	EntNpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	12OCT05	75	100	18	-104	-189
6207	EntNpBldg-App. MVAC Package AC Unit sys	18	01FEB05A	12OCT05	90	0	18	46	9
ABWF WORKS									
1955	NP.Bldg. - Prep & submit louvre details	24	19NOV04A	04OCT05	50	100	12	-2	-231
1959	NP.Bldg. - Prep & sub aluminium cladding	24	19NOV04A	04OCT05	50	100	12	-26	-231
1970	NP.Bldg. - Prep & submit slate cladding	24	19NOV04A	04OCT05	50	100	12	-2	-231
1957	NP.Bldg. - Prep & sub balustrade & metal wks	24	20JAN05A	04OCT05	50	100	12	4	-181
1961	NP.Bldg. - Prep & sub fall arrest system	24	01FEB05A	04OCT05	50	100	12	-2	-171
1946	NP.Bldg. - Prep & submit door & window detail	24	17FEB05A	04OCT05	50	100	12	718	-163
1954	NP.Bldg. - Approve door & window details	24	06APR05A	19OCT05	50	100	24	22	-151
1956	NP.Bldg. - Approve louvre details	24	08APR05A	19OCT05	50	100	24	-14	-219
1963	NP.Bldg. - Approve slate cladding	24	15JUN05A	19OCT05	50	100	24	-14	-219
1962	NP.Bldg. - Approve fall arrest system	24	20SEP05	19OCT05	0	100	24	-14	-159
1958	NP.Bldg. - Approve balustrade & metal works	24	05OCT05	02NOV05	0	100	24	4	-181
1960	NP.Bldg. - Approve aluminium cladding	24	05OCT05	02NOV05	0	100	24	-26	-231



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
PROCUREMENT - MATERIAL									
ABWF WORKS									
1967	NP.Bldg. - Procure aluminium cladding	180	18JAN05A	19OCT05	50	100	24	-44	-39
1966	NP.Bldg. - Procure balustrade & metal works	120	24MAR05A	19OCT05	50	100	24	-38	-49
E&M WORKS									
6202	EntNpBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	08MAY06	20	80	180	-110	-141
6201	EntNpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	08MAY06	15	100	180	-104	-177
6208	EntNpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	26MAY06	15	70	180	-72	-121
6838	EntNpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	08MAY06	8	95	180	-104	-171
6205	EntNpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	08APR06	20	90	120	6	-143
6824	EntNpBldg-Proc & Manuf. TVF, Ductwks&Cont'l sys	180	09JUN05A	10JUN06	20	80	180	-84	-143
6206	EntNpBldg-Proc & Manuf. MVAC mech.vent. sys	180	13OCT05	29MAY06	0	100	180	-128	-201
8500	EntNpBldg-Proc & Manf bldg related luminaires	180	13OCT05	29MAY06	0	80	180	-50	-145
6204	EntNpBldg-Proc & Manuf. Cleans & flush water sys	120	18OCT05	17MAR06	0	100	120	24	-143
CONSTRUCTION									
SUBSTRUCTURE									
RC WORKS									
1386	NP.Bldg. - RC Found & Drainage GL.A-K/2-6	54	14FEB05A	28SEP05	90	100	8	-132	-155
SUPERSTRUCTURE									
RC WORKS									
NB CARRIAGEWAY & CENTRAL RESERVE									
1384	NP.Bldg. - Nth Bound C/Way RC Base Slab	18	20JUN05A	31AUG05A	100	100	0		-126
1387	NP.Bldg. - RC Cols.& Walls to 1FL.GL.A-K/2-6	18	03AUG05A	19OCT05	40	100	24	-132	-159
1388	NP.Bldg. - RC Walls to Tanks/Pits GL.A-K/2-6	18	03AUG05A	26AUG05A	100	100	0		-110
1385	NP.Bldg. - Nth Bound C/Way RC Ret. Wall W1	24	03SEP05A	08OCT05	25	100	16	-88	-139
1389	NP.Bldg. - RC S/Slab 1FL.+72.50mPD GL.A-K/2-6	18	20SEP05	02NOV05	0	100	18	-132	-147
1390	NP.Bldg. - RC Cols.& Walls to 2FL.GL.A-K/2-6	18	20OCT05	16NOV05	0	100	18	-132	-147



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NB CARRIAGEWAY & CENTRAL RESERVE									
1391	NP.Bldg. - RC S/Slab LPL.+74.40mPD GL.A-K/2-6	12	03NOV05	23NOV05	0	100	12	-132	-147
1392	NP.Bldg. - RC S/Slab LPL.+75.50mPD GL.G-K/2-6	12	10NOV05	30NOV05	0	100	12	-132	-147
1393	NP.Bldg - RC Trans Slab 2FL.~+78.5mPD GL.A-K/2-7	20	01DEC05	23DEC05	0	100	20	-132	-147
1395	NP.Bldg. - RC Cols.& Walls to 3FL.GL.A-J/3-6	18	22DEC05	14JAN06	0	100	18	-130	-147
1394	NP.Bldg - RC S/Slab U2FL.+78.40.65mPD GL.E-H/3-7	12	24DEC05	10JAN06	0	100	12	-132	-147
SB CARRIAGEWAY									
1404	NP.Bldg. - Sth Bound C/Way RC Base Slab	18	30JUL05A	14OCT05	10	100	20	-114	-125
1405	NP.Bldg. - Sth Bound C/Way RC Ret Wall W2	24	15OCT05	11NOV05	0	100	24	-114	-125
1406	NP.Bldg. - RC Trans Slab 2FL.~78.5mPD GL.A-K/1-2	15	12NOV05	29NOV05	0	100	15	-114	-125
1408	NP.Bldg. - RC Cols.& Walls to 3FL.GL.A-J/1-3	18	26NOV05	16DEC05	0	100	18	-114	-125
1407	NP.Bldg. - RC S/Slab U2FL.~78.5mPD GL.E-H/1-3	12	10DEC05	03JAN06	0	100	12	-114	-125
1409	NP.Bldg. - RC S/Slab 3FL.+85.98mPD GL.A-J/1-3	12	17DEC05	10JAN06	0	100	12	-114	-125
1410	NP.Bldg. - RC Cols.& Walls to 4FL.GL.A-J/1-3	18	24DEC05	17JAN06	0	100	18	-34	-119
TOLL PLAZA & ANCILLIARY STRUCTURES									
CONTRACT DEFINED DATES & SECTIONS									
AREA ACCESS & VACATION DATES									
ACS_D5	Access to Portion - D5	0	10OCT05		0	0	0	10	0
SUBMITTALS & APPROVALS									
ABWF & BUILDER'S WORKS									
1514	TP/FB - Approve lifts (x2) details	24	20SEP05	19OCT05	0	100	24	-59	-109
1522	TP/FB - Approve footbridge details	24	20SEP05	19OCT05	0	100	24	-40	-278
E&M EQPT. / MTRL. SUBMITTALS									
8258	EntNpBldg-Sub.TVF	78	02JUL04A	21DEC05	95	100	78	-56	-211
E&M EQPT. / MTRL. APPROVALS									
7547	TP-App. MVAC Package AC Unit sys	18	01FEB05A	18MAR06	30	0	18	-16	-51



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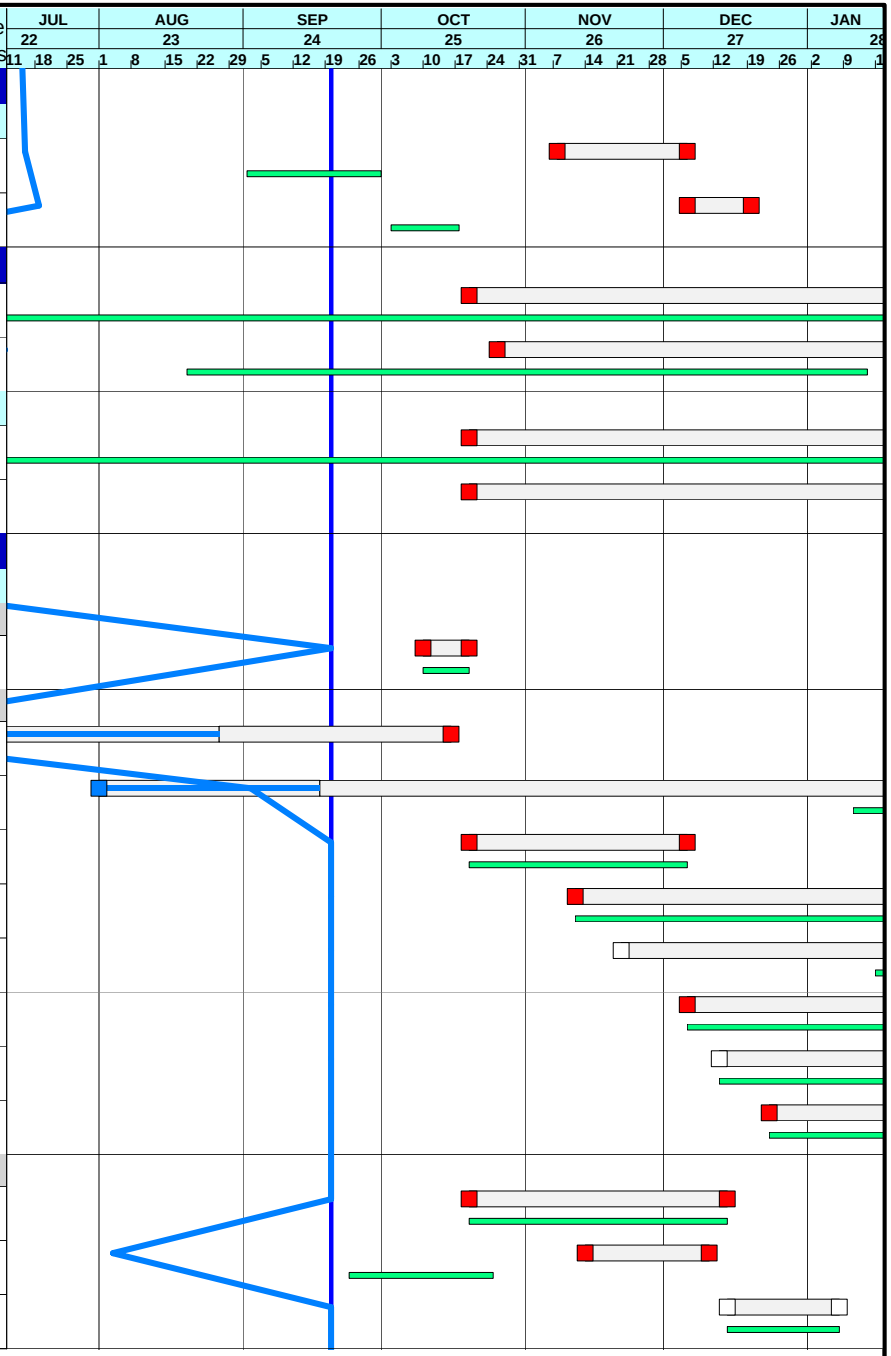
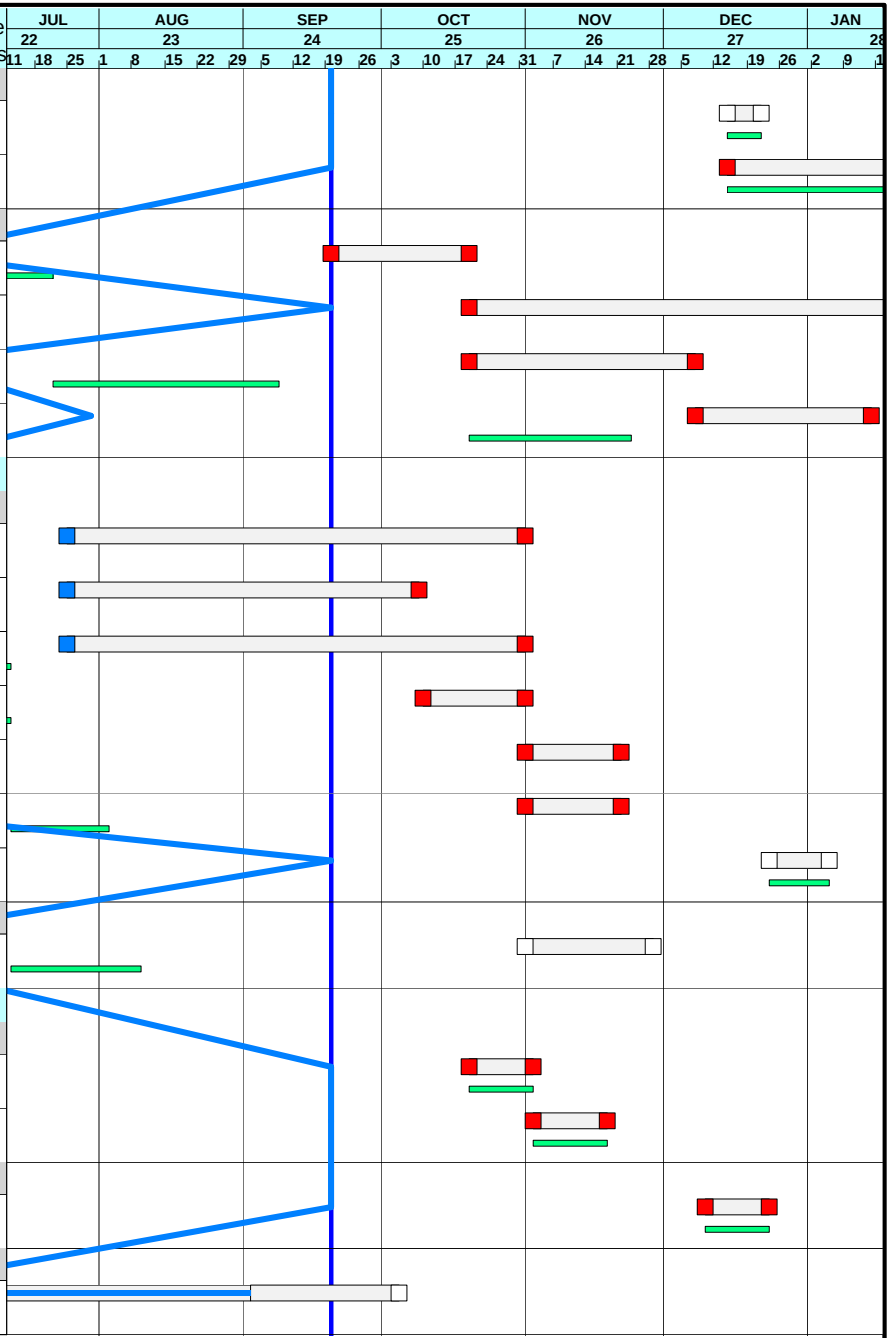
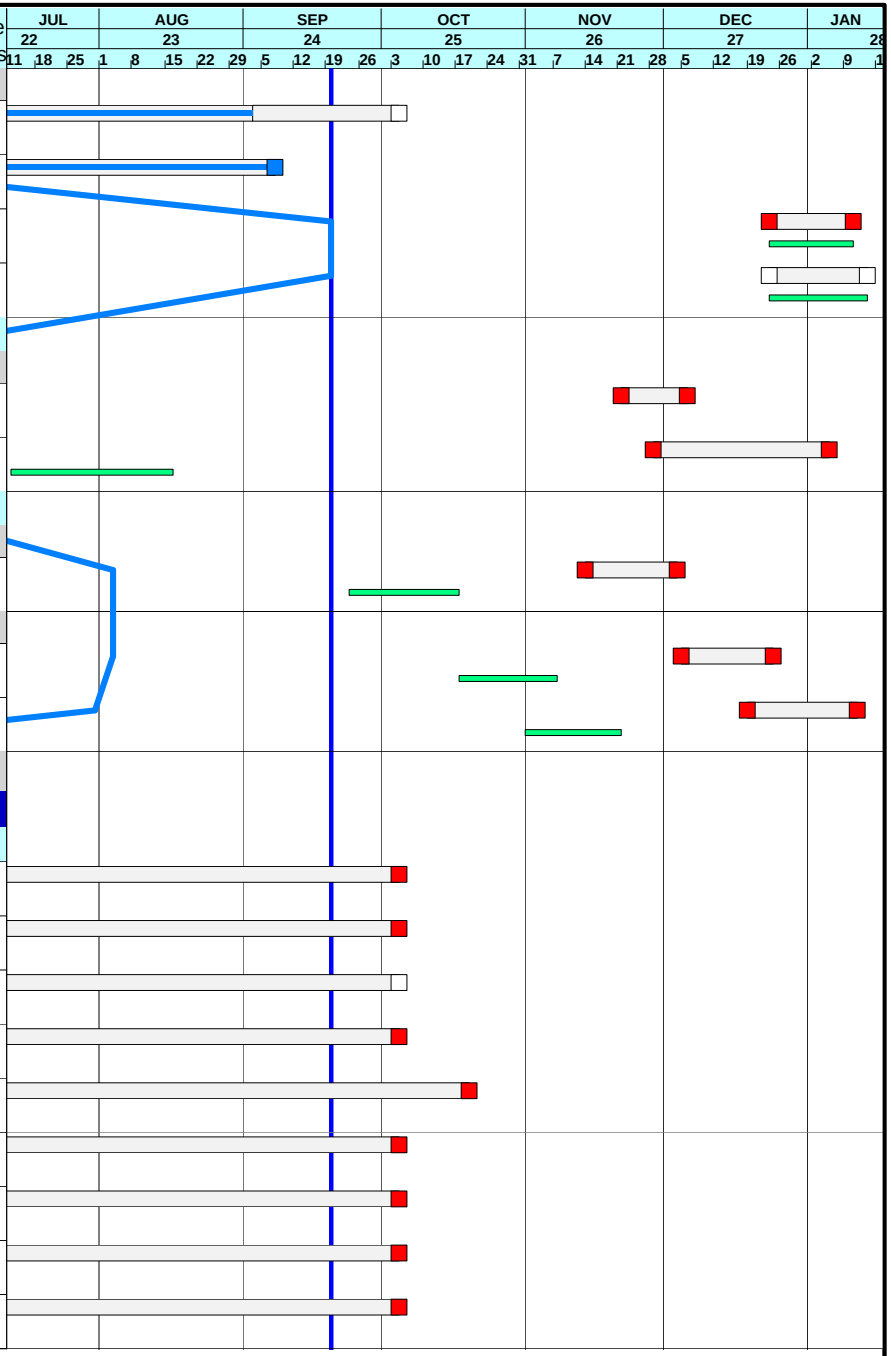
DESIGN & ENGINEERING									
PERMANENT WORKS									
1244	Design/ICE Check Tool Booth Canopy	24	08NOV05	05DEC05	0	70	24	-40	-54
1341	Eng Approve Dsg Tool Booth Canopy	12	06DEC05	19DEC05	0	0	12	-40	-54
PROCUREMENT - MAJOR MATERIAL									
1518	Admin Bldg - Procure & maunfacture lift	270	20OCT05	20SEP06	0	40	270	-80	-134
2184	Order/Fabricate/Deliver FBridge Structural Steel	120	26OCT05	25MAR06	0	30	120	-40	-54
TOLL PLAZA									
1512	TP/FB - Procure & maunfacture lifts (x2)	270	20OCT05	20SEP06	0	30	270	-59	-109
1521	TP/FB - Procure & fabricate footbridge	110	20OCT05	08MAR06	0	100	110	-40	-208
CONSTRUCTION WORKS									
TOLL PLAZA ROADWORKS									
SURVEY									
1737	TP - Land Survey & report - Portion D5	8	10OCT05	19OCT05	0	0	8	8	0
ROADS - FORMATION									
1770	TP/Rd - Perm materials storage area; Ptn D2 & D3	175	01JUN04A	15OCT05	90	100	21	-71	-94
1497	TP/Rd - Drainage ch.4+520 to 4+680	44	01AUG05A	27MAR06	20	0	150	-5	-14
1744	TP/Rd - Drainage ch.4+320 to 4+460	40	20OCT05	05DEC05	0	0	40	11	0
1877	TP/Rd - Water main	60	12NOV05	24JAN06	0	0	60	11	0
1745	TP/Rd - Drainage ch.4+460 to 4+520	46	22NOV05	17MAR06	0	0	46	15	0
1878	TP/Rd - HV & LV Cable ducting	60	06DEC05	24FEB06	0	0	60	11	0
1825	TP/Rd - Drain Testing - ch.4+320 to 4+460	36	13DEC05	26JAN06	0	0	36	45	0
1775	TP/Rd - Telecom ducts	44	24DEC05	24FEB06	0	0	44	11	0
ROADS - EVA									
1743	TP/Rd - Drainage - EVA loop road - SW area	48	20OCT05	14DEC05	0	0	48	8	0
1776	TP/Rd - Petrol Interceptor	24	14NOV05	10DEC05	0	0	24	-23	-41
1751	TP/Rd - Drain Testing - EVA loop road - SW area	18	15DEC05	07JAN06	0	0	18	37	0



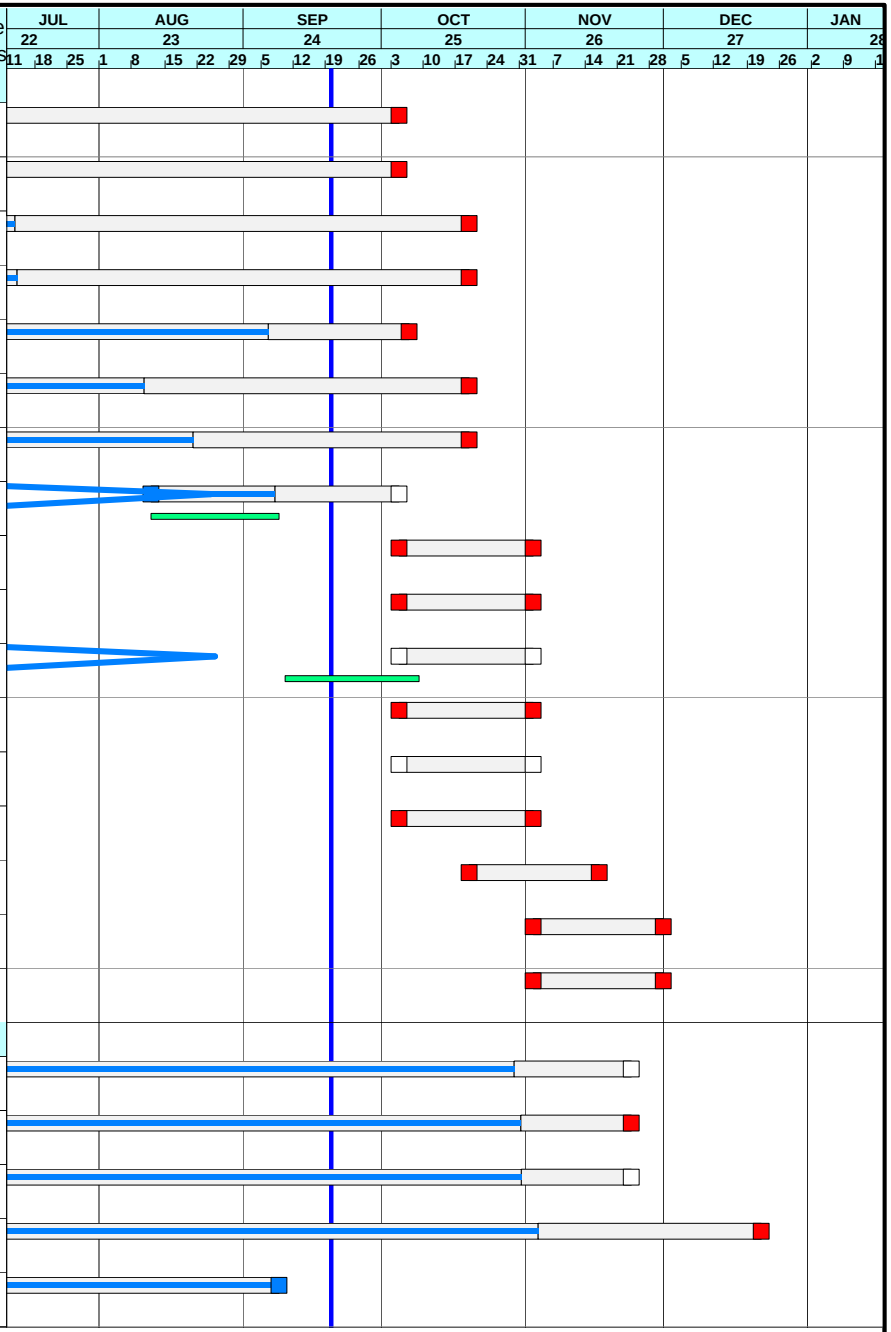
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
ROADS - EVA									
1752	TP/Rd - Sub-base - EVA loop road - SW area	6	15DEC05	21DEC05	0	0	6	49	0
1756	TP/Rd - Drainage - EVA loop rd - E & NE area	55	15DEC05	28FEB06	0	0	55	8	0
ROADS - FINISHES									
1824	TP/Rd - Ptn D4 TCSS Ducts S&NB ch.4+460 to 4+520	24	20SEP05	19OCT05	0	100	24	-74	-74
1500	TP/Rd - TCSS Ducts SB&NB C'Way ch.4+520 to 4+680	42	20OCT05	20MAR06	0	0	42	4	0
1736	TP/Rd - Ptn D2&D3TCSS Dct S&NB ch.4+320 to 4+460	42	20OCT05	07DEC05	0	100	42	-74	-74
1747	TP/Rd - Ptn D5 - TCSS Dct S&NB ch.4+320 to 4+460	30	08DEC05	14JAN06	0	0	30	-20	-42
TOLL PLAZA COLLECTOR'S SUBWAY									
STRUCTURE									
1714	TP/CS - Substructure construction - Ptn A	18	25JUL05A	31OCT05	0	100	34	-102	-128
1715	TP/CS - Substructure construction - Ptn B	18	25JUL05A	08OCT05	0	100	16	-78	-92
1716	TP/CS - Substructure construction - Ptn C	18	25JUL05A	31OCT05	0	100	34	-72	-92
1719	TP/CS - Waterproof & backfill - Ptn B	18	10OCT05	31OCT05	0	100	18	-78	-92
1718	TP/CS - Waterproof & backfill - Ptn A	18	01NOV05	21NOV05	0	100	18	-102	-128
1720	TP/CS - Waterproof & backfill - Ptn C	18	01NOV05	21NOV05	0	100	18	-72	-92
1470	TP/CS - Excavation - Ptn D	8	24DEC05	05JAN06	0	0	8	15	0
ABWF									
1471	TP/CS - Internal Finishes Ptn A, B & C	24	01NOV05	28NOV05	0	100	24	78	-92
TOLL PLAZA FOOTBRIDGE									
BORED PILES									
1490	TP/FB - Site Investigation & Report - Cap FT1	12	20OCT05	02NOV05	0	0	12	11	0
1491	TP/FB - Bored Pile 1.2m dia 4nr - Cap FT1	14	03NOV05	18NOV05	0	0	14	11	0
FOUNDATIONS									
1495	TP/FB - Pile Cap - Cap FT1	12	10DEC05	23DEC05	0	0	12	11	0
RC SUPERSTRUCTURE									
1694	TP/FB - Column & bearings C2	12	27APR05A	04OCT05	80	100	12	82	-86



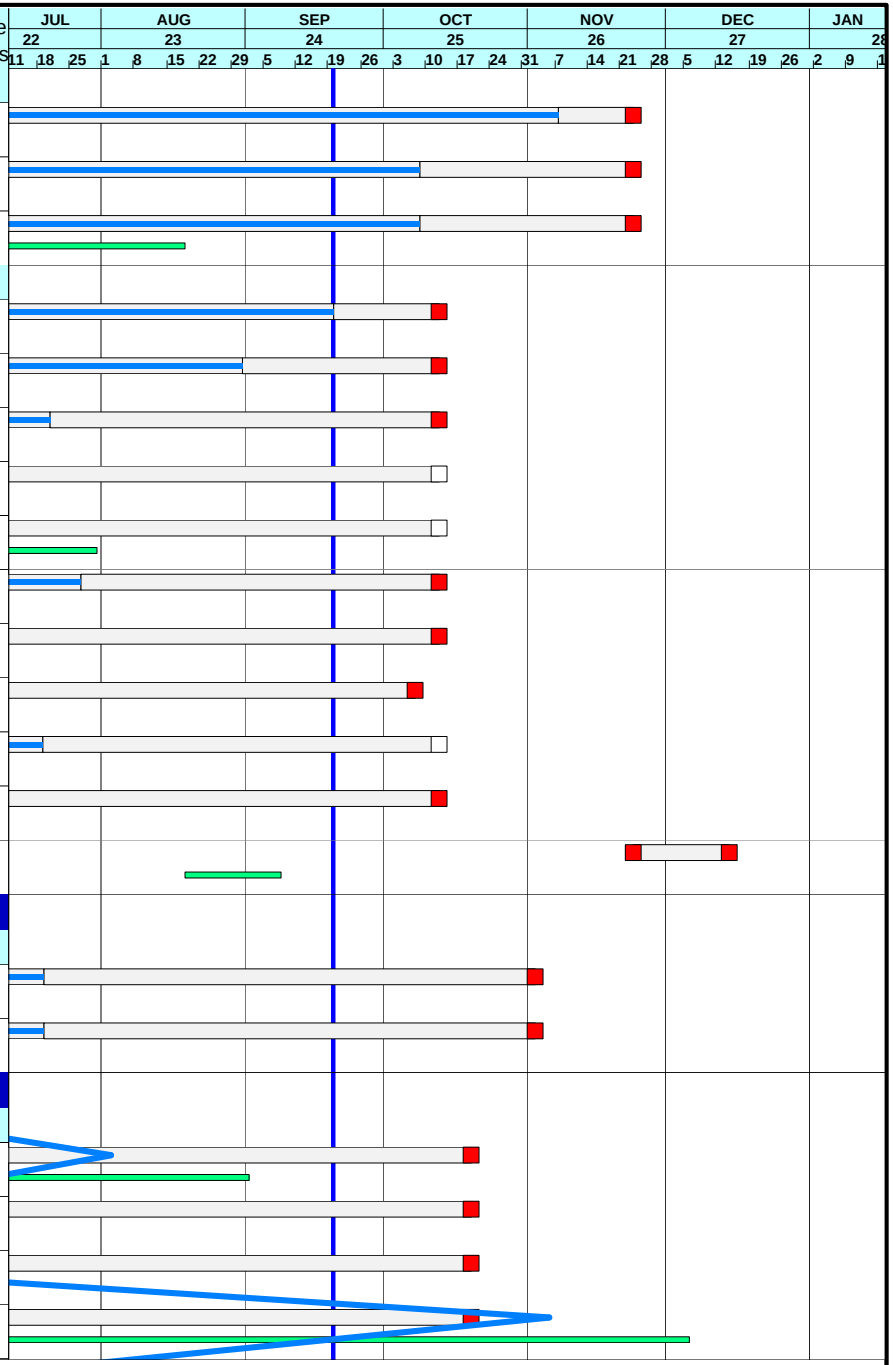
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	RC SUPERSTRUCTURE								
1707	TP/FB - Column & bearings C1	12	29APR05A	04OCT05	80	100	12	91	-85
1494	TP/FB - Column & bearings W2 (FT4)	12	13MAY05A	07SEP05A	100	100	0		-92
1506	TP/FB - Column & bearings W1 (FT1)	12	24DEC05	10JAN06	0	0	12	11	0
1507	TP/FB - Lift Machine room walls & stair (FT1)	15	24DEC05	13JAN06	0	0	15	14	0
	TOLL PLAZA BOOTHS								
	STRUCTURE								
1510	TP/B - Construct toll islands - Portion A - 1 no	12	22NOV05	05DEC05	0	100	12	-102	-128
1713	TP/B - Construct toll islands - Portion B - 5 no	30	29NOV05	05JAN06	0	100	30	-102	-116
	ADMIN.BLDG. - WORKSHOP								
	FOUNDATIONS								
1750	Admin.Bldg. Wk Shop - Raft footing	18	14NOV05	03DEC05	0	0	18	-35	-41
	STRUCTURE								
1749	Admin.Bldg. Wk Shop - GF Slab	18	05DEC05	24DEC05	0	0	18	-35	-41
1768	Admin.Bldg. Wk Shop - Columns & walls GF to Roof	18	19DEC05	11JAN06	0	0	18	-35	-41
	ADMINISTRATION BUILDING								
	SUBMITTALS & APPROVALS								
	ABWF & BUILDER'S WORKS								
1879	Admin.Bldg. - Prep & submit glass canopy details	24	25AUG04A	04OCT05	50	100	12	-110	-302
1893	Admin.Bldg. - Prep & submit louvre details	24	25AUG04A	04OCT05	50	100	12	-110	-302
1897	Admin.Bldg. - Prep & sub aluminium cladding	24	25AUG04A	04OCT05	50	100	12	22	-302
1889	Admin.Bldg. - Prep & submit curtain wall details	24	30SEP04A	04OCT05	50	100	12	-92	-272
1883	Admin.Bldg. - Prep & sub sheet decking details	24	13NOV04A	19OCT05	12	100	24	-92	-248
1891	Admin.Bldg. - Prep & submit door & window detail	24	13NOV04A	04OCT05	10	100	12	-80	-236
1885	Admin.Bldg. - Prep & submit wood ceiling details	24	20NOV04A	04OCT05	50	100	12	-110	-230
1899	Admin.Bldg. - Prep & sub fall arrest system	24	18DEC04A	04OCT05	50	100	12	-62	-206
1517	Admin Bldg - Engineering & Submit lift details	78	28DEC04A	04OCT05	50	100	12	-68	-146



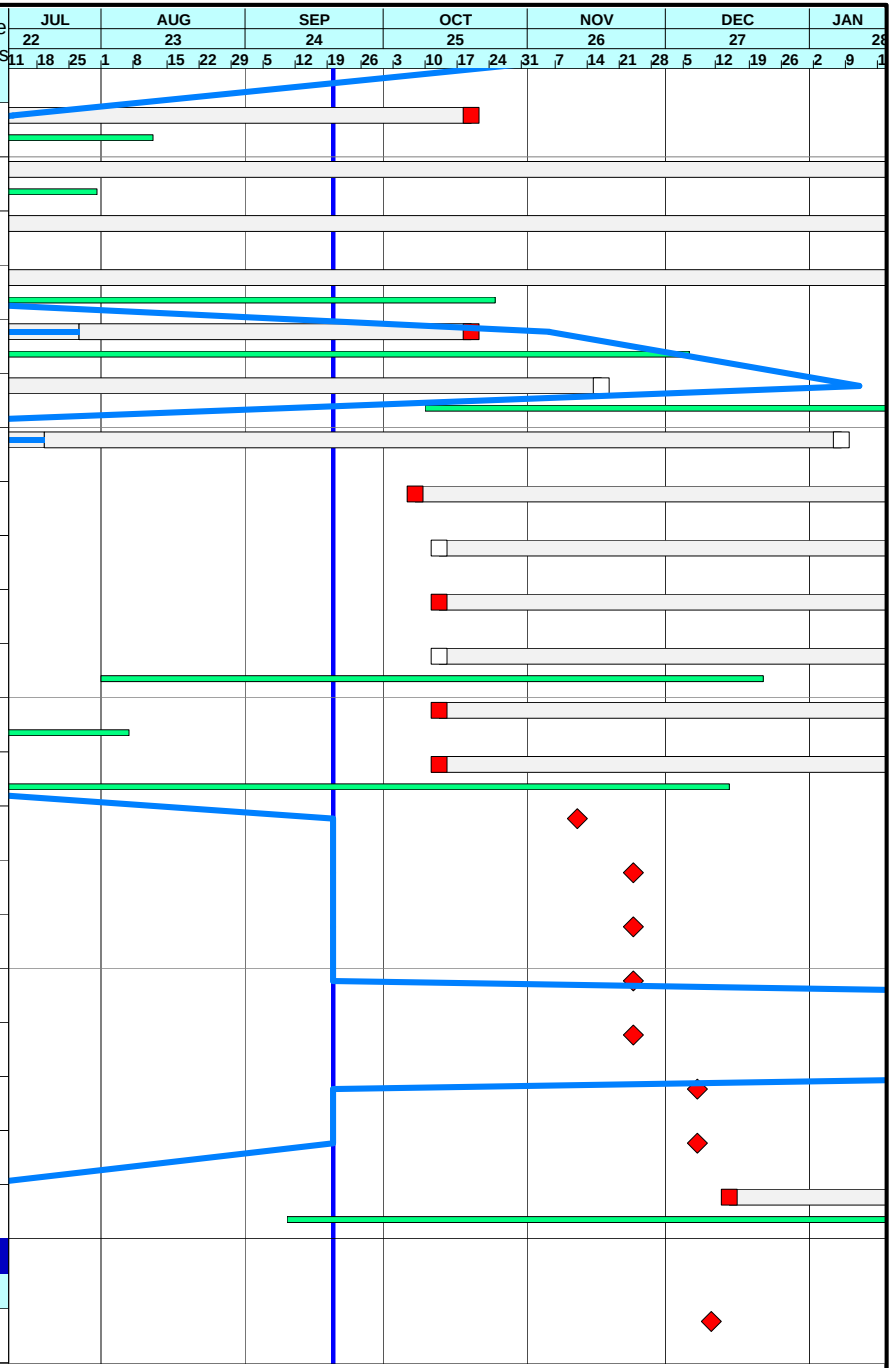
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
ABWF & BUILDER'S WORKS									
1895	Admin.Bldg. - Prep & sub balustrade & metal wks	24	05JAN05A	04OCT05	50	100	12	-104	-194
1881	Admin.Bldg. - Prep & sub GRP water tank details	24	12JAN05A	04OCT05	50	100	12	-92	-188
1892	Admin.Bldg. - Approve door & window details	24	06APR05A	19OCT05	50	100	24	-92	-224
1894	Admin.Bldg. - Approve louvre details	24	07APR05A	19OCT05	50	100	24	-122	-290
1880	Admin.Bldg. - Approve glass canopy details	24	07MAY05A	06OCT05	80	100	14	-112	-280
1516	Admin Bldg - Approve lifts details	24	01JUN05A	19OCT05	50	100	24	-80	-134
1890	Admin.Bldg. - Approve curtain wall details	24	22JUN05A	19OCT05	50	100	24	-104	-260
1887	Admin.Bldg. - Prep & sub suspend ceiling details	24	12AUG05A	04OCT05	50	100	12	78	-20
1882	Admin.Bldg. - Approve GRP water tank details	24	05OCT05	02NOV05	0	100	24	-92	-188
1886	Admin.Bldg. - Approve wood ceiling details	24	05OCT05	02NOV05	0	100	24	-110	-230
1888	Admin.Bldg. - Approve suspended ceiling details	24	05OCT05	02NOV05	0		24	78	-20
1896	Admin.Bldg. - Approve balustrade & metal works	24	05OCT05	02NOV05	0	100	24	-104	-194
1898	Admin.Bldg. - Approve aluminium cladding	24	05OCT05	02NOV05	0	100	24	22	-302
1900	Admin.Bldg. - Approve fall arrest system	24	05OCT05	02NOV05	0	100	24	-62	-206
1884	Admin.Bldg. - Approve sheet decking details	24	20OCT05	16NOV05	0	100	24	-92	-248
1819	Admin.Bldg. - Approve stone cladding design	24	03NOV05	30NOV05	0		24	-2	-176
1820	Admin.Bldg. - Approve slate cladding design	24	03NOV05	30NOV05	0		24	-2	-176
E&M EQPT. / MTRL. SUBMITTALS									
8244	AdmBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	23NOV05	95	100	54	16	-114
8241	AdmBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	23NOV05	95	100	54	-104	-270
8240	AdmBldg-Sub.FS wet sys	54	05AUG04A	23NOV05	95	100	54	40	-258
8242	AdmBldg-Sub.CMCS, TCS & ELV sys	78	26AUG04A	21DEC05	90	100	78	-114	-248
8245	AdmBldg-Sub.Chiller & Pumps	54	30DEC04A	08SEP05A	100	100	0		-226



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT. / MTRL. SUBMITTALS									
8243	AdmBldg-Sub.FCUs & PAUs	54	04JAN05A	23NOV05	95	100	54	-101	-330
8247	AdmBldg-Design LPG sys	54	07APR05A	23NOV05	80	100	54	-29	-134
8249	AdmBldg-Sub.LPG sys	54	07APR05A	23NOV05	80	100	54	-29	-80
E&M EQPT. / MTRL. APPROVALS									
6385	AdmBldg-App. HV power dist. sys	18	14JUL04A	12OCT05	95	100	18	-80	-276
6386	AdmBldg-App. LV power dist. sys	18	13AUG04A	12OCT05	90	100	18	-80	-240
8503	AdmBldg-App. building related luminaires	18	18AUG04A	12OCT05	80	100	18	-68	-126
6388	AdmBldg-App. FS wet sys	18	04SEP04A	12OCT05	60	100	18	40	-204
6399	AdmBldg-App. FS AFA & FM200 sys	18	14SEP04A	12OCT05	70	100	18	16	-60
6392	AdmBldg-App. of CMCS, TCS & ELV sys	18	20SEP04A	12OCT05	80	100	18	-114	-170
6389	AdmBldg-App. MVAC mech.vent. sys	18	23SEP04A	12OCT05	60	100	18	-104	-216
6396	AdmBldg-App. FCUs & PAUs	18	23SEP04A	07OCT05	60	100	15	-101	-273
6387	AdmBldg-App. PD all fresh & flush water sys	18	04NOV04A	12OCT05	75	100	18	22	-228
6478	AdmBldg-App. Chiller & Pumps	18	17JAN05A	12OCT05	30	100	18	-44	-234
7586	AdmBldg-App. LPG sys	18	24NOV05	14DEC05	0	100	18	-29	-80
DESIGN & ENGINEERING									
ABWF WORKS									
1802	Admin.Bldg. - Design stone cladding	36	04APR05A	02NOV05	50	100	36	-2	-176
1803	Admin.Bldg. - Design slate cladding	36	04APR05A	02NOV05	50	100	36	-2	-176
PROCUREMENT - MATERIAL									
ABWF WORKS									
1904	Admin.Bldg. - Procure wood ceiling	90	19JAN05A	19OCT05	0	100	24	-128	-38
1909	Admin.Bldg. - Procure balustrade & metal works	90	09MAR05A	19OCT05	0	100	24	-92	-92
1910	Admin.Bldg. - Procure aluminium cladding	90	09MAR05A	19OCT05	0	100	24	4	-110
1916	Admin.Bldg. - Procure slate cladding	90	14MAR05A	19OCT05	50	80	24	4	40



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
ABWF WORKS									
1902	Admin.Bldg. - Procure GRP water tank	90	16MAR05A	19OCT05	0	100	24	-110	-56
6391	AdmBldg-Proc & Manuf. LV power dist. equip't	120	20MAR05A	20FEB06	20	100	120	-80	-162
6390	AdmBldg-Proc & Manuf. of HV dist. equip't	120	25MAR05A	20FEB06	15	100	120	-80	-198
6397	AdmBldg-Proc & Manuf. of CMCS, ELV & TCS sys	180	25MAR05A	08MAY06	10	90	180	-114	-152
1917	Admin.Bldg. - Procure stone cladding	90	03MAY05A	19OCT05	50	70	24	4	40
1905	Admin.Bldg. - Procure suspended ceiling	120	09MAY05A	16NOV05	0	0	48	36	88
6394	AdmBldg-Proc & Manuf. FS wet sys	90	06JUN05A	07JAN06	20	100	90	40	-156
6415	AdmBldg-Proc & Manuf. FCUs & PAUs	90	08OCT05	25JAN06	0	100	90	-101	-183
6393	AdmBldg-Proc & Manuf. PD fresh & flush water sys	90	13OCT05	06FEB06	0	100	90	22	-198
6395	AdmBldg-Proc & Manuf. MVAC mech.vent. sys	90	13OCT05	06FEB06	0	100	90	-104	-186
6444	AdmBldg-Proc & Manuf. FS AFA & FM200 sys	120	13OCT05	13MAR06	0	40	120	16	-60
6479	AdmBldg-Proc & Manuf. Chiller & Pumps	90	13OCT05	06FEB06	0	100	90	-44	-144
8504	AdmBldg-Proc & Manf bldg related luminaires	180	13OCT05	29MAY06	0	80	180	-68	-126
1938	Admin.Bldg. - Initial delivey glass canopy	0	12NOV05		0		0	-112	0
2054	Admin.Bldg. - Initial delivery louvres	0	24NOV05		0		0	-122	0
2055	Admin.Bldg. - Initial delivery curtain wall	0	24NOV05		0		0	-104	0
2056	Admin.Bldg. - Initial delivery sheet decking	0	24NOV05		0		0	-92	0
2057	Admin.Bldg. - Initial delivery doors & windows	0	24NOV05		0		0	-92	585
2059	Admin.Bldg. - Initial delivery fall arrest syst	0	08DEC05		0		0	-62	0
2060	Admin.Bldg. - Initial delivery balust & mtl wks	0	08DEC05		0		0	-104	0
7582	AdmBldg-Proc & Manuf. LPG sys	120	15DEC05	22MAY06	0	10	120	-29	-80
INTERFACE DATES									
ADMINISTRATION BUILDING									
1729	Int. MS - Admin.Bldg. - E&M G/F access (partial)	0		10DEC05	0	100	0	-77	-137



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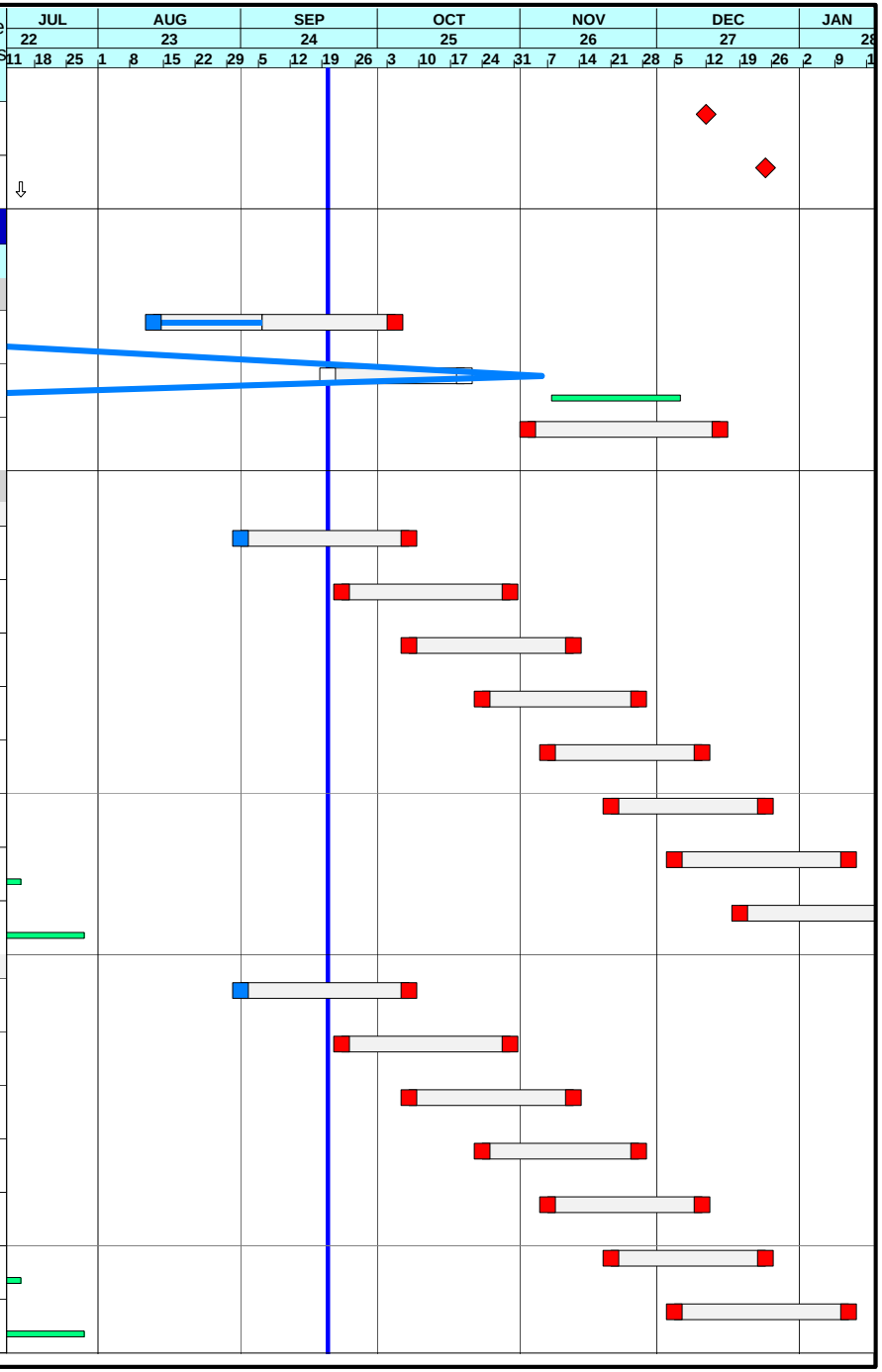
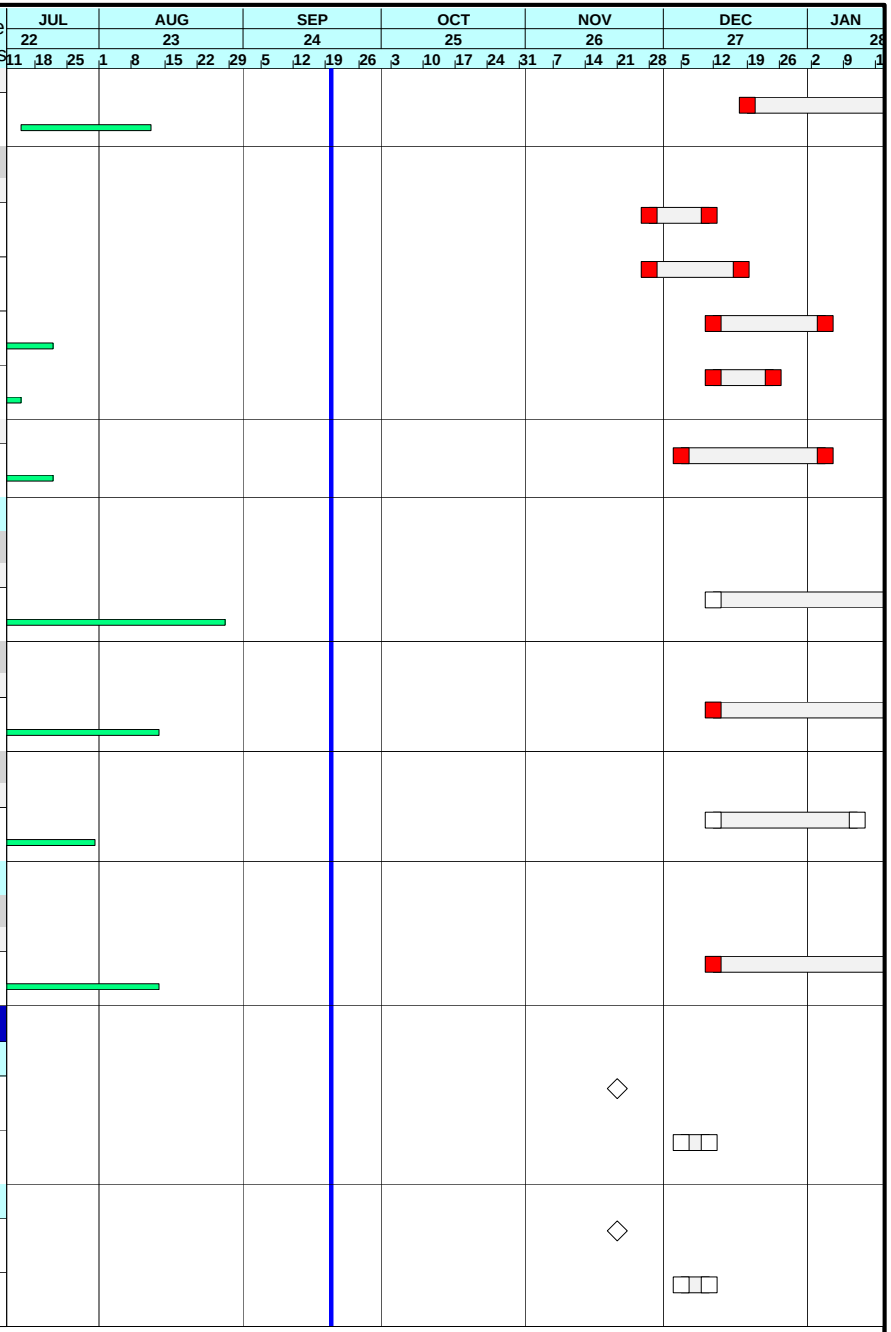
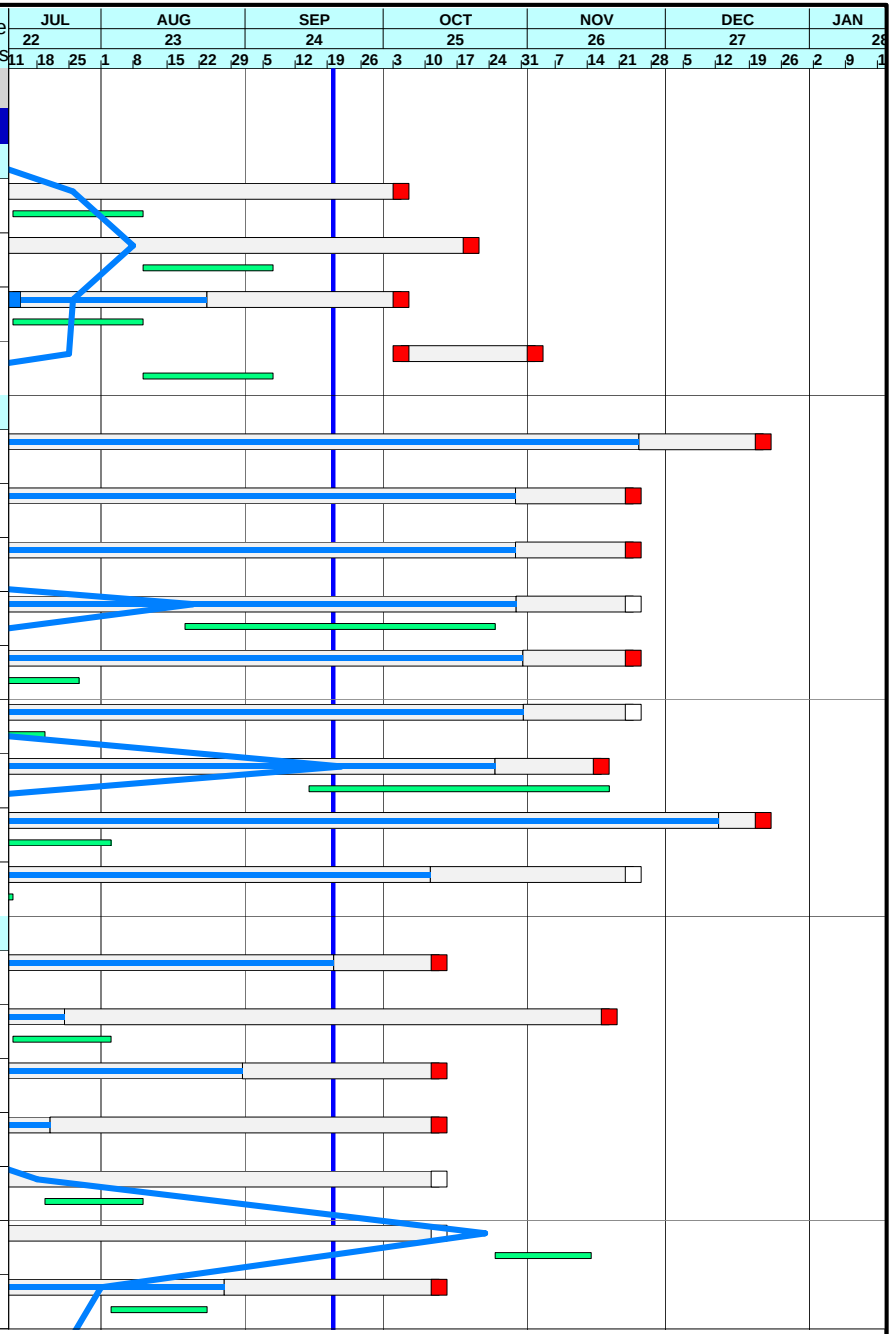
ADMINISTRATION BUILDING									
6404	AdmBldg-E&M access to G/F (partial)	0	12DEC05*		0	100	0	-77	-135
1827	Int. MS - Admin.Bldg. - E&M 1/F access (partial)	0		24DEC05	0	100	0	-81	-137
CONSTRUCTION									
CIVIL & ABWF WORKS									
SUBSTRUCTURE									
1364	Admin.Bldg. - Ground slab drainage	46	13AUG05A	04OCT05	45	100	12	-149	-136
1746	Admin bldg - Septic tank construction	24	20SEP05	19OCT05	0	0	24	211	40
6398	Admin.Bldg. - Earth Mat & Rods - All in ptn D4	36	03NOV05	14DEC05	0	100	36	8	-260
RC SUPERSTRUCTURE									
NORTH [GL.1-11]									
1557	Admin.Bldg Nth - GF Slab	24	01SEP05A	07OCT05	0	100	15	-149	-143
1647	Admin.Bldg Nth - Columns & walls GF to 1F	24	23SEP05	29OCT05	0	100	24	-149	-149
1648	Admin.Bldg Nth - 1F Slab	24	08OCT05	12NOV05	0	100	24	-149	-149
1649	Admin.Bldg Nth - Columns & walls 1F to 2F	24	24OCT05	26NOV05	0	100	24	-149	-149
1661	Admin.Bldg Nth - 2F Slab	24	07NOV05	10DEC05	0	100	24	-149	-149
1665	Admin.Bldg Nth - Columns & walls 2F to 3F	24	21NOV05	24DEC05	0	100	24	-149	-149
1666	Admin.Bldg Nth - Roof Slab	24	05DEC05	11JAN06	0	100	24	-149	-149
1672	Admin.Bldg Nth - Columns & walls 3F to Upp Roof	24	19DEC05	25JAN06	0	100	24	-119	-149
SOUTH [GL.11-21]									
1624	Admin.Bldg Sth - GF Slab	24	01SEP05A	07OCT05	0	100	15	-131	-131
1784	Admin.Bldg Sth - Columns & walls GF to 1F	24	23SEP05	29OCT05	0	100	24	-131	-137
1785	Admin.Bldg Sth - 1F Slab	24	08OCT05	12NOV05	0	100	24	-131	-137
1786	Admin.Bldg Sth - Columns & walls 1F to 2F	24	24OCT05	26NOV05	0	100	24	-119	-137
1787	Admin.Bldg Sth - 2F Slab	24	07NOV05	10DEC05	0	100	24	-119	-137
1788	Admin.Bldg Sth - Columns & walls 2F to 3F	24	21NOV05	24DEC05	0	100	24	-119	-137
1789	Admin.Bldg Sth - Roof Slab	24	05DEC05	11JAN06	0	100	24	-119	-137



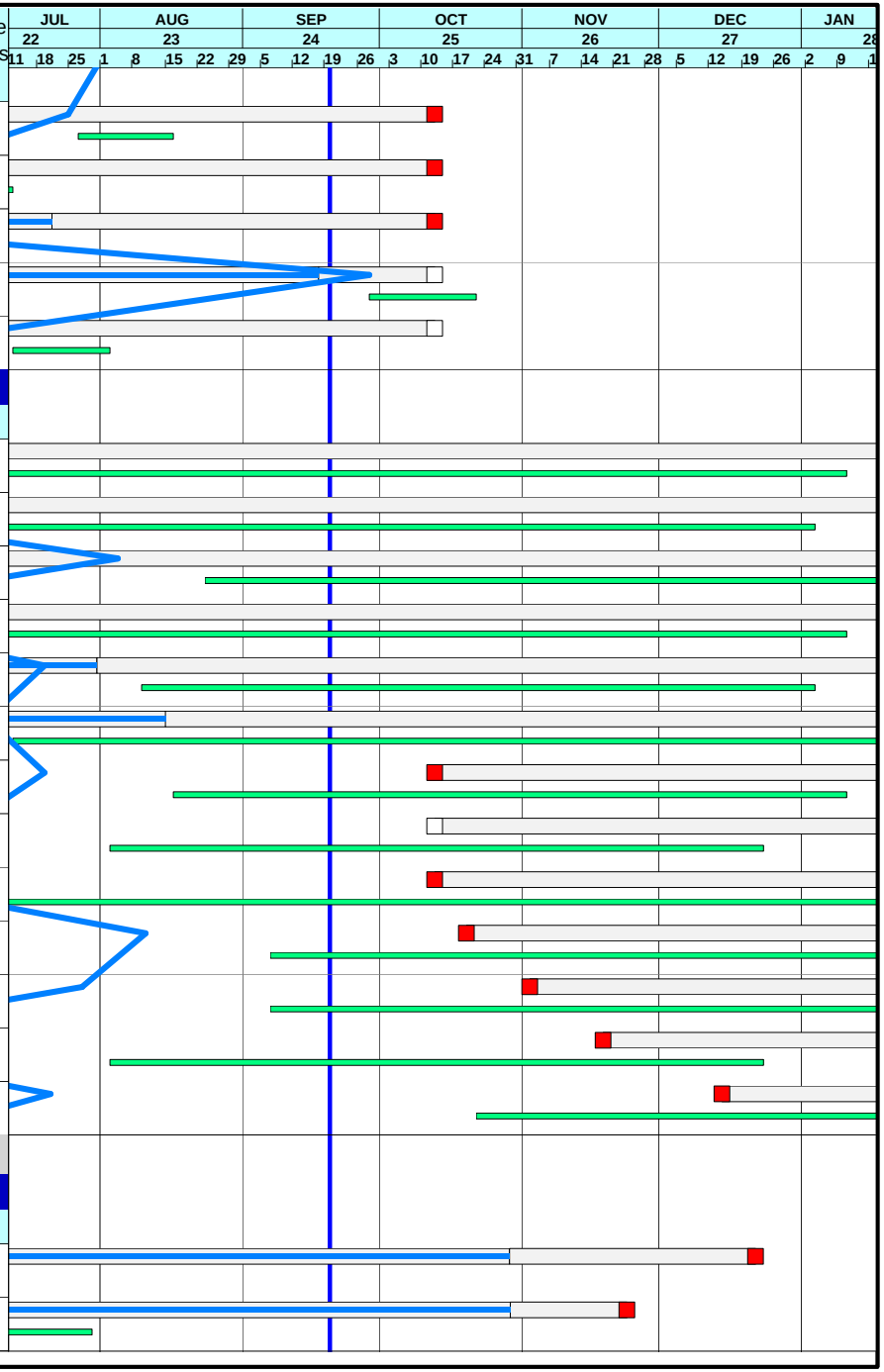
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
SOUTH [GL.11-21]									
1791	Admin.Bldg Sth - Columns & walls 3F to Upp Roof	24	19DEC05	25JAN06	0	100	24	-35	-137
ABWF									
CRITICAL ROOMS									
1730	Admin.Bldg Crit Rm - Int. Blockwork GF	12	28NOV05	10DEC05	0	100	12	-131	-137
1804	Admin.Bldg Crit Rm - Ext. Doors & Glazing GF	18	28NOV05	17DEC05	0	100	18	-125	-143
1366	Admin.Bldg Crit Rm - Int. Finishes GF	18	12DEC05	04JAN06	0	100	18	-107	-137
1731	Admin.Bldg Crit Rm - Int. Blockwork 1F	12	12DEC05	24DEC05	0	100	12	-131	-137
REMAINING ROOMS									
1792	Admin.Bldg Oth Rm - Int. Blockwork GF	24	05DEC05	04JAN06	0	100	24	-83	-137
E&M WORKS - GENERAL									
FS WORKS									
FS MAJOR EQUIPMENT									
6411	AdmBldg-Hydrant Pump & Tank set 1st fix	48	12DEC05	16FEB06	0	100	48	61	-135
ELECTRICAL WORKS									
HV POWER DISTRIBUTION MAJOR EQPT.									
6408	AdmBldg-HV power dist. sys 1st fix	36	12DEC05	25JAN06	0	100	36	-53	-135
P&D WORKS									
P&D MAJOR EQUIPMENT									
6412	AdmBldg-Water Pumps & Tanks 1st fix	24	12DEC05	11JAN06	0	100	24	85	-135
ADMINISTRATION BLDG. - G/F									
MVAC WORKS									
MECH.VENT / AIR CONDITIONING									
6405	AdmBldg G/F -AC(1st Fix) mech.vent.	36	12DEC05	25JAN06	0	100	36	-77	-135
STATUTORY INSPECTIONS									
WSD - WATER SUPPLY									
6456	AdmBldg-All plumb. design approved by WSD	0	21NOV05		0	100	0	85	-135
6477	AdmBldg-Sub. WWO 046 part 1 to 3 to WSD	6	05DEC05	10DEC05	0	100	6	85	-135
FSD INSPECTIONS									
6468	AdmBldg-All FS design approved by FSD (MHJV)	0	21NOV05		0	100	0	19	-135
6493	AdmBldg-Issue, endorse & submit FSI 314 to FSD	6	05DEC05	10DEC05	0	100	6	19	-135



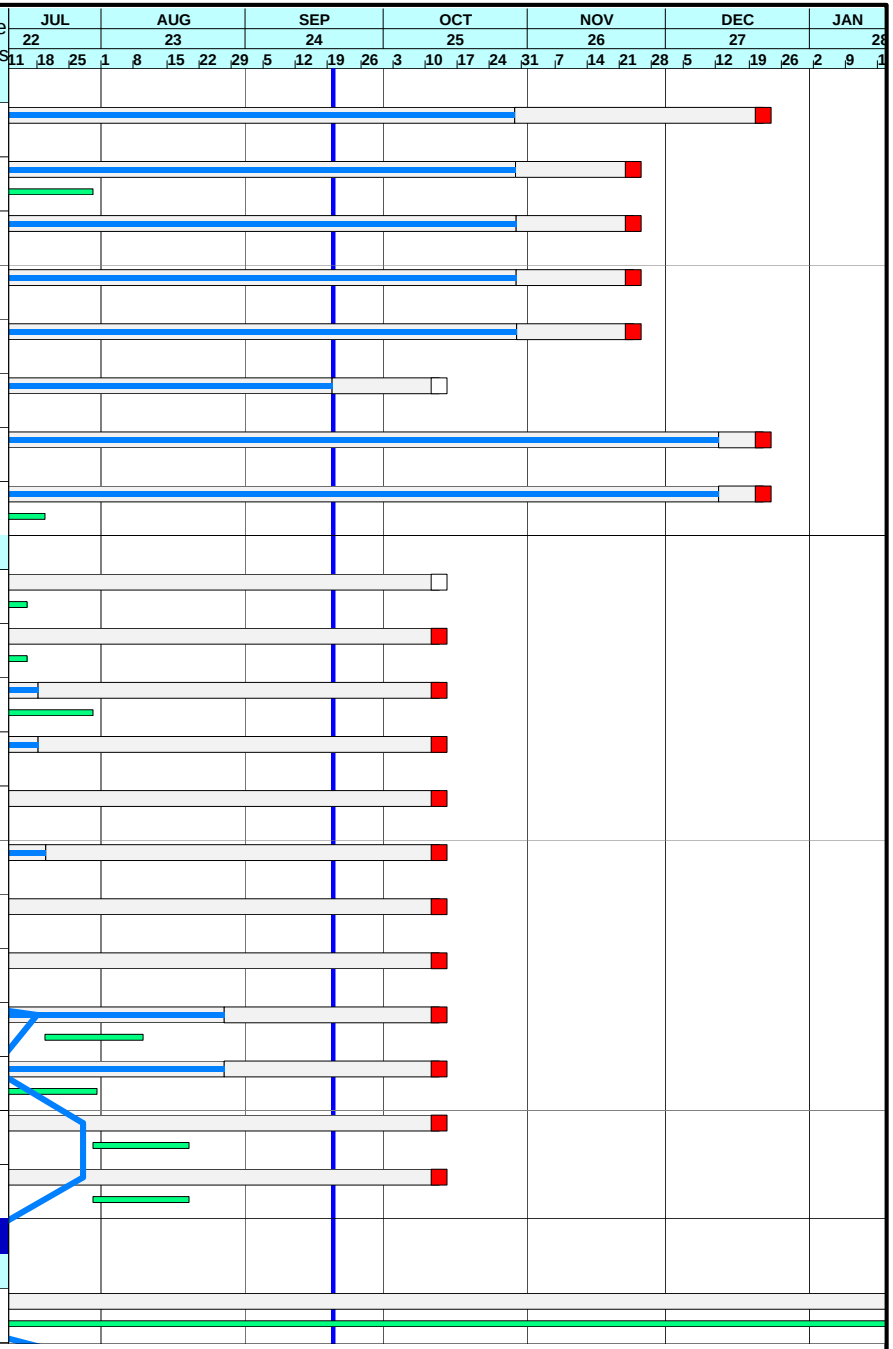
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
SHATIN HEIGHTS SOUTH PORTAL BUILDING									
SUBMITTALS & APPROVALS									
ABWF & BUILDER'S WORKS									
1998	SHT SPB - Prep & submit door & window detail	24	13NOV04A	04OCT05	50	100	12	-2	-46
2000	SHT SPB - Approve door & window details	24	03JUN05A	19OCT05	0	100	24	-14	-34
2006	SHT SPB - Prep & sub balustrade & metal wks	24	13JUL05A	04OCT05	50	100	12	-44	-46
2007	SHT SPB - Approve balustrade & metal works	24	05OCT05	02NOV05	0	100	24	-44	-46
E&M EQPT. / MTRL. SUBMITTALS									
8266	ShtSpBldg-Sub.TVF, Ductworks & Control sys	78	02JUL04A	21DEC05	95	100	78	-56	-154
8268	ShtSpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	23NOV05	95	100	54	-86	-160
8284	ShtRtSb-Sub.HV/LV main & submain dist. sys	54	02JUL04A	23NOV05	95	100	54	-62	-145
8270	ShtSpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	23NOV05	95	60	54	58	-26
8265	ShtSpBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	23NOV05	95	100	54	-42	-100
8269	ShtSpBldg-Sub.FS wet sys	54	05AUG04A	23NOV05	95	100	54	18	-106
8267	ShtSpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	16NOV05	95	10	48	4	2
8263	ShtSpBldg-Sub.CMCS & ELV sys	78	26AUG04A	21DEC05	98	100	78	-14	-118
8272	ShtSpBldg-Sub.PD irrig. sys	54	04FEB05A	23NOV05	85	100	54	18	-112
E&M EQPT. / MTRL. APPROVALS									
7040	ShtSpBldg-App. HV power dist. sys	18	14JUL04A	12OCT05	95	100	18	-50	-112
7209	ShtSpBldg-App. PD cleans. & flush water sys	18	04AUG04A	18NOV05	75	100	50	-20	-90
7046	ShtSpBldg-App. LV power dist. sys	18	13AUG04A	12OCT05	90	100	18	-62	-106
8507	ShtSpBldg-App. building related luminaires	18	18AUG04A	12OCT05	80	100	18	-44	-82
7155	ShtSpBldg-App. FS wet sys	18	04SEP04A	12OCT05	60	100	18	18	-52
7205	ShtSpBldg-App. FS AFA & FM200 sys	18	14SEP04A	12OCT05	70	0	18	58	28
7085	ShtSpBldg-App. of CMCS & ELV sys	18	20SEP04A	12OCT05	88	100	18	-14	-40



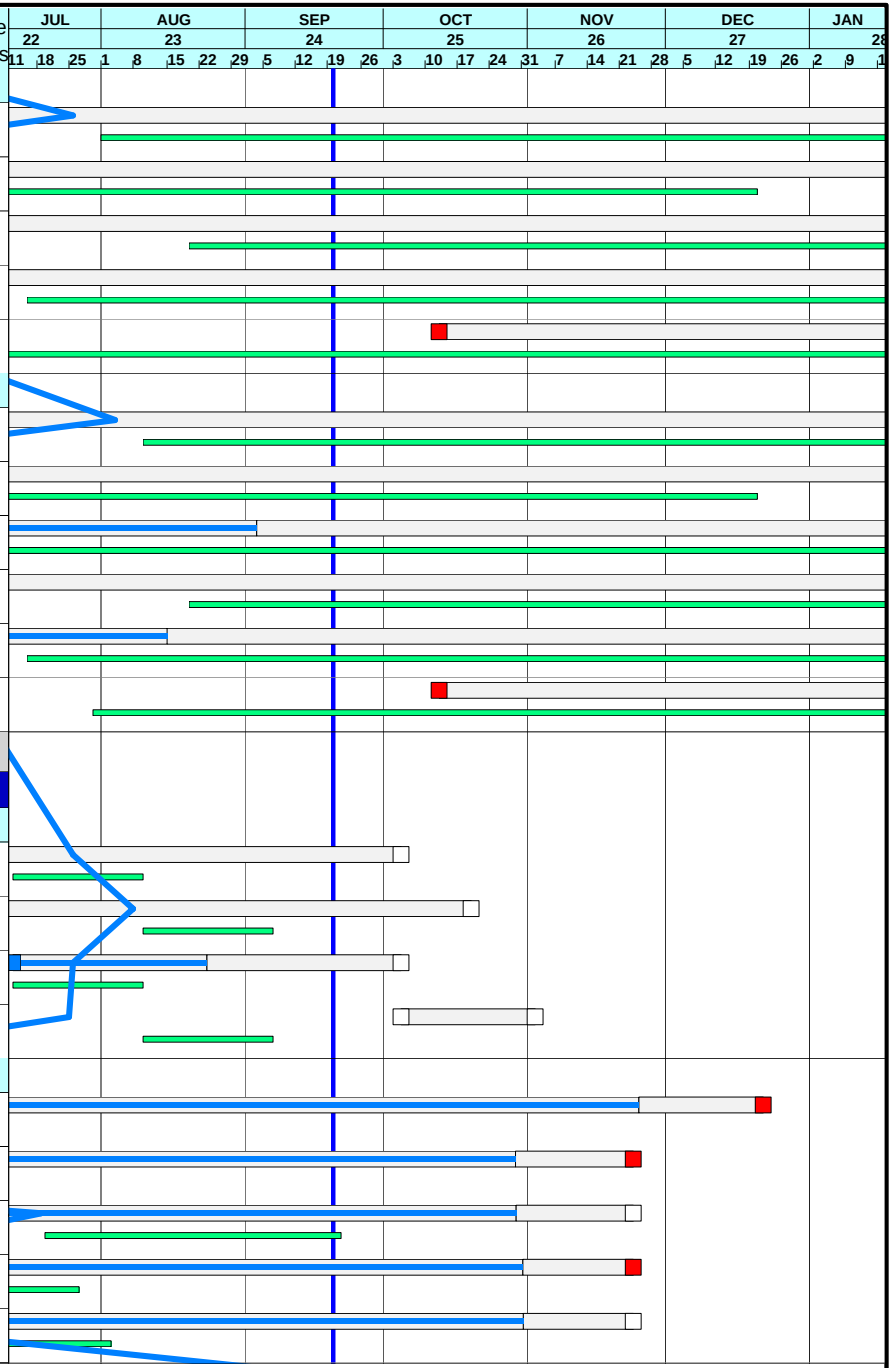
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT. / MTRL. APPROVALS									
7116	ShtSpBldg-App. MVAC mech.vent. sys	18	23SEP04A	12OCT05	60	100	18	-42	-46
7133	ShtSpBldg-App. TVF, Ductworks & Control sys	18	12NOV04A	12OCT05	70	100	18	-56	-76
7147	ShtSpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	12OCT05	75	100	18	-86	-106
7101	ShtSpBldg-App. MVAC Package AC Unit sys	18	01FEB05A	12OCT05	90	0	18	34	8
7229	ShtSpBldg-App. PD irrig. sys	18	05MAY05A	12OCT05	30	100	18	18	-58
PROCUREMENT - MATERIAL									
E & M WORKS									
7047	ShtSpBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	08MAY06	20	50	180	-62	-88
7041	ShtSpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	08MAY06	15	60	180	-50	-94
7086	ShtSpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	22MAY06	15	10	180	-26	-34
7148	ShtSpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	08MAY06	5	50	180	-86	-88
7156	ShtSpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	06MAR06	20	30	120	6	-46
7134	ShtSpBldg-Proc & Manuf. TVF,Ductwks & Cont'l sys	180	09JUN05A	08MAY06	20	40	180	-56	-58
7117	ShtSpBldg-Proc & Manuf. MVAC mech.vent. sys	120	13OCT05	13MAR06	0	30	120	-42	-46
7230	ShtSpBldg-Proc & Manuf. PD irrig. sys	120	13OCT05	13MAR06	0	40	120	18	-58
8508	ShtSpBldg-Proc & Manf bldg related luminaires	180	13OCT05	29MAY06	0	40	180	-44	-82
2015	SHT SPB - Procure door & windows	120	20OCT05	20MAR06	0	10	120	-14	-34
2024	SHT SPB - Procure balustrade & metal works	120	03NOV05	03APR06	0	10	120	-44	-46
7210	ShtSpBldg-Proc & Manuf. Cleans & flush water sys	120	19NOV05	24APR06	0	40	120	-20	-90
7102	ShtSpBldg-Proc & Manuf. MVAC Package AC Units	120	15DEC05	22MAY06	0	0	120	-20	-46
SHT TUNNEL									
SUBMITTALS & APPROVALS									
E&M EQPT. / MTRL. SUBMITTALS									
8279	ShtRtNb-Sub.Tunnel Lgt sys	78	02JUL04A	21DEC05	90	100	78	-77	-157
8281	ShtRtNb-Sub.TVS control sys	54	02JUL04A	23NOV05	95	100	54	-4	-97



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT. / MTRL. SUBMITTALS									
8285	ShtRtSb-Sub.Tunnel Lgt sys	78	02JUL04A	21DEC05	90	100	78	-56	-139
8287	ShtRtSb-Sub.TVS control sys	54	02JUL04A	23NOV05	95	100	54	-4	-97
8282	ShtRtNb-Sub.FS AFA & Linear sys	54	05JUL04A	23NOV05	95	100	54	-70	-175
8288	ShtRtSb-Sub.FS AFA & Linear sys	54	05JUL04A	23NOV05	95	100	54	-70	-175
8283	ShtRtNb-Sub. TVS in Tunnel	54	07JUL04A	23NOV05	95	100	54	-34	-127
8289	ShtRtSb-Sub. TVS in Tunnel	54	07JUL04A	12OCT05	95	100	18	128	-91
8280	ShtRtNb-Sub.CMCS & ELV sys	78	26AUG04A	21DEC05	98	100	78	-40	-138
8286	ShtRtSb-Sub.CMCS & ELV sys	78	26AUG04A	21DEC05	98	100	78	-32	-130
E&M EQPT. / MTRL. APPROVALS									
7624	ShtRtSb-App. TVS in Tunnel	18	29JUL04A	12OCT05	70	100	18	128	-73
7627	ShtRtNb-App. TVS in Tunnel	18	29JUL04A	12OCT05	70	100	18	-34	-73
6938	ShtRtSb-App. Tunnel Lgt sys	18	05AUG04A	12OCT05	80	100	18	-56	-61
6991	ShtRtNb-App. Tunnel Lgt sys	18	05AUG04A	12OCT05	80	100	18	-77	-79
6932	ShtRtSb-App. HV/LV main & submain dist. sys	18	13AUG04A	12OCT05	65	100	18	-62	-91
6985	ShtRtNb-App. HV/LV main & submain dist. sys	18	13AUG04A	12OCT05	80	100	18	-62	-91
6969	ShtRtSb-App. FS AFA & Linear sys	18	14SEP04A	12OCT05	70	100	18	-70	-121
7022	ShtRtNb-App. FS AFA & Linear sys	18	14SEP04A	12OCT05	70	100	18	-70	-121
6945	ShtRtSb-App. CMCS & TCS & ELV sys	18	20SEP04A	12OCT05	88	100	18	-32	-52
6998	ShtRtNb-App. CMCS & ELV sys	18	20SEP04A	12OCT05	88	100	18	-40	-60
6957	ShtRtSb-App. TVS control sys	18	12NOV04A	12OCT05	70	100	18	-4	-43
7010	ShtRtNb-App. TVS control sys	18	12NOV04A	12OCT05	70	100	18	-4	-43
PROCUREMENT - MATERIAL									
SHT TUNNEL NORTHBOUND									
6986	ShtRtNb-Proc & Manuf. ES Main & submain dist.	180	20MAR05A	08MAY06	20	40	180	-62	-73

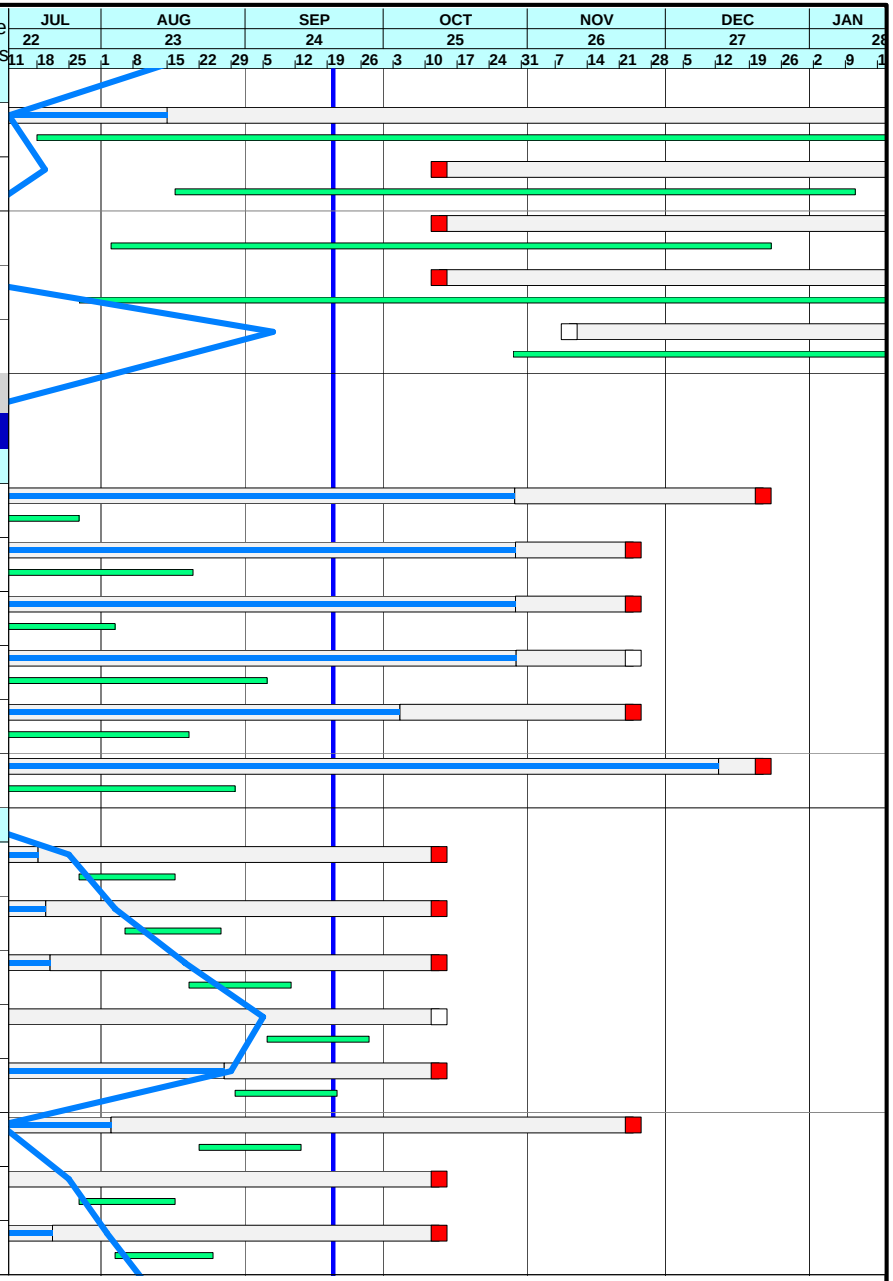


Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
SHT TUNNEL NORTHBOUND									
6999	ShtRtNb-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	08MAY06	15	20	180	-40	-42
7023	ShtRtNb-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	08MAY06	15	70	180	-70	-103
7011	ShtRtNb-Proc & Manuf. TVS control sys	180	25MAY05A	13JUN06	5	10	180	-34	-55
7628	ShtRtNb-Proc & Manuf. TVS in Tunnel	180	09JUN05A	08MAY06	5	30	180	-34	-55
6992	ShtRtNb-Proc & Manuf. Tunnel Lgt sys	180	13OCT05	29MAY06	0	40	180	-77	-79
SHT TUNNEL SOUTHBOUND									
6946	ShtRtSb-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	08MAY06	15	20	180	-32	-34
6970	ShtRtSb-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	08MAY06	15	70	180	-70	-103
6933	ShtRtSb-Proc & Manuf. ES Main & submain dist.	180	20MAY05A	08MAY06	30	50	180	-62	-73
6958	ShtRtSb-Proc & Manuf. TVS control sys	180	25MAY05A	13JUN06	5	20	180	-34	-55
7625	ShtRtSb-Proc & Manuf. TVS in Tunnel	180	09JUN05A	08MAY06	20	30	180	-34	-55
6939	ShtRtSb-Proc & Manuf. Tunnel Lgt sys	180	13OCT05	29MAY06	0	20	180	-56	-61
SHT NORTH PORTAL BUILDING									
SUBMITTALS & APPROVALS									
ABWF & BUILDER'S WORKS									
1999	SHT NPB - Prep & submit door & window detail	24	13NOV04A	04OCT05	50	100	12	112	-46
2001	SHT NPB - Approve door & window details	24	03JUN05A	19OCT05	0	100	24	100	-34
2008	SHT NPB - Prep & sub balustrade & metal wks	24	13JUL05A	04OCT05	50	100	12	76	-46
2009	SHT NPB - Approve balustrade & metal works	24	05OCT05	02NOV05	0	0	24	76	-46
E&M EQPT. / MTRL. SUBMITTALS									
8295	ShtNpBldg-Sub.TVF, Ductworks & Control sys	78	02JUL04A	21DEC05	95	100	78	-52	-150
8297	ShtNpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	23NOV05	95	100	54	-104	-178
8299	ShtNpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	23NOV05	95	100	54	46	-52
8294	ShtNpBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	23NOV05	95	100	54	-41	-100
8298	ShtNpBldg-Sub.FS wet sys	54	05AUG04A	23NOV05	95	100	54	40	-94

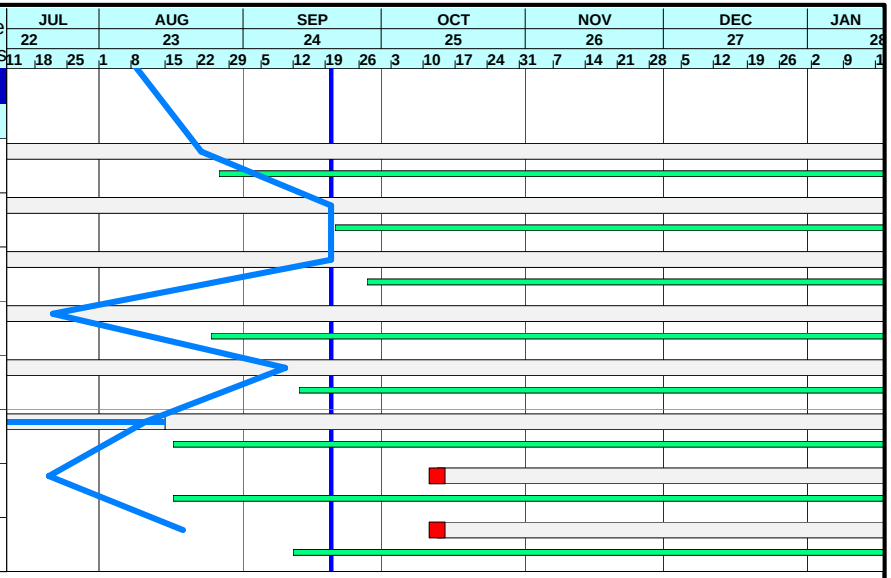


Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT. / MTRL. SUBMITTALS									
8296	ShtNpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	16NOV05	95	10	48	2	0
8292	ShtNpBldg-Sub.of CMCS & ELV sys	78	26AUG04A	21DEC05	95	100	78	-28	-130
E&M EQPT. / MTRL. APPROVALS									
7262	ShtNpBldg-App. HV power dist. sys	18	14JUL04A	12OCT05	95	100	18	-76	-100
7268	ShtNpBldg-App. LV power dist. sys	18	13AUG04A	12OCT05	90	100	18	-80	-100
8511	ShtSpBldg-App. building related luminaires	18	18AUG04A	12OCT05	80	100	18	-40	-64
7377	ShtNpBldg-App. FS wet sys	18	02SEP04A	12OCT05	60	100	18	40	-40
7427	ShtNpBldg-App. FS AFA & FM200 sys	18	14SEP04A	12OCT05	70	0	18	46	2
7307	ShtNpBldg-App. of CMCS & ELV sys	18	20SEP04A	12OCT05	88	100	18	-28	-52
7338	ShtNpBldg-App. MVAC mech.vent. sys	18	23SEP04A	12OCT05	60	100	18	-41	-46
7431	ShtNpBldg-App. PD cleans. & flush water sys	18	04NOV04A	12OCT05	75	100	18	10	-58
7355	ShtNpBldg-App. TVF, Ductworks & Control sys	18	12NOV04A	12OCT05	70	100	18	-52	-72
7369	ShtNpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	12OCT05	75	100	18	-104	-124
7323	ShtNpBldg-App. MVAC Package AC Unit sys	18	01FEB05A	12OCT05	90	0	18	50	14
PROCUREMENT - MATERIAL									
ABWF WORKS									
2016	SHT NPB - Procure doors & windows	120	12JAN05A	19OCT05	50	10	24	100	86
2028	SHT NPB - Procure balustrade & metal works	120	09MAR05A	02NOV05	50	10	24	76	74
7269	ShtNpBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	08MAY06	20	50	180	-80	-82
7263	ShtNpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	08MAY06	15	50	180	-76	-82
7308	ShtNpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	08MAY06	15	20	180	-28	-34
7370	ShtNpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	08MAY06	5	70	180	-104	-106
7428	ShtNpBldg-Proc & Manuf. FS AFA & FM200 sys	120	25MAR05A	27MAR06	15	0	120	16	-10
7378	ShtNpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	20FEB06	20	20	120	40	-22

Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
ABWF WORKS									
7356	ShtNpBldg-Proc & Manuf. TVF,Ductwks&Cont'l sys	180	09JUN05A	08MAY06	20	30	180	-52	-54
7339	ShtNpBldg-Proc & Manuf. MVAC mech.vent. sys	120	13OCT05	13MAR06	0	20	120	-41	-46
7432	ShtNpBldg-Proc & Manuf. Cleans & flush water sys	120	13OCT05	13MAR06	0	40	120	10	-58
8512	ShtSpBldg-Proc & Manf bldg related luminaires	180	13OCT05	29MAY06	0	30	180	-40	-64
7324	ShtNpBldg-Proc & Manuf. MVAC Package AC Units	120	10NOV05	11APR06	0	0	120	26	-10
SHT RC ENCLOSURE & T3 UNDERPASS									
SUBMITTALS & APPROVALS									
E&M EQPT./ MTRL.SUBMITTALS									
8302	Sht-N.R9-Sub.Tunnel Lgt sys	78	02JUL04A	21DEC05	90	100	78	-44	-124
8304	Sht-N.R9-Sub.TVS control sys	54	02JUL04A	23NOV05	95	100	54	-4	-78
8309	Sht-N.R9-Sub.MCC, power & control sys	54	02JUL04A	23NOV05	95	100	54	-19	-93
8305	Sht-N.R9-Sub.FS AFA & Linear sys	54	05JUL04A	23NOV05	95	100	54	25	-65
8308	Sht-N.R9-Sub.LCC, power & control sys	54	07JUL04A	23NOV05	90	100	54	-23	-79
8303	Sht-N.R9-Sub.CMCS & ELV sys	78	26AUG04A	21DEC05	98	100	78	3	-95
E&M EQP. / MTRL. APPROVALS									
7487	Sht-N.R9-App. Tunnel Lgt sys	18	05AUG04A	12OCT05	80	100	18	-44	-46
7481	Sht-N.R9-App. HV/LV main & submain dist. sys	18	13AUG04A	12OCT05	80	100	18	-17	-37
7604	Sht-N.R9-App. LCC, power & control sys	18	18AUG04A	12OCT05	80	100	18	-23	-25
7517	Sht-N.R9-App. FS AFA & Linear sys	18	14SEP04A	12OCT05	70	80	18	25	-11
7494	Sht-N.R9-App. CMCS & ELV sys	18	20SEP04A	12OCT05	88	100	18	3	-17
7505	Sht-N.R9-App. TVS control sys	18	12NOV04A	23NOV05	70	100	54	-4	-60
7529	Sht-N.R9-App. TVF, Ductworks & Control sys	18	12NOV04A	12OCT05	70	100	18	-26	-46
7612	Sht-N.R9-App. MCC, power & control sys	18	12NOV04A	12OCT05	75	100	18	-19	-39



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
PROCUREMENT - MATERIAL									
SHT RC FULL ENCLOSURE / T3 UNDERPASS									
7482	Sht-N.R9-Proc & Manuf. ES Main & submain dist.	180	20MAR05A	08MAY06	20	20	180	-17	-19
7495	Sht-N.R9-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	09MAY06	15	0	180	2	0
7518	Sht-N.R9-Proc & Manuf. FS AFA & Linear sys	120	25MAR05A	28FEB06	15	0	120	18	0
7613	Sht-N.R9-Proc & Manuf. MCC, power & control sys	180	25MAR05A	06JUN06	5	20	180	-43	-45
7506	Sht-N.R9-Proc & Manuf. TVS control sys	180	25MAY05A	08MAY06	5	5	180	-4	-6
7530	Sht-N.R9-Proc & Manuf. TVF, Ductwks & Cont'l sys	180	09JUN05A	08MAY06	20	20	180	-26	-28
7488	Sht-N.R9-Proc & Manuf. Tunnel Lgt sys	180	13OCT05	29MAY06	0	20	180	-44	-46
7605	Sht-N.R9-Proc & Manuf. LCC, power & control sys	180	13OCT05	29MAY06	0	5	180	-23	-25



APPENDIX M
COMPLAINT LOG

Appendix M - Complaint Log

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

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

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

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

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

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

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

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

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

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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

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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

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

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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.	Investigation in progress	On-going