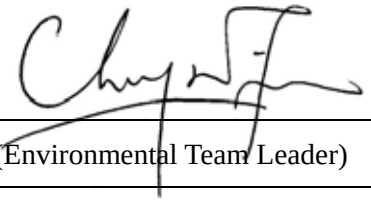
Highways Department

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)

November 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-forth 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 November 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, 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	0	0	0	N/A
24-hr TSP	0	0	0	N/A
Noise	1[a]	0	0	Complaint investigation

Remarks:
a. A noise Action Level exceedance was recorded due to the public noise complaint received on 1 Nov 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	Construction noise and dust	Complaint investigation	Closed	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N/A	N/A	---
Status of submissions under EP	0	---	N/A	N/A	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---

Future Key Issues:

Major site activities for the coming month include:

- 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 acts as the Engineer for the construction contracts. The works of R9K mainly comprise a 1.4km dual 3-lane Lai Chi Kok Viaduct from Lai Wan Interchange to Butterfly Valley; 0.5 km of dual 3-lane at-grade carriageway linking to the 2.1 km dual 3-lane twin-bore Eagle's Nest Tunnel with associated portal buildings; a toll plaza with an administration building located with the Sha Tin valley woodland; a ventilation building and an adit; associated noise barriers, noise enclosures, drainage, slope and landscape works; and electrical and mechanical works for the whole R9-CSWST. The remainder of the R9-CSWST forms the Sha Tin Section (R9S) of the project and is being managed and implemented separately by the Civil Engineering and Development Department (CEDD).

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

1.4 An Updated Final EIA report was subsequently completed in 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-forth monthly EM&A report summarizing the EM&A works for the Project in November 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:

- Soil nailing, box culvert and water-main works at Butterfly Valley;
- Cut slope and haul road construction at Butterfly Valley;
- Chlorine barrier wall construction at Portion X;
- Surface blasting and retaining wall at Butterfly Valley;
- Water proofing membrane and tunnel lining construction at ENT Tunnel;
- OHVD slab and road construction at ENT Tunnel;
- Tunnel drainage, cross passage and ventilation adit shotcreting at ENT Tunnel;
- Excavation, construction of building's column and wall at South Portal, North Portal, Toll Plaza and Ventilation Adit;
- Footing construction at Ventilation Adit; and
- Footbridge and subway construction and drainage work 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. C.Y. Tang	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 November 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 TSP monitoring was conducted as scheduled during the reporting month.

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

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

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

3. NOISE

Monitoring Requirements

3.1 Monitoring and audit of construction noise levels is required to be conducted, in accordance with the EM&A Manual, to ensure that any unacceptable noise impacts could be readily detected and timely 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 1 November 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 3, 9, 17, 24 and 30 November 2005 by ET. The audit session on 3 November 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-RW0643-05	08/10/05	07/04/06	*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 and 2300 hours, 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 and 0700 hours on next day.	Valid

Permit No.	Valid Period		Details	Status
	From	To		
GW-RN0532-05	04/10/05	03/04/06	*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-RN0447-05	04/10/05	03/04/06	*Location*: South Portal *Time period*: Any day between 2300 and 0700 hours on next day.	Valid
GW-RN0449-05	04/10/05	03/04/06	*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-RN0448-05	04/10/05	03/04/06	*Location*: North Portal *Time period*: Any day between 2300 and 0700 hours on next day.	Valid
GW-RN0537-05	11/11/05	10/05/06	*Location:* Toll Plaza *Time period:* general holiday (including Sundays) between 0900 and 2300 hours, and any other day between 1900 and 2300 hours.	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 No Action/Limit Level exceedance was recorded in this reporting month.

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 1 November 2005.

Implementation Status of Event Action Plans

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

Table 4.2 Observations and Recommendations of Site Audit

Parameters	Date	Observations / Recommendations	Remedial Actions
Water Quality	17-Nov-05	Silty water discharge was observed at Portion D4 near the WetSep. The channel preceding the discharge point was filled by sediment. The Contractor was reminded to keep the de-silting facilities well-maintained.	Rectification / improvement was observed during the site audit on 23-Nov-05.
Air Quality	3-Nov-05	The surface of the stockpile at Portion D4 (Toll Plaza) was observed dry. Immediate action was taken by the Contractor to water spray the stockpile to prevent dust emission.	Rectification / improvement was observed during the site audit on 9-Nov-05.
	9-Nov-05	Fugitive dust emission was observed during the drilling works at Portion H1 near the existing box culvert. The Contractor was reminded to implement sufficient dust mitigation measures, such as water spray, during the works.	Rectification / improvement was observed during the site audit on 9-Nov-05.
	9-Nov-05	Open stockpile of dusty materials was observed at Portion E1 near BVS2. The Contractor was recommended to cover the stockpile properly to prevent wind erosion.	Rectification / improvement was observed during the site audit on 17-Nov-05.
	17-Nov-05	Fugitive dust emission was observed during the breaking and drilling works at Portion H1 near the existing box culvert and BVS2. The Contractor was reminded to apply sufficient dust mitigation measures, such as water spray, for dust suppression.	Rectification / improvement was observed during the site audit on 23-Nov-05.
	30-Nov-05	The haul road at Portion D5 near the workshop was observed dry. The Contractor was reminded to water the haul road to avoid dust emission.	The situation would be followed up in Dec 05.
Noise	23-Nov-05	No noise label was affixed on an air compressor operated at Portion A.	Rectification / improvement was observed during the site audit on 30-Nov-05.
Chemical and Waste Management	3-Nov-05	An oil drum without drip tray was observed at Portion D1 (North Portal). The Contractor was reminded to provide a drip tray for the oil drum.	Rectification / improvement was observed during the site audit on 9-Nov-05.
	23-Nov-05	Several oil drums were not placed on bunded area. The Contractor was reminded to provided drip trays for the oil drums.	Rectification / improvement was observed during the site audit on 30-Nov-05.
	30-Nov-05	General refuse was observed at the discharge point at Portion A (Mui Kong Tsuen). The Contractor was reminded to dispose of the refuse properly.	The situation would be followed up in Dec 05.

Summary of Complaints and Prosecutions

4.11 One environmental complaint was received on 1st November 2005 from Government Quarters, regarding the following environmental issues:

1. Noise nuisance due to tunnel blasting works undertaken at midnights and in early mornings (3am to 5am);
2. Noise nuisance due to operation of a generator after 11pm;
3. Construction dust and daytime noise due to processing and stockpiling of crushed rocks at Butterfly Valley;
4. Noise nuisance due to works outside tunnel in the early morning of 2 Nov 05.

4.12 Based on the information obtained, environmental monitoring results and site observations, this complaint was considered not justifiable, except for the concern of dust nuisance due to crushed rock processing. Enhanced dust mitigation measures were implemented by the Contractor for stockpiles and during handling of dusty materials and the situation was found improved. A complaint investigation report was submitted to EPD on 15th November 2005.

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

4.14 There were 20 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;
- 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:

ENT Tunnel
- Water-proofing membrane, tunnel lining, OHVD slab construction, tunnel drainage, cross passage construction, Ventilation Adit shotcreting and E&M installation works.

Butterfly Valley
- Cut slope and haul road, soil nailing, box culvert, surface blasting, retaining wall and water mains construction.

South Portal Building
- Excavation, concreting of columns, walls and slab at G/F and 1/F levels.

North Portal Building
- Concreting of columns, walls and slabs at 2/F level.

Toll Plaza's Structures and Administration Building
- Footbridge and subway construction, drainage works, concreting of columns, walls and slabs at G/F, 1/F and 2/F levels.

Ventilation Adit Tunnel and Building
- Footing construction, concreting of columns, walls and slab at Plenum level.

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 No exceedance was recorded for the 1-hr and 24-hr TSP monitoring in the reporting month. A noise Action Level exceedance was triggered by a complaint.

6.3 One environmental complaint, forwarded by the RSS, was received on 1 November 2005, regarding nighttime construction noise, and dust at Butterfly Valley. Based on the information obtained, environmental monitoring results and site observations, this complaint was considered not justifiable, except for the concern of dust nuisance due to crushed rock processing. No environmental prosecution was received in this reporting month.

Recommendations

6.4 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 WTW access road and the haul roads and stockpile areas in Butterfly Valley.
- To cover idle soil slope surface and stockpile of dusty materials to prevent wind erosion.

Noise Impact

- To provide temporary noise barriers for noisy activities (such as breaking works).
- To give advance notification to nearby community of the blasting works.

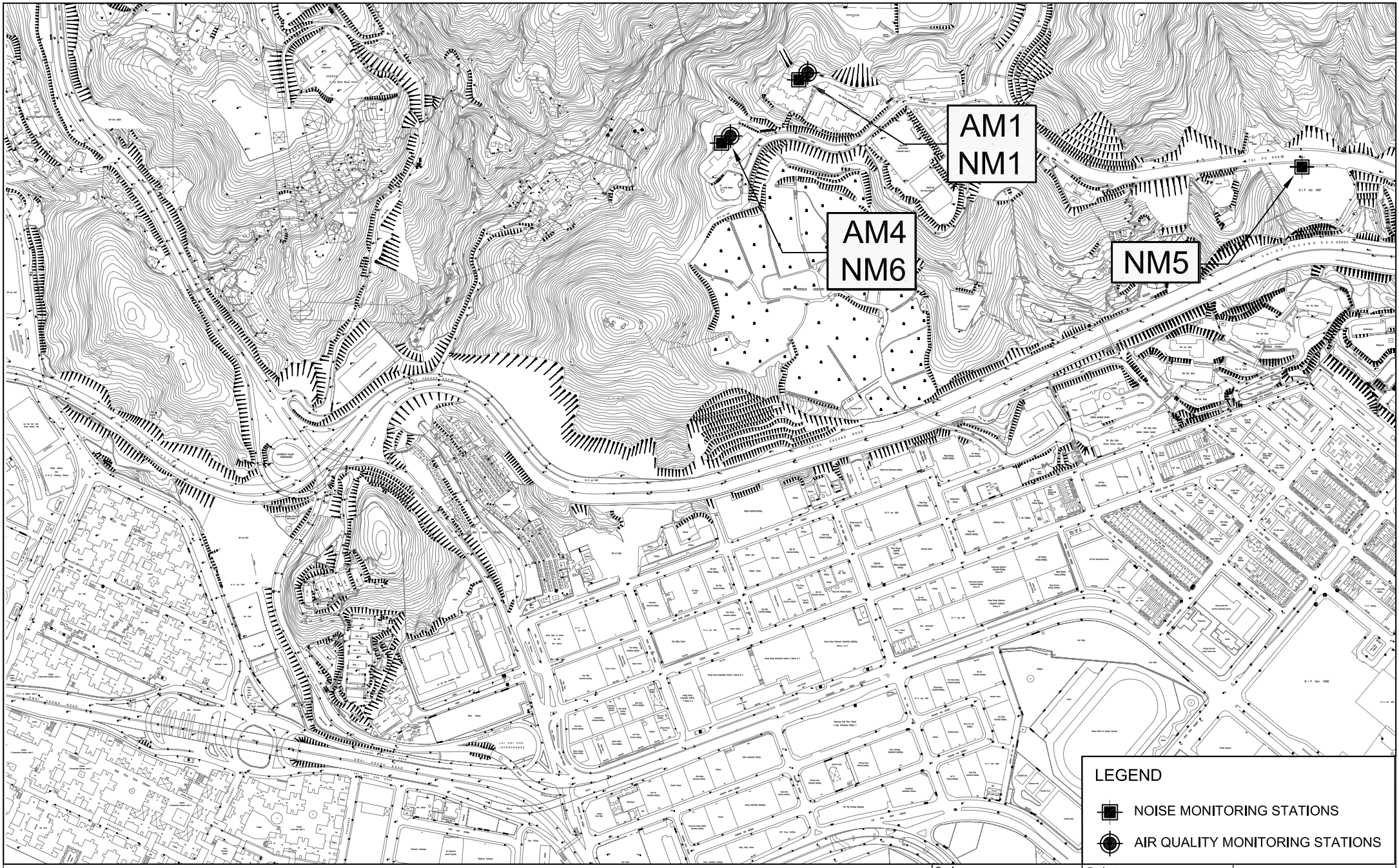
Water Impact

- 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.

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

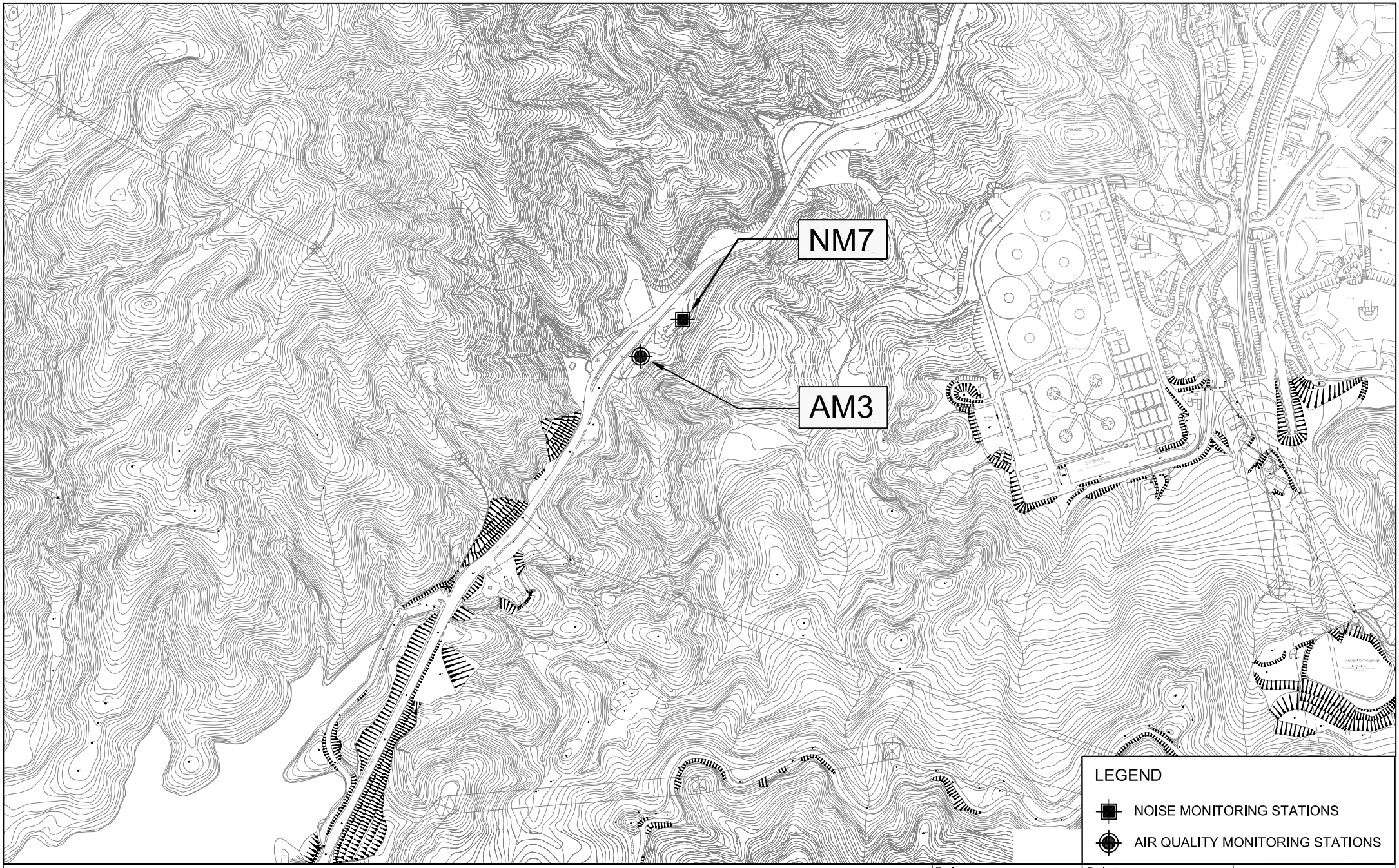
ROUTE 8 (PREVIOUSLY KNOWN AS ROUTE 9) BETWEEN CHEUNG SHA WAN AND SHA TIN
CONTRACT NO. HY/2003/02 - EAGLE'S NEST TUNNEL AND ASSOCIATED WORKS

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. MA3024/18/0013

Station: Po Leung Kuk Choi Kai Yau School
Operator: KY
Date: 29-Sep-05
Next Due Date: 28-Nov-05
Equipment No.: A-01-18
Serial No. 0723

Ambient Condition			
Temperature, Ta (K)	301.8	Pressure, Pa (mmHg)	762.9

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	3.55	61.57	7.5	2.73
2	9.6	3.08	53.47	5.6	2.36
3	7.3	2.69	46.57	4.3	2.06
4	5.2	2.27	39.23	3.1	1.75
5	3.2	1.78	30.68	1.9	1.37

By Linear Regression of Y on X

Slope , mw = 0.0436 **Intercept, bw =** 0.0367

Correlation coefficient* = 0.9999

*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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.68**

Remarks:

Conducted by: Signature: Date: 29/9/05

Checked by: Signature: Date: 29 Sep 05

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High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA3024/18/0014

Station: Po Leung Kuk Choi Kai Yau School
Operator: WK
Date: 28-Nov-05
Next Due Date: 27-Jan-06
Equipment No.: A-01-18
Serial No. 0723

Ambient Condition			
Temperature, Ta (K)	295.9	Pressure, Pa (mmHg)	766

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 = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$**			
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	12.5	3.56	61.82	7.5	2.76
2	9.6	3.12	54.12	5.6	2.38
3	7.3	2.72	47.13	4.2	2.06
4	5.1	2.28	39.32	3.1	1.77
5	3.2	1.80	31.05	1.9	1.39

By Linear Regression of Y on X

Slope , mw = 0.0439 **Intercept, bw :** 0.0249

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

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

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.60**

Remarks:

Conducted by: W.K. Tang Signature: Date: 28 Nov 05

Checked by: Signature: Date: 28 NOV 05

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High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA2027/A14/0014

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

Ambient Condition			
Temperature, Ta (K)	299.3	Pressure, Pa (mmHg)	763.5

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 = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$**			
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	11.2	3.35	58.06	6.7	2.59
2	9.0	3.00	52.00	5.6	2.37
3	6.5	2.55	44.12	4.0	2.00
4	4.5	2.12	36.63	2.8	1.67
5	2.7	1.64	28.27	1.6	1.27

By Linear Regression of Y on X

Slope , mw = 0.0447 **Intercept, bw :** 0.0213

Correlation coefficient* = 0.9992

*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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.77**

Remarks:

Conducted by: W.K. Tang Signature: KWAN Date: 10/10/05

Checked by: [illegible] Signature: [illegible] Date: 10 OCT 05

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High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA3024/17/0015

Station: Government Quarter
Operator: KY
Date: 29-Sep-05
Next Due Date: 28-Nov-05
Equipment No.: A-01-17
Serial No. 3460

Ambient Condition			
Temperature, Ta (K)	301.8	Pressure, Pa (mmHg)	762.9

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	13.0	3.59	62.30	7.7	2.76
2	10.5	3.23	55.94	6.5	2.54
3	7.8	2.78	48.15	5.0	2.23
4	5.5	2.33	40.36	3.3	1.81
5	2.8	1.67	28.67	1.8	1.34

By Linear Regression of Y on X

Slope , mw = 0.0433 **Intercept, bw =** 0.0941

Correlation coefficient* = 0.9982

*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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.86**

Remarks:

Conducted by: Signature: Date: 29/9/05
Checked by: Signature: Date: 29 Sep 05

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA3024/17/0016

Station: Government Quarter
Operator: KY
Date: 28-Nov-05
Next Due Date: 27-Jan-06
Equipment No.: A-01-17
Serial No. 3460

Ambient Condition			
Temperature, Ta (K)	295.9	Pressure, Pa (mmHg)	766

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 = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$**			
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	12.9	3.62	62.81	7.6	2.78
2	10.5	3.26	56.62	6.5	2.57
3	7.8	2.81	48.74	4.9	2.23
4	5.4	2.34	40.47	3.3	1.83
5	2.7	1.66	28.49	1.8	1.35

By Linear Regression of Y on X

Slope , mw = 0.0424 **Intercept, bw =** 0.1407

Correlation coefficient* = 0.9990

*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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.80**

Remarks:

Conducted by: Signature: Date: 28 NOV 05

Checked by: Signature: Date: 28 NOV 05

F:\Equipment\Calibration\HVS\A-01-17\20051128

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.

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

D.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:

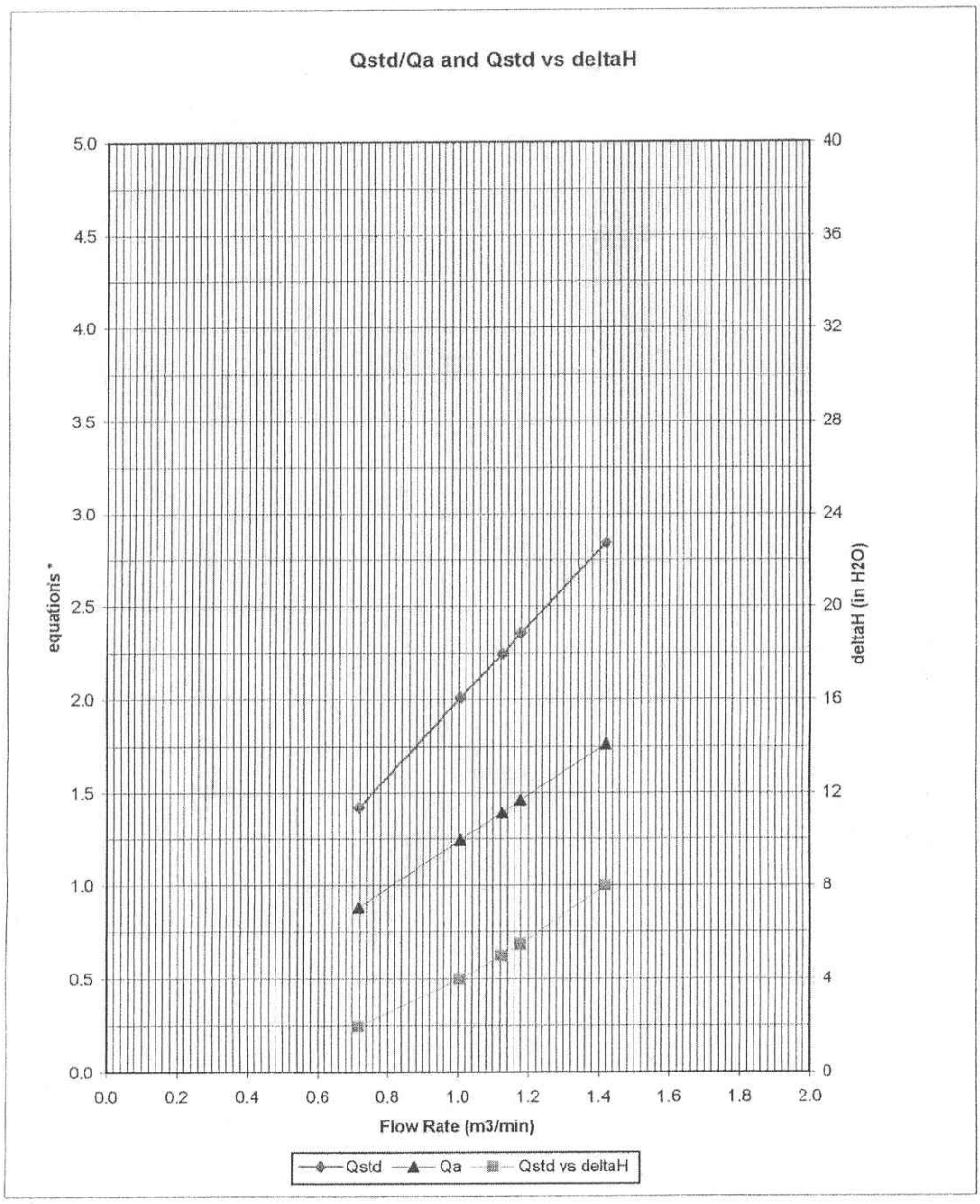
$$Qstd = 1 / m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right) - b\right)$$
$$Qa = 1 / m\left(\left(\sqrt{\Delta H(Ta / Pa)}\right) - b\right)$$

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,
50 Wing Tai Road,
Chai Wan, Hong Kong.
Tel: (852) 2898 7388
Fax: (852) 2898 7076

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.
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.

ATTN: **Mr. Henry Leung**

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

Certificate of Calibration

Item for calibration:

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

Test conditions:

Room Temperatre	: 20 degree Celsius
Relative Humidity	: 60%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

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

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

Patrick.

PATRICK TSE
Operation Manager

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

TEST REPORT

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

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

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.

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**
1602-1610 Delta House,
3 On Yiu Street,
Shatin, N.T.

ATTN: **Mr. Henry Leung**

Test Report No.:	C/N/51015/1
Date of Issue:	2005-10-15
Date Received:	2005-10-13
Date Tested:	2005-10-14
Date Completed:	2005-10-15
Next Due Date:	2006-10-14
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	: 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
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13-15 Yuen Shun Circuit,
Shatin, Hong Kong.
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TEST REPORT

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

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

ATTN: **Mr. Henry Leung**

Item for calibration:

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

Test conditions:

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

Methodology:

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

Results:

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

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

Patrick.

PATRICK TSE
Operation Manager

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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

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TEST REPORT

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

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

ATTN: **Mr. Henry Leung**

Page: 1 of 1

Item for calibration:

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

Test conditions:

Room 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 November 2005

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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	
6-Nov	7-Nov	8-Nov	9-Nov	10-Nov	11-Nov	12-Nov
	1 hr TSP	1 hr TSP		1 hr TSP Noise 24 hrs TSP		
13-Nov	14-Nov	15-Nov	16-Nov	17-Nov	18-Nov	19-Nov
		1 hr TSP	1 hr TSP 24 hrs TSP	1 hr TSP Noise		
20-Nov	21-Nov	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov
		1 hr TSP 24 hrs TSP	1 hr TSP	1 hr TSP Noise		
27-Nov	28-Nov	29-Nov	30-Nov	1-Dec	2-Dec	3-Dec
	24 hrs TSP	1 hr TSP	1 hr 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 December 2005

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

APPENDIX D
WIND DATA

Appendix D - Wind Data

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

Appendix D - Wind Data

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

Appendix D - Wind Data

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

Appendix D - Wind Data

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

Appendix D - Wind Data

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

Appendix D - Wind Data

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

Appendix D - Wind Data

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

Appendix D - Wind Data

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

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
19-Nov-2005	0:00	2.2	WSW
19-Nov-2005	1:00	2.2	WNW
19-Nov-2005	2:00	1.8	SW
19-Nov-2005	3:00	2.2	WSW
19-Nov-2005	4:00	2.2	SW
19-Nov-2005	5:00	2.2	WSW
19-Nov-2005	6:00	3.1	WNW
19-Nov-2005	7:00	1.8	SW
19-Nov-2005	8:00	1.8	WNW
19-Nov-2005	9:00	3.1	WNW
19-Nov-2005	10:00	3.1	W
19-Nov-2005	11:00	3.1	WSW
19-Nov-2005	12:00	5.8	WNW
19-Nov-2005	13:00	5.4	WNW
19-Nov-2005	14:00	4.5	WNW
19-Nov-2005	15:00	4.5	WNW
19-Nov-2005	16:00	4	WSW
19-Nov-2005	17:00	3.1	WSW
19-Nov-2005	18:00	2.7	SW
19-Nov-2005	19:00	2.2	SSW
19-Nov-2005	20:00	2.7	WSW
19-Nov-2005	21:00	2.2	WSW
19-Nov-2005	22:00	1.8	SW
19-Nov-2005	23:00	1.3	SW
20-Nov-2005	0:00	2.7	WSW
20-Nov-2005	1:00	2.7	W
20-Nov-2005	2:00	3.1	WSW
20-Nov-2005	3:00	2.2	WSW
20-Nov-2005	4:00	2.7	WNW
20-Nov-2005	5:00	2.2	WNW
20-Nov-2005	6:00	1.3	W
20-Nov-2005	7:00	2.2	WSW
20-Nov-2005	8:00	3.1	WSW
20-Nov-2005	9:00	3.6	WSW
20-Nov-2005	10:00	6.7	WNW
20-Nov-2005	11:00	7.2	WNW
20-Nov-2005	12:00	6.7	WNW
20-Nov-2005	13:00	6.3	WNW
20-Nov-2005	14:00	5.4	WNW
20-Nov-2005	15:00	5.4	WNW
20-Nov-2005	16:00	2.7	WSW
20-Nov-2005	17:00	0.9	SW
20-Nov-2005	18:00	0.9	SSW
20-Nov-2005	19:00	1.8	SW
20-Nov-2005	20:00	1.8	SW
20-Nov-2005	21:00	2.2	SW
20-Nov-2005	22:00	2.2	SW
20-Nov-2005	23:00	2.2	WSW
21-Nov-2005	0:00	3.1	WNW
21-Nov-2005	1:00	3.1	SW
21-Nov-2005	2:00	2.7	WSW
21-Nov-2005	3:00	3.1	WSW
21-Nov-2005	4:00	3.1	WSW
21-Nov-2005	5:00	2.7	WSW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
21-Nov-2005	6:00	2.2	WSW
21-Nov-2005	7:00	1.8	WSW
21-Nov-2005	8:00	2.7	W
21-Nov-2005	9:00	3.1	WSW
21-Nov-2005	10:00	4.5	WNW
21-Nov-2005	11:00	6.3	WNW
21-Nov-2005	12:00	6.7	WNW
21-Nov-2005	13:00	6.3	WNW
21-Nov-2005	14:00	5.8	WNW
21-Nov-2005	15:00	5.4	WNW
21-Nov-2005	16:00	4.9	WNW
21-Nov-2005	17:00	3.1	SW
21-Nov-2005	18:00	3.1	SW
21-Nov-2005	19:00	2.2	SSW
21-Nov-2005	20:00	1.8	SW
21-Nov-2005	21:00	1.8	SSW
21-Nov-2005	22:00	0.9	SW
21-Nov-2005	23:00	1.3	WNW
22-Nov-2005	0:00	0.4	WNW
22-Nov-2005	1:00	0.9	WNW
22-Nov-2005	2:00	0	WNW
22-Nov-2005	3:00	0.9	WNW
22-Nov-2005	4:00	1.8	WNW
22-Nov-2005	5:00	2.7	WNW
22-Nov-2005	6:00	1.3	WNW
22-Nov-2005	7:00	2.7	WNW
22-Nov-2005	8:00	3.6	WNW
22-Nov-2005	9:00	4	WNW
22-Nov-2005	10:00	4.5	WNW
22-Nov-2005	11:00	4.5	WNW
22-Nov-2005	12:00	3.1	WNW
22-Nov-2005	13:00	3.6	WNW
22-Nov-2005	14:00	4	WNW
22-Nov-2005	15:00	2.2	WNW
22-Nov-2005	16:00	2.2	W
22-Nov-2005	17:00	1.3	SSW
22-Nov-2005	18:00	0.4	SSW
22-Nov-2005	19:00	0	SSW
22-Nov-2005	20:00	0	SSW
22-Nov-2005	21:00	0	---
22-Nov-2005	22:00	0	---
22-Nov-2005	23:00	0	SSW
23-Nov-2005	0:00	0	SW
23-Nov-2005	1:00	0	SW
23-Nov-2005	2:00	0	SW
23-Nov-2005	3:00	0.4	WSW
23-Nov-2005	4:00	0.9	WNW
23-Nov-2005	5:00	2.2	WNW
23-Nov-2005	6:00	0.4	W
23-Nov-2005	7:00	0	WSW
23-Nov-2005	8:00	0.4	WNW
23-Nov-2005	9:00	1.3	WNW
23-Nov-2005	10:00	1.8	WNW
23-Nov-2005	11:00	4	WNW

Appendix D - Wind Data

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

Appendix D - Wind Data

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

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
28-Nov-2005	0:00	1.8	WNW
28-Nov-2005	1:00	0.9	W
28-Nov-2005	2:00	1.8	W
28-Nov-2005	3:00	0.9	W
28-Nov-2005	4:00	0.9	WNW
28-Nov-2005	5:00	0.9	W
28-Nov-2005	6:00	1.8	WNW
28-Nov-2005	7:00	1.8	WNW
28-Nov-2005	8:00	1.3	W
28-Nov-2005	9:00	2.2	WNW
28-Nov-2005	10:00	2.2	W
28-Nov-2005	11:00	2.7	W
28-Nov-2005	12:00	3.6	WNW
28-Nov-2005	13:00	2.7	WNW
28-Nov-2005	14:00	2.2	WNW
28-Nov-2005	15:00	1.3	WNW
28-Nov-2005	16:00	0.9	WNW
28-Nov-2005	17:00	1.3	NE
28-Nov-2005	18:00	0.4	NE
28-Nov-2005	19:00	0.4	E
28-Nov-2005	20:00	0	NE
28-Nov-2005	21:00	0	ENE
28-Nov-2005	22:00	0	---
28-Nov-2005	23:00	0	---
29-Nov-2005	0:00	3.6	SW
29-Nov-2005	1:00	3.1	WSW
29-Nov-2005	2:00	4	SW
29-Nov-2005	3:00	3.6	SW
29-Nov-2005	4:00	4	SW
29-Nov-2005	5:00	4.9	WSW
29-Nov-2005	6:00	4	SW
29-Nov-2005	7:00	4.9	WSW
29-Nov-2005	8:00	4.5	SW
29-Nov-2005	9:00	4.9	W
29-Nov-2005	10:00	4	W
29-Nov-2005	11:00	4.9	W
29-Nov-2005	12:00	6.7	W
29-Nov-2005	13:00	4.9	W
29-Nov-2005	14:00	4	WSW
29-Nov-2005	15:00	4	WSW
29-Nov-2005	16:00	3.1	SW
29-Nov-2005	17:00	3.6	SW
29-Nov-2005	18:00	3.1	SW
29-Nov-2005	19:00	2.7	SSW
29-Nov-2005	20:00	2.2	SSW
29-Nov-2005	21:00	2.7	SSW
29-Nov-2005	22:00	3.1	SW
29-Nov-2005	23:00	3.6	SW
30-Nov-2005	0:00	2.7	WSW
30-Nov-2005	1:00	1.3	W
30-Nov-2005	2:00	2.7	WSW
30-Nov-2005	3:00	3.6	SW
30-Nov-2005	4:00	3.1	WSW
30-Nov-2005	5:00	4	SW

Appendix D - Wind Data

Date	Time	Wind Speed m/s	Direction
30-Nov-2005	6:00	2.7	SW
30-Nov-2005	7:00	3.6	SW
30-Nov-2005	8:00	2.7	SW
30-Nov-2005	9:00	3.1	WSW
30-Nov-2005	10:00	3.1	WSW
30-Nov-2005	11:00	3.1	WSW
30-Nov-2005	12:00	2.7	SW
30-Nov-2005	13:00	2.7	SSW
30-Nov-2005	14:00	2.7	WSW
30-Nov-2005	15:00	2.7	W
30-Nov-2005	16:00	2.7	W
30-Nov-2005	17:00	2.7	W
30-Nov-2005	18:00	2.2	W
30-Nov-2005	19:00	2.2	W
30-Nov-2005	20:00	2.7	W
30-Nov-2005	21:00	2.2	W
30-Nov-2005	22:00	3.1	W
30-Nov-2005	23:00	3.1	W

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-Nov-05	Cloudy	2.8255	2.8340	1.23	1.23	3371.1	3372.1	295.6	765.2	0.0085	1.23	74.0	1.0	114.8
3-Nov-05	Sunny	2.8100	2.8125	1.23	1.23	3372.1	3373.1	299.0	764.8	0.0025	1.23	73.6	1.0	34.0
7-Nov-05	Sunny	2.9010	2.9121	1.22	1.22	3397.1	3398.1	299.4	762.2	0.0111	1.22	73.4	1.0	151.2
8-Nov-05	Sunny	2.8681	2.8743	1.23	1.23	3398.1	3399.0	299.6	764.2	0.0062	1.23	73.5	0.9	84.4
10-Nov-05	Sunny	2.8487	2.8580	1.22	1.22	3399.0	3400.0	300.0	761.8	0.0093	1.22	73.3	1.0	126.8
15-Nov-05	Cloudy	2.8043	2.8122	1.23	1.23	3425.0	3426.0	296.1	762.4	0.0079	1.23	73.8	1.0	107.0
16-Nov-05	Sunny	2.8030	2.8068	1.24	1.24	3426.0	3427.3	292.7	765.1	0.0038	1.24	93.8	1.3	40.5
17-Nov-05	Sunny	2.8524	2.8565	1.24	1.24	3451.0	3452.1	292.1	766.7	0.0041	1.24	81.3	1.1	50.4
22-Nov-05	Sunny	2.8624	2.8740	1.25	1.25	3452.1	3453.1	289.4	769.7	0.0116	1.25	75.1	1.0	154.5
23-Nov-05	Sunny	2.8274	2.8359	1.24	1.24	3477.1	3478.1	292.0	768.2	0.0085	1.24	74.7	1.0	113.9
24-Nov-05	Sunny	2.8063	2.8155	1.24	1.24	3478.1	3479.1	294.8	765.4	0.0092	1.24	74.2	1.0	124.1
29-Nov-05	Cloudy	2.8594	2.8672	1.21	1.21	3503.9	3504.9	296.4	764.2	0.0078	1.21	72.8	1.0	107.1
30-Nov-05	Sunny	2.8635	2.8833	1.22	1.22	3504.9	3505.9	294.2	763.6	0.0198	1.22	73.1	1.0	271.0
													Min	34.0
													Max	271.0
													Average	113.8

Location AM 3 - Garden Villa

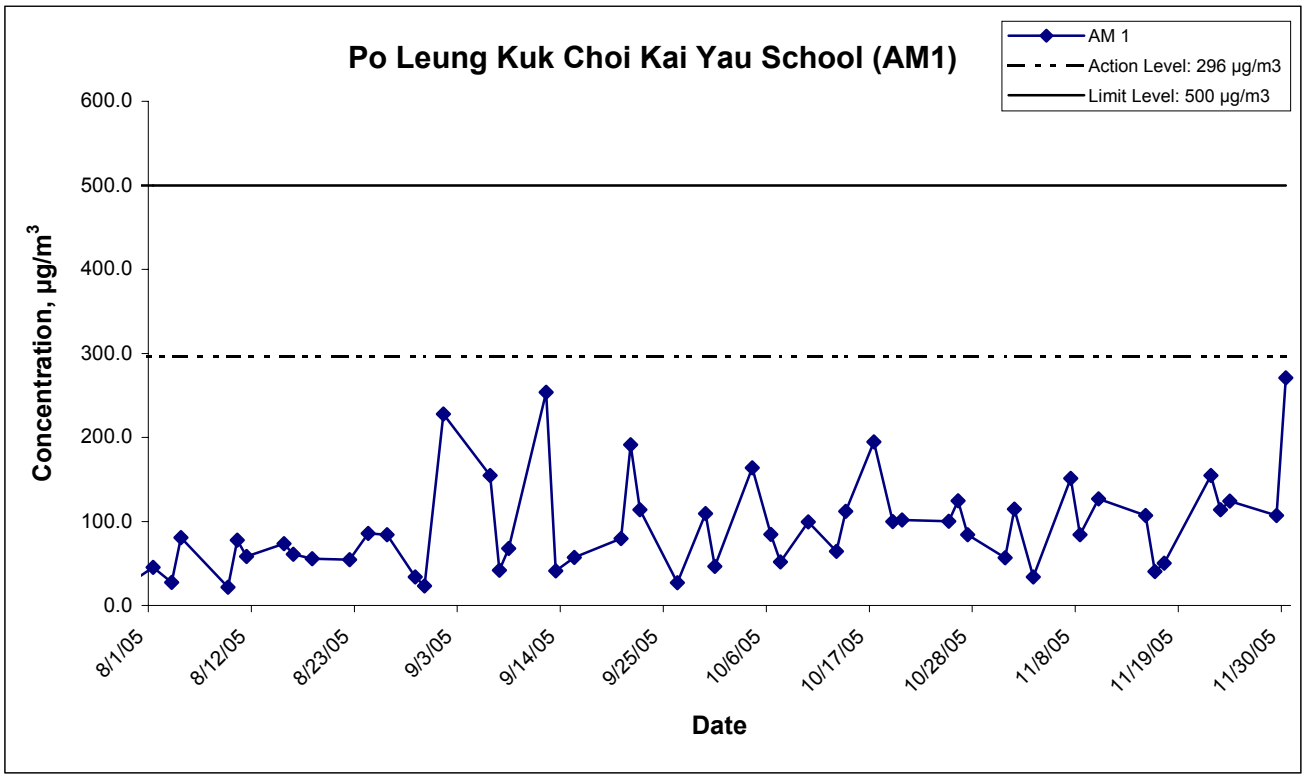
Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. (μg/m^3)
		Initial	Final	Initial	Final	Initial	Final							
1-Nov-05	Cloudy	2.8364	2.8508	1.23	1.23	3719.1	3720.1	295.6	765.2	0.0144	1.23	73.8	1.0	195.1
3-Nov-05	Sunny	2.8051	2.8198	1.22	1.22	3720.1	3721.1	299.0	764.8	0.0147	1.22	73.4	1.0	200.4
7-Nov-05	Sunny	2.8555	2.8711	1.22	1.22	3745.1	3746.1	299.4	762.2	0.0156	1.22	73.2	1.0	213.2
8-Nov-05	Sunny	2.8309	2.8420	1.22	1.22	3746.1	3747.1	299.6	764.2	0.0111	1.22	73.3	1.0	151.5
10-Nov-05	Sunny	2.8016	2.8130	1.22	1.22	3747.1	3748.1	300.0	761.8	0.0114	1.22	73.1	1.0	156.0
15-Nov-05	Cloudy	2.8706	2.8879	1.23	1.23	3772.1	3773.1	296.1	762.4	0.0173	1.23	73.6	1.0	235.1
16-Nov-05	Sunny	2.8163	2.8283	1.24	1.24	3773.1	3774.1	292.7	765.1	0.0120	1.24	74.2	1.0	161.8
17-Nov-05	Sunny	2.7813	2.7921	1.23	1.23	3798.1	3799.1	297.1	762.9	0.0108	1.23	73.5	1.0	147.0
22-Nov-05	Sunny	2.7883	2.8069	1.25	1.25	3799.1	3800.1	289.4	769.7	0.0186	1.25	74.8	1.0	248.6
23-Nov-05	Sunny	2.8548	2.8715	1.24	1.24	3824.1	3825.1	295.9	765.9	0.0167	1.24	73.8	1.0	226.3
24-Nov-05	Sunny	2.8722	2.8877	1.24	1.24	3825.1	3826.1	292.7	767.3	0.0155	1.24	74.6	1.0	207.8
29-Nov-05	Sunny	2.8526	2.8693	1.22	1.22	3850.1	3851.1	297.9	762.4	0.0167	1.22	73.4	1.0	227.6
30-Nov-05	Cloudy	2.8338	2.8532	1.23	1.23	3851.1	3852.1	294.2	763.6	0.0194	1.23	73.9	1.0	262.5
													Min	147.0
													Max	262.5
													Average	202.5

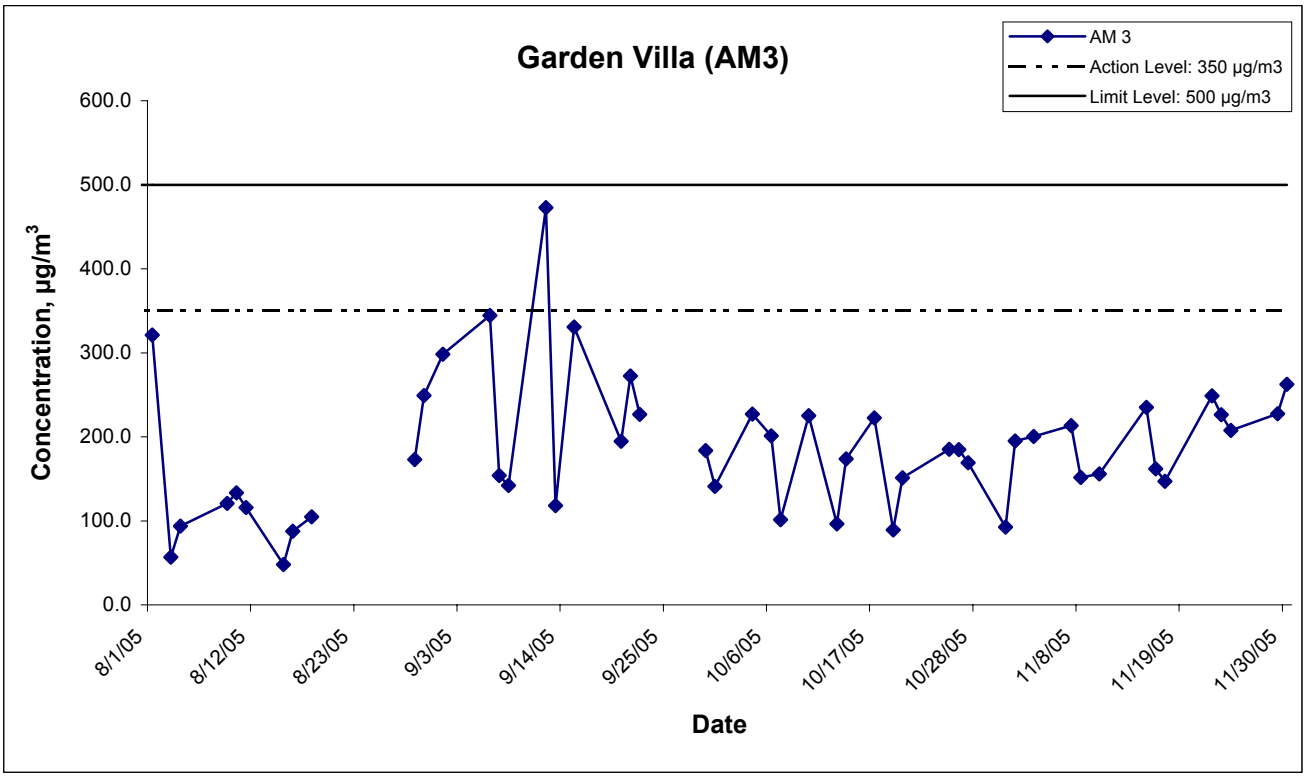
Appendix E - 1-hour TSP Monitoring Results

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-Nov-05	Cloudy	2.8278	2.8383	1.24	1.24	3330.8	3331.8	295.6	765.2	0.0105	1.24	74.3	1.0	141.3
3-Nov-05	Sunny	2.8229	2.8286	1.23	1.23	3331.8	3332.8	299.0	764.8	0.0057	1.23	73.9	1.0	77.2
7-Nov-05	Sunny	2.8788	2.8928	1.23	1.23	3356.8	3357.8	299.6	762.1	0.0140	1.23	73.7	1.0	190.1
8-Nov-05	Sunny	2.8580	2.8663	1.23	1.23	3357.8	3358.8	299.6	764.2	0.0083	1.23	73.8	1.0	112.5
10-Nov-05	Sunny	2.8426	2.8522	1.23	1.23	3358.8	3359.8	300.0	761.8	0.0096	1.23	73.6	1.0	130.5
15-Nov-05	Cloudy	2.7954	2.8041	1.24	1.24	3384.8	3385.8	296.1	762.4	0.0087	1.24	74.1	1.0	117.4
16-Nov-05	Sunny	2.7966	2.8023	1.25	1.25	3385.8	3386.8	292.7	765.1	0.0057	1.25	74.7	1.0	76.3
17-Nov-05	Sunny	2.8584	2.8638	1.25	1.25	3410.8	3411.8	292.1	766.7	0.0054	1.25	74.9	1.0	72.1
22-Nov-05	Sunny	2.8680	2.8834	1.25	1.25	3411.8	3412.8	289.4	769.7	0.0154	1.25	75.4	1.0	204.3
23-Nov-05	Sunny	2.8430	2.8532	1.24	1.24	3436.8	3437.8	295.9	765.9	0.0102	1.24	74.3	1.0	137.2
24-Nov-05	Sunny	2.7777	2.7869	1.24	1.24	3437.8	3438.8	294.8	765.4	0.0092	1.24	74.5	1.0	123.6
29-Nov-05	Cloudy	2.8642	2.8743	1.21	1.21	3462.8	3463.8	296.4	764.2	0.0101	1.21	72.9	1.0	138.6
30-Nov-05	Sunny	2.8703	2.8864	1.22	1.22	3463.8	3464.8	294.2	763.6	0.0161	1.22	73.1	1.0	220.2
													Min	72.1
													Max	220.2
													Average	133.9

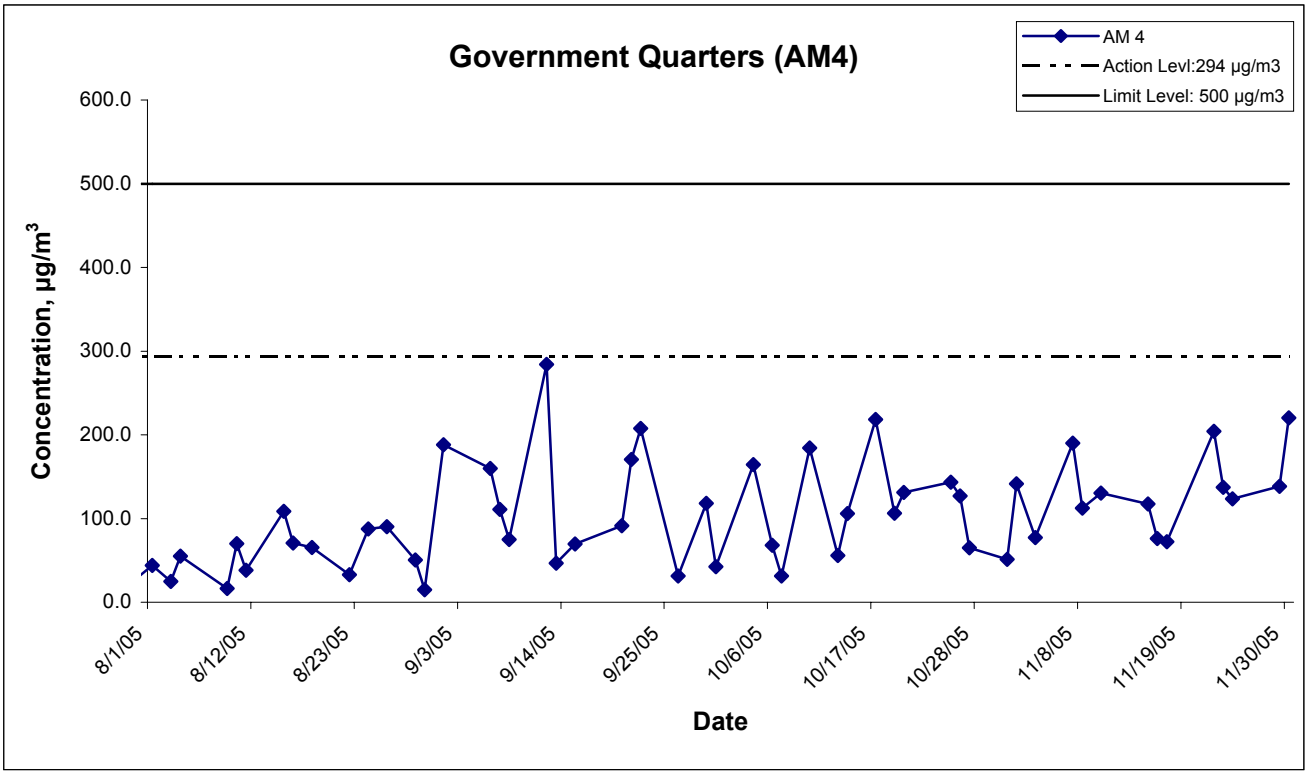
1-hr TSP Levels





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

1-hr TSP Levels



Title: Route 8 (previously known as Route 9) between Cheung Sha Wan & Sha Tin Contract HY/2003/02 - Eagle's Nest Tunnel and Associated Works Graphical Presentation of 1-hour TSP Impact Monitoring Results	Scale: N.T.S Date: Nov 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							
4-Nov-05	Sunny	2.8315	2.8868	1.23	1.23	3373.1	3397.1	298.7	764.0	0.0553	1.23	1766.2	24.0	31.3
10-Nov-05	Cloudy	2.8750	2.9685	1.22	1.22	3400.0	3424.0	300.2	761.6	0.0935	1.22	1758.9	24.0	53.2
16-Nov-05	Sunny	2.8504	2.9444	1.24	1.24	3427.3	3451.3	293.0	764.9	0.0940	1.24	1784.7	24.0	52.7
22-Nov-05	Sunny	2.8838	3.0696	1.25	1.25	3453.1	3477.1	289.8	769.5	0.1858	1.25	1800.4	24.0	103.2
28-Nov-05	Cloudy	2.7903	2.9869	1.22	1.22	3479.1	3503.1	296.0	766.0	0.1966	1.22	1751.0	24.0	112.3
													Min	31.3
													Max	112.3
													Average	70.5

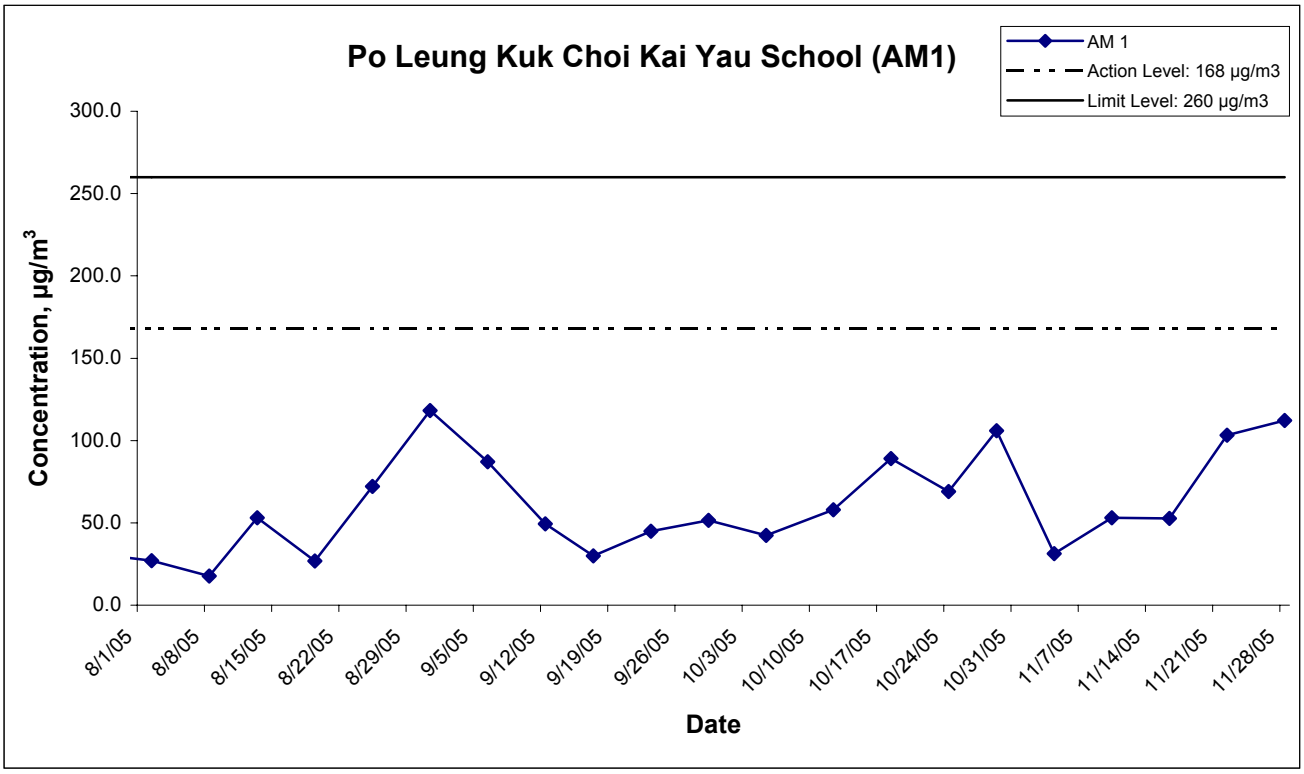
Location AM 3 - Garden Villa

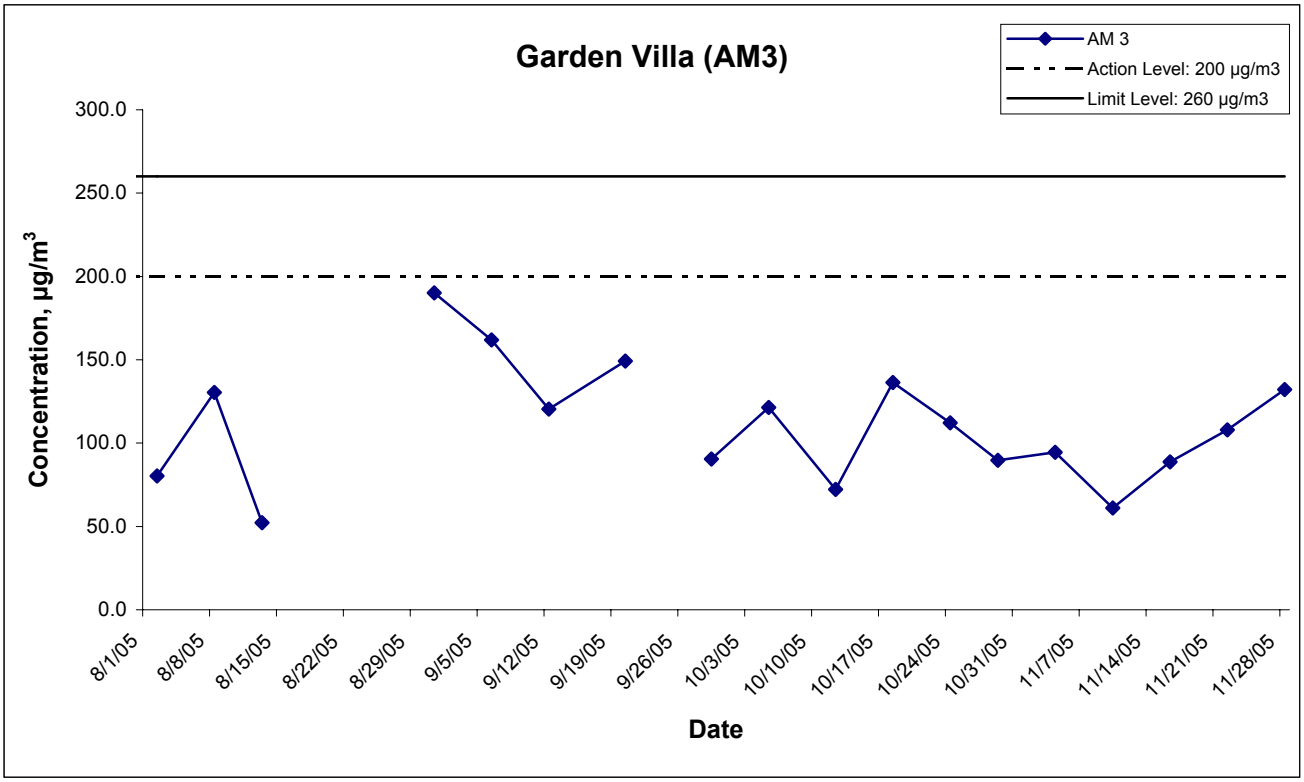
Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)
		Initial	Final	Initial	Final	Initial	Final							
4-Nov-05	Sunny	2.8134	2.9796	1.22	1.22	3721.1	3745.1	298.7	764.0	0.1662	1.22	1760.4	24.0	94.4
10-Nov-05	Cloudy	2.8162	2.9228	1.21	1.21	3748.1	3772.1	302.1	759.6	0.1066	1.21	1745.2	24.0	61.1
16-Nov-05	Sunny	2.8672	3.0237	1.23	1.23	3774.1	3798.1	297.6	764.4	0.1565	1.23	1764.0	24.0	88.7
22-Nov-05	Sunny	2.8434	3.0373	1.25	1.25	3800.1	3824.1	289.4	754.7	0.1939	1.25	1795.5	24.0	108.0
28-Nov-05	Sunny	2.8604	3.0943	1.23	1.23	3826.1	3850.1	296.0	766.0	0.2339	1.23	1770.7	24.0	132.1
													Min	61.1
													Max	132.1
													Average	96.9

Location AM 4 - Government Quarters

Date	Weather Condition	Filter Weight (g)		Flow Rate (m^3/min.)		Elapse Time		Air Temp. (K)	Atmospheric Pressure(Pa)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)
		Initial	Final	Initial	Final	Initial	Final							
4-Nov-05	Sunny	2.8365	2.9398	1.23	1.23	3332.8	3356.8	298.7	764.0	0.1033	1.23	1772.8	24.0	58.3
10-Nov-05	Cloudy	2.8676	2.9704	1.23	1.23	3359.8	3383.8	300.2	761.6	0.1028	1.23	1765.2	24.0	58.2
16-Nov-05	Sunny	2.8639	2.9664	1.24	1.24	3386.8	3410.8	293.0	764.9	0.1025	1.24	1791.9	24.0	57.2
22-Nov-05	Sunny	2.8805	3.0898	1.26	1.26	3412.8	3436.8	289.8	769.5	0.2093	1.26	1808.1	24.0	115.8
28-Nov-05	Cloudy	2.7993	2.9900	1.22	1.22	3438.8	3462.8	296.0	766.0	0.1907	1.22	1752.0	24.0	108.8
													Min	57.2
													Max	115.8
													Average	79.7

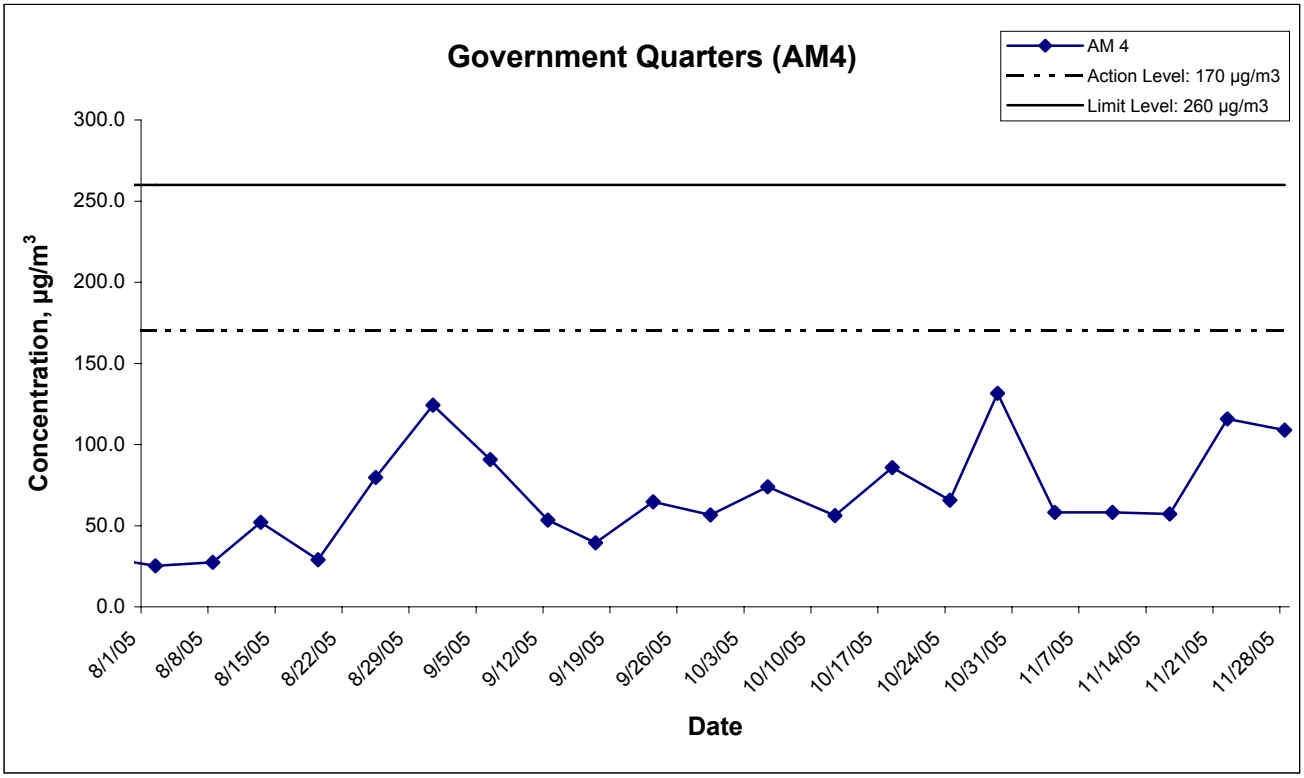
24-hr TSP Levels





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: Nov 05	Appendix: F	

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: Nov 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}	
3-Nov-05	11:30	Sunny	69.2	70.0	68.0	-
10-Nov-05	15:36	Sunny	68.1	70.0	65.5	
17-Nov-05	9:40	Sunny	67.5	69.5	64.0	
24-Nov-05	10:18	Sunny	68.5	70.5	64.5	

Location NM5 - Villa Carlton								
Date	Time	Weather	Unit: dB (A) (30-min) Measured Noise Level			Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	
3-Nov-05	10:50	Sunny	79.0	83.0	67.0	77.1	74.5	The major noise source was identified as traffic noise from Tai Po Road.
10-Nov-05	14:42	Sunny	79.0	82.5	67.5		74.5	
17-Nov-05	11:00	Sunny	77.5	80.5	71.0		66.9	
24-Nov-05	11:20	Sunny	77.3	79.5	70.0		63.8	

Location NM6 - Government Quarters						
Date	Time	Weather	Unit: dB (A) (30-min) Measured Noise Level			Remarks
			L_{eq}	L_{10}	L_{90}	
3-Nov-05	13:00	Sunny	62.4	64.0	60.0	-
10-Nov-05	16:17	Sunny	65.2	68.0	59.5	
17-Nov-05	10:20	Sunny	68.8	71.0	65.5	
24-Nov-05	13:50	Sunny	66.1	69.5	62.0	

Location NM7 - Garden Vilia								
Date	Time	Weather	Unit: dB (A) (30-min) Measured Noise Level			Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	
3-Nov-05	13:00	Sunny	67.3	69.5	63.0	59.0	66.6	-
10-Nov-05	14:00	Sunny	72.3	74.0	70.5		72.1	
17-Nov-05	16:30	Sunny	67.5	70.0	62.5		66.8	
24-Nov-05	9:00	Sunny	66.6	68.0	64.0		65.8	

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}	
3-Nov-05	19:10	Fine	73.7	76.0	68.0	74	75.8	74.0, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	19:15		74.2	76.0	68.5				
	19:20		74.2	76.0	68.5				
10-Nov-05	19:00	Fine	74.3	79.0	69.0	74.5		74.5, Measured ≤ Baseline	
	19:05		74.7	79.0	69.0				
	19:10		74.5	79.0	69.0				
17-Nov-05	19:50	Fine	75.9	78.5	66.0	75.7		75.7, Measured ≤ Baseline	
	19:55		78.3	79.0	66.5				
	20:00		75.8	79.5	67.0				
24-Nov-05	19:10	Fine	73.7	78.0	66.0	74.3		74.3, Measured ≤ Baseline	
	19:15		75.0	78.5	66.5				
	19:20		74.1	78.5	66.0				

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}	
3-Nov-05	19:50	Fine	54.6	57.0	51.5	54.8	56.1	54.8, Measured ≤ Baseline	-
	19:55		54.8	57.0	51.5				
	20:00		55.1	57.5	52.0				
10-Nov-05	19:45	Fine	55.5	58.0	51.5	55.7		55.7, Measured ≤ Baseline	
	19:50		55.6	58.0	51.5				
	19:55		56.1	58.5	52.0				
17-Nov-05	20:19	Fine	56.2	58.0	52.0	56.2		39.8	
	20:24		56.4	59.0	53.0				
	20:29		55.9	58.5	52.5				
24-Nov-05	19:00	Fine	54.2	56.0	50.5	54		54.0, Measured ≤ Baseline	
	19:05		53.8	56.0	50.5				
	19:10		54.0	56.5	51.0				

Location NM7 - Garden Villa									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
3-Nov-05	19:30	Cloudy	54.3	56.0	51.0	54.5	58.3	54.5, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	19:35		54.4	56.0	51.0				
	19:40		54.7	56.5	51.0				
10-Nov-05	19:30	Cloudy	58.7	60.5	54.0	58.7		48.1	
	19:35		58.7	60.5	54.5				
	19:40		58.6	60.0	55.0				
17-Nov-05	19:30	Fine	57.3	60.0	54.0	57.4		57.4, Measured ≤ Baseline	
	19:35		57.4	60.5	54.0				
	19:40		57.6	60.5	54.5				
24-Nov-05	19:15	Fine	59.3	61.5	54.5	59.4		52.9	
	19:20		58.8	60.0	53.0				
	19:25		59.4	62.0	55.0				

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

*Bolded value indicated limit level exceedance

Appendix G - Noise Monitoring Results

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

Location NM5 - Villa Carlton									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
3-Nov-05	23:00	Fine	72.7	77.0	68.0	72.8	74.3	72.8, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	23:05		72.7	77.0	68.0				
	23:10		73.1	77.5	68.5				
10-Nov-05	23:00	Fine	73.1	76.5	67.5	73.3		73.3, Measured ≤ Baseline	
	23:05		73.2	77.0	68.0				
	23:10		73.6	77.0	68.0				
17-Nov-05	23:00	Fine	74.0	77.0	66.0	74.0		74.0, Measured ≤ Baseline	
	23:05		74.6	77.5	66.5				
	23:10		73.3	77.0	66.0				
24-Nov-05	23:55	Fine	71.2	76.0	65.0	72.6		72.6, Measured ≤ Baseline	
	0:00		72.8	76.5	65.0				
	0:05		73.5	77.0	66.5				

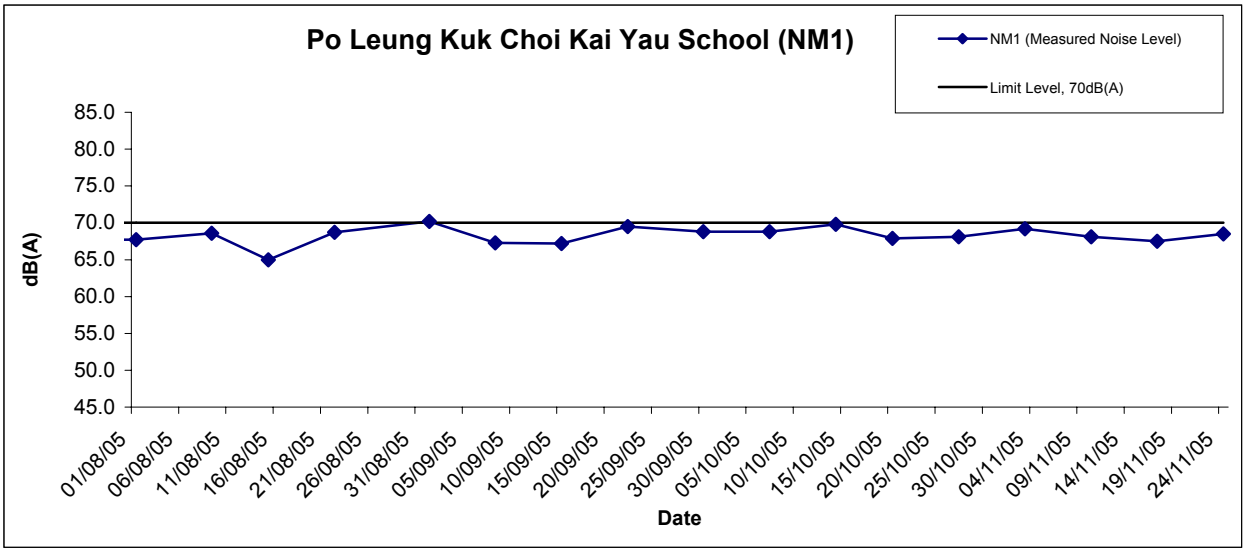
Location NM6 - Government Quarters									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
3-Nov-05	23:25	Fine	51.3	55.0	48.5	51.3	52.8	51.3, Measured ≤ Baseline	-
	23:30		51.3	55.0	48.5				
	23:35		51.4	55.0	49.0				
10-Nov-05	23:25	Fine	51.7	56.0	50.0	51.9		51.9, Measured ≤ Baseline	
	23:30		52.0	56.0	50.0				
	23:35		52.1	56.5	50.0				
17-Nov-05	23:23	Fine	52.5	56.0	50.0	52.8		52.8, Measured ≤ Baseline	
	23:28		53.1	55.5	50.0				
	23:33		52.9	56.0	49.5				
24-Nov-05	23:00	Fine	53.1	55.5	50.5	53.1		41.3	
	23:05		52.8	56.0	50.5				
	23:10		53.3	55.5	51.0				

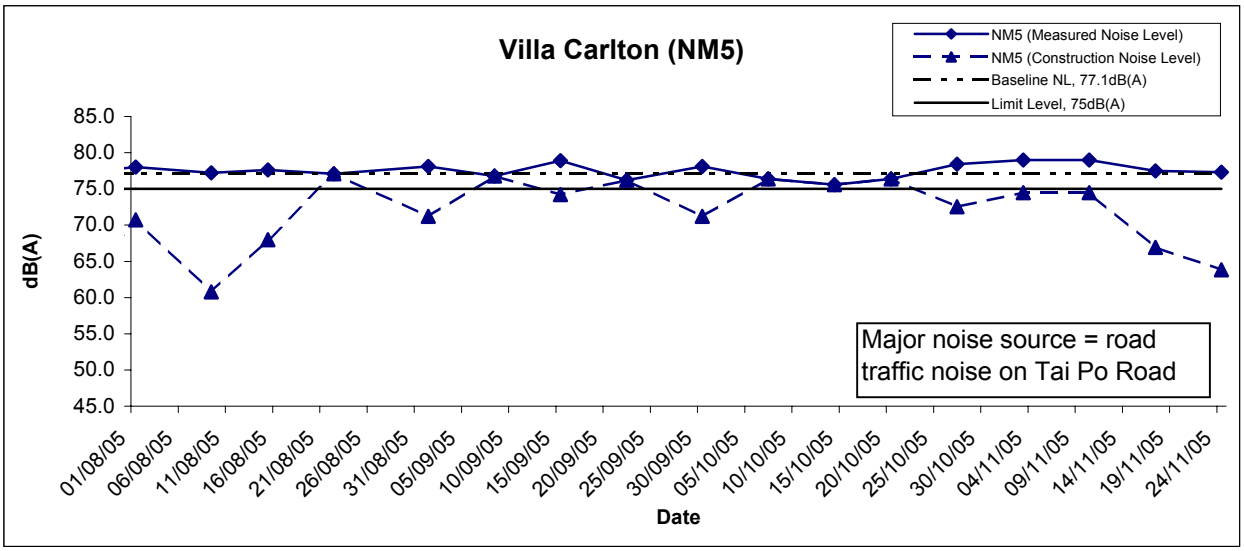
Location NM7 - Garden Villa									
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level	Remarks
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}	
3-Nov-05	23:50	Fine	54.3	58.9	50.0	54.8	56.5	54.8, Measured ≤ Baseline	The major noise source was identified as traffic noise from Tai Po Road.
	23:55		55.1	59.0	50.5				
	0:00		55.1	59.0	51.0				
10-Nov-05	23:50	Fine	55.5	59.5	51.0	55.9		55.9, Measured ≤ Baseline	
	23:55		56.1	59.5	52.5				
	0:00		56.2	59.5	52.5				
17-Nov-05	23:56	Fine	56.4	60.0	53.0	56.5		56.5, Measured ≤ Baseline	
	0:01		56.2	60.5	53.5				
	0:06		57.0	60.0	54.0				
24-Nov-05	23:30	Fine	56.7	61.5	55.0	56.5		56.5, Measured ≤ Baseline	
	23:35		56.4	61.0	55.0				
	23:40		56.4	61.0	55.0				

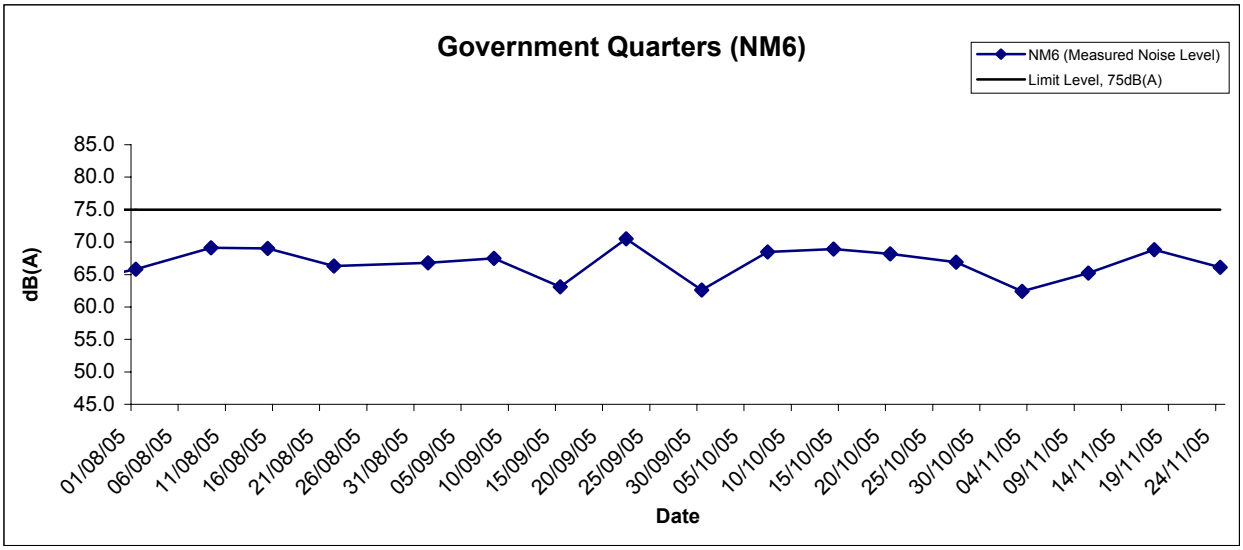
Construction Noise Level (Leq) = Measured Noise Level (Leq) - Baseline Noise Level (Leq)

*Bolded value indicated limit level exceedance

Noise Levels



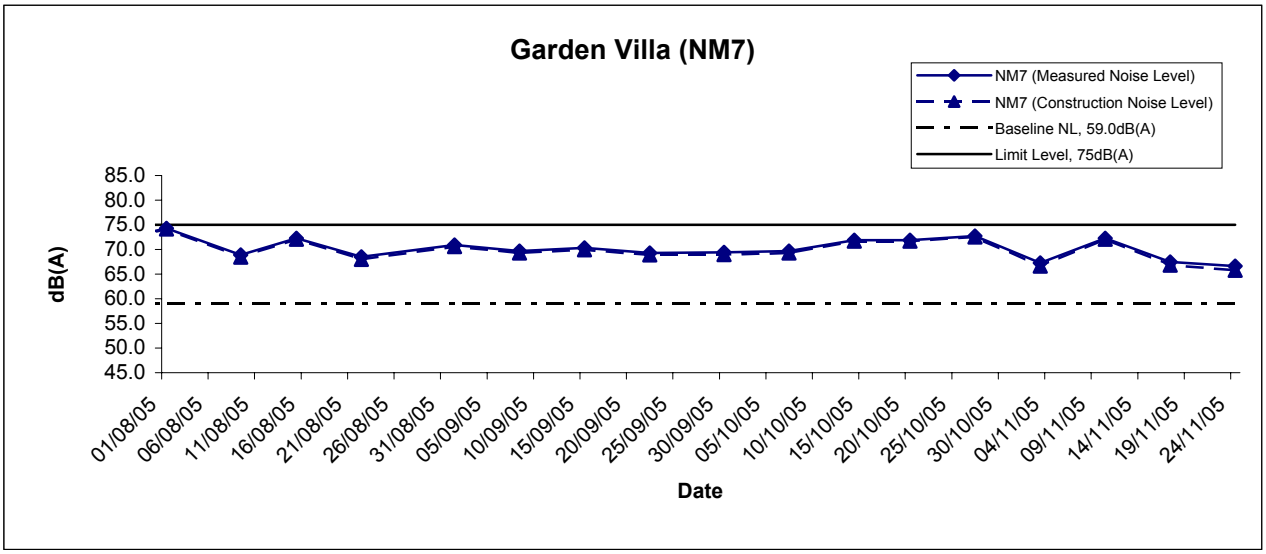




* Construction Noise Level = Measured Noise Level - Baseline Level
(If the measured noise level is lower than the baseline level, the construction noise level will be taken as the meaured one)

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

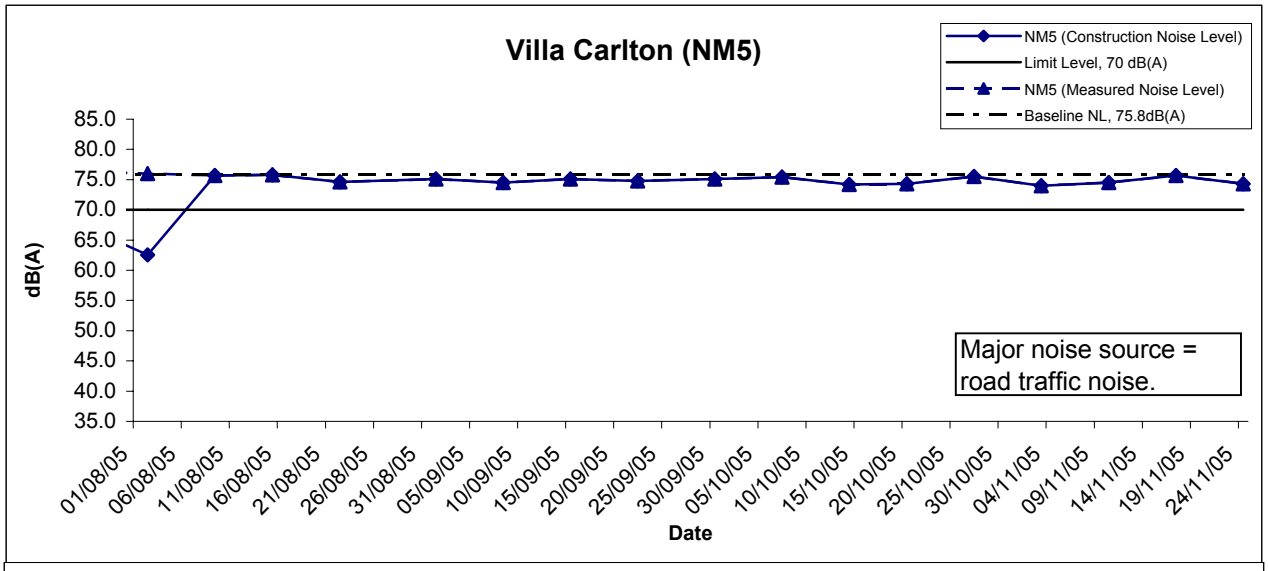
Noise Levels

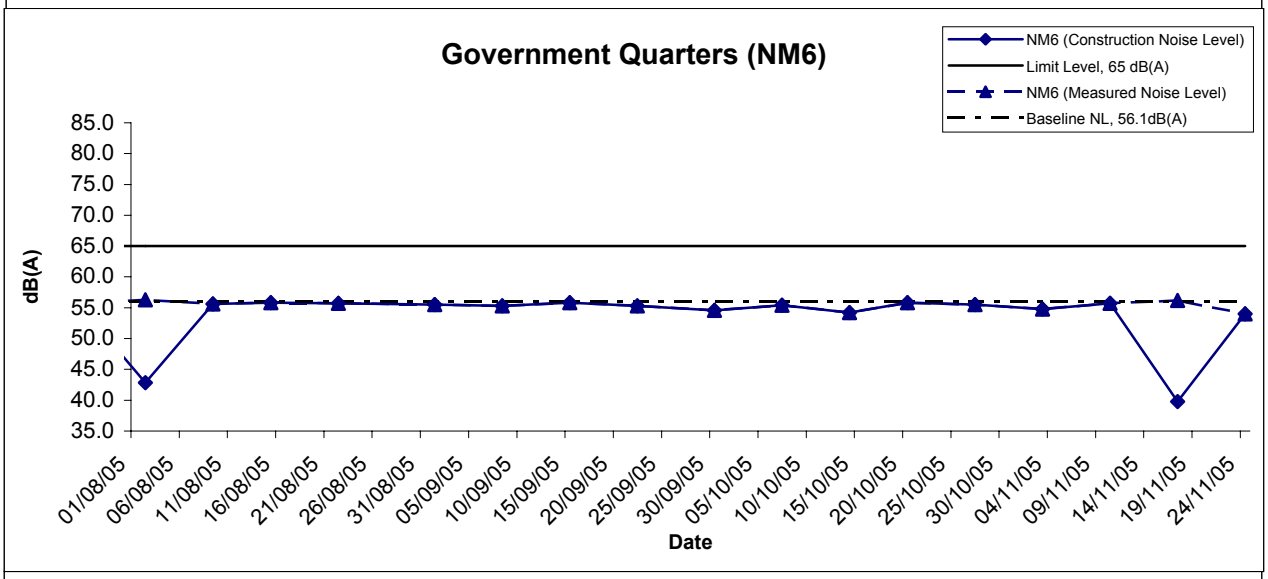


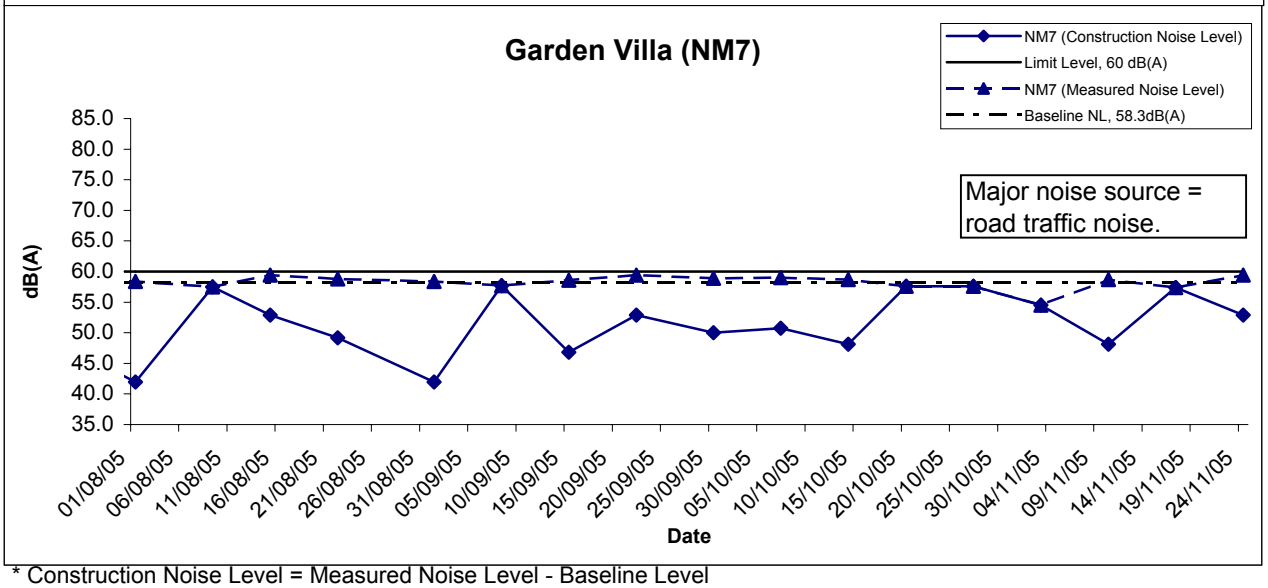
* Construction Noise Level = Measured Noise Level - Baseline Level
(If the measured noise level is lower than the baseline level, the construction noise level will be taken as the meaured one)

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 Date: Nov 05	Project No.: MA3024 Appendix: G	CINOTECH

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



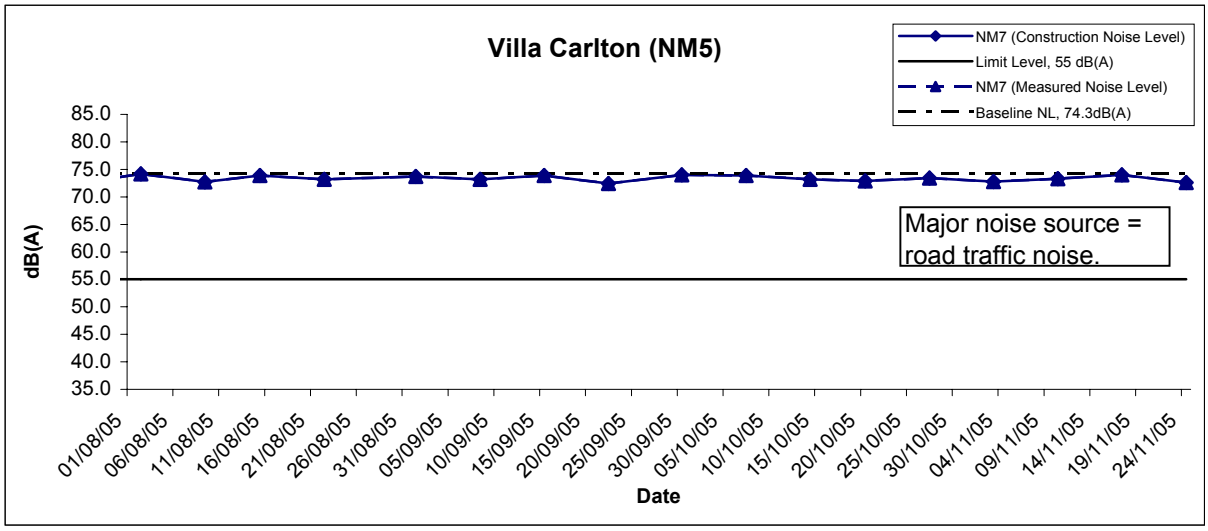


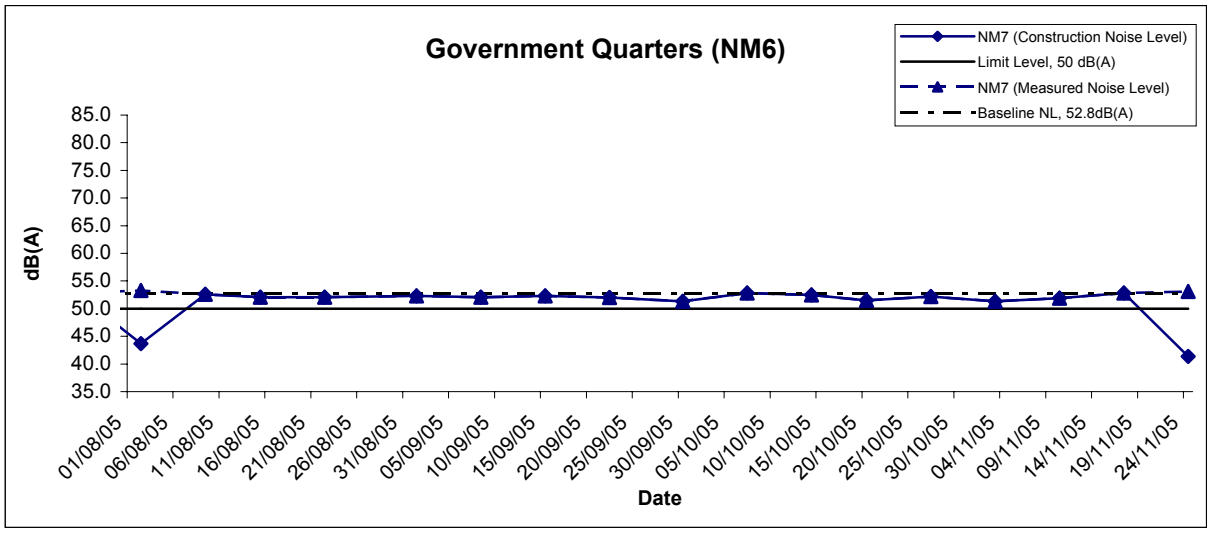


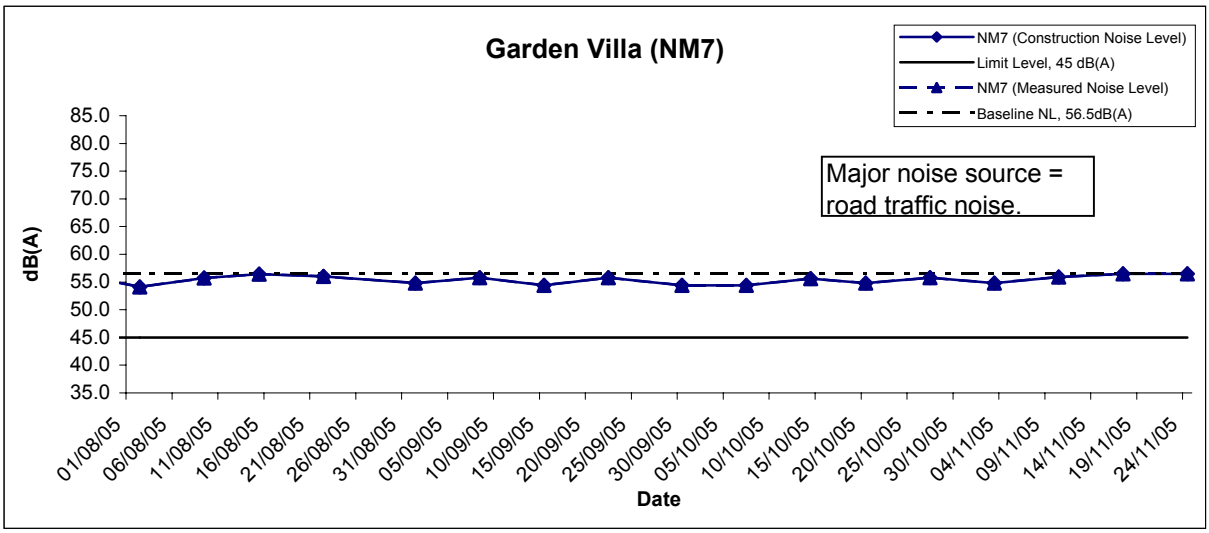
* Construction Noise Level = Measured Noise Level - Baseline Level
(If the measured noise level is lower than the baseline level, the construction noise level will be taken as the meaured one)

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: Nov 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: Nov 05	Appendix: G	

APPENDIX H
SUMMARY OF EXCEEDANCE

Summary of Exceedance Recorded in the Reporting Month

a) Exceedance Reports for 1-hr TSP (NIL)

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 1 November 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	51103-ENT
Date	3 November 2005 (Thu)
Time	1330 – 1630

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

Ref. No.	Remarks/Observations	Related Item No.
51103E-01	***A. Water Quality*** • No environmental deficiency was identified during the site inspection. ***B. Air Quality*** • The surface of the stockpile at Portion D4 (Toll Plaza) was observed dry. Immediate action was taken by the Contractor to water spray the stockpile to prevent dust emission. • The WTW access road connecting South Portal and Caldecott Road was observed wet. A labor was deployed by the Contractor to water the road junction and clear the dusty material regularly. ***C. Noise*** • No environmental deficiency was identified during the site inspection.	C8
51103E-02	***D. Waste / Chemical Management*** • An oil drum without drip tray was observed at Portion D1 (North Portal). The Contractor was reminded to provide a drip tray for the oil drum. ***E. Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***F. Others*** • The deficiencies identified during last audit (ref. 51026-ENT) on 26 October 2005 were rectified by the Contractor.	E3i

	Name	Signature	Date
Recorded by	KK Chan		4 November 2005
Checked by	Winniss Kong		4 November 2005

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	51109-ENT
Date	9 November 2005 (Wed)
Time	1330 – 1630

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.	
51109E-01	***B. Air Quality*** • Fugitive dust emission was observed during the drilling works at Portion H1 near the existing box culvert. The Contractor was reminded to implement sufficient dust mitigation measures, such as water spray, during the works.	C2
51109E-02	• Open stockpile of dusty materials was observed at Portion E1 near BVS2. The Contractor was recommended to cover the stockpile properly to prevent wind erosion.	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. 51103-ENT) on 3 November 2005 were rectified by the Contractor.	

	Name	Signature	Date
Recorded by	KK Chan		10 November 2005
Checked by	Winniss Kong		10 November 2005

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	51117-ENT
Date	17 November 2005 (Thu)
Time	1330 – 1700

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

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality	
51117E-01	• Silty water discharge was observed at Portion D4 near the WetSep. The channel preceding the discharge point was filled by sediment. The Contractor was reminded to keep the de-silting facilities well-maintained.	B7iii & B7iv
	B. Air Quality	
51117E-02	• Fugitive dust emission was observed during the breaking and drilling works at Portion H1 near the existing box culvert and BVS2. The Contractor was reminded to apply sufficient dust mitigation measures, such as water spray, for dust suppression.	C2
	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. 51109-ENT) on 9 November 2005, except item 51109E-01 were rectified by the Contractor.	

	Name	Signature	Date
Recorded by	KK Chan		18 November 2005
Checked by	Alex Ngai		18 November 2005

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	51123-ENT
Date	23 November 2005 (Wed)
Time	0900 – 1145

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

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • No environmental deficiency was identified during the site inspection. ***B. Air Quality*** • No environmental deficiency was identified during the site inspection. ***C. Noise***	
51123E-01	• No noise emission label was affixed on an air compressor operated at Portion A. The Contractor was reminded to provide a valid NEL for that compressor.	D9
	D. Waste / Chemical Management	
51123E-02	• Several oil drums at Portion D3 were not placed on bunded area. The Contractor was reminded to provide a drip tray for the oil drums.	E3i
	E. Permit / Licenses • No environmental deficiency was identified during the site inspection. ***F. Others*** • The deficiencies identified during last audit (ref. 51117-ENT) on 17 November 2005 were rectified by the Contractor.	

	Name	Signature	Date
Recorded by	KK Chan		24 November 2005
Checked by	Dr. Priscilla Choy		24 November 2005

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	51130-ENT
Date	30 November 2005 (Wed)
Time	1330 – 1630

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.	
51130E-01	*B. Air Quality* • The haul road at Portion D5 near the workshop was observed dry. The Contractor was reminded to water the haul road to avoid dust emission.	C7
	C. Noise • No environmental deficiency was identified during the site inspection.	
51130E-02	*D. Waste / Chemical Management* • General refuse was observed at the discharge point at Portion A (Mui Kong Tsuen). The Contractor was reminded to dispose of the refuse properly.	E1iii
	E. Permit / Licenses • No environmental deficiency was identified during the site inspection.	
	F. Others • The deficiencies identified during last audit (ref. 51123-ENT) on 23 November 2005 were rectified by the Contractor.	

	Name	Signature	Date
Recorded by	KK Chan		30 November 2005
Checked by	Winniss Kong		30 November 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.	N/A
	• Construction and demolition (C&D) material shall be segregated to inert and non-inert parts. The inert portion shall re-used at areas of reclamation or land formation, or to public filling area shall such allocation is deemed necessary. The non-inert portion shall be disposed of to landfill.	^
	Chemical Waste	
	• Chemical waste that is produce during construction shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.	^
	• Containers used for the storage of chemical wastes should: a. Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; b. Have a capacity of less than 450 litres unless the specifications have been approved by the EPD; c. Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste Regulations.	^
	• The storage area for chemical wastes should: a. Be clearly labelled and used solely for the storage of chemical waste; b. Be enclosed on at least 3 sides; c. Have an impermeable floor and bunding of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is largest; d. Have adequate ventilation; e. Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); f. Be arranged so that incompatible materials are adequately separated.	^
	• Disposal of chemical waste shall be via a licensed waste collector; and to a facility licensed to receive chemical waste; or a reuser of the waste (under approval from EPD).	^

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

Remarks:

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

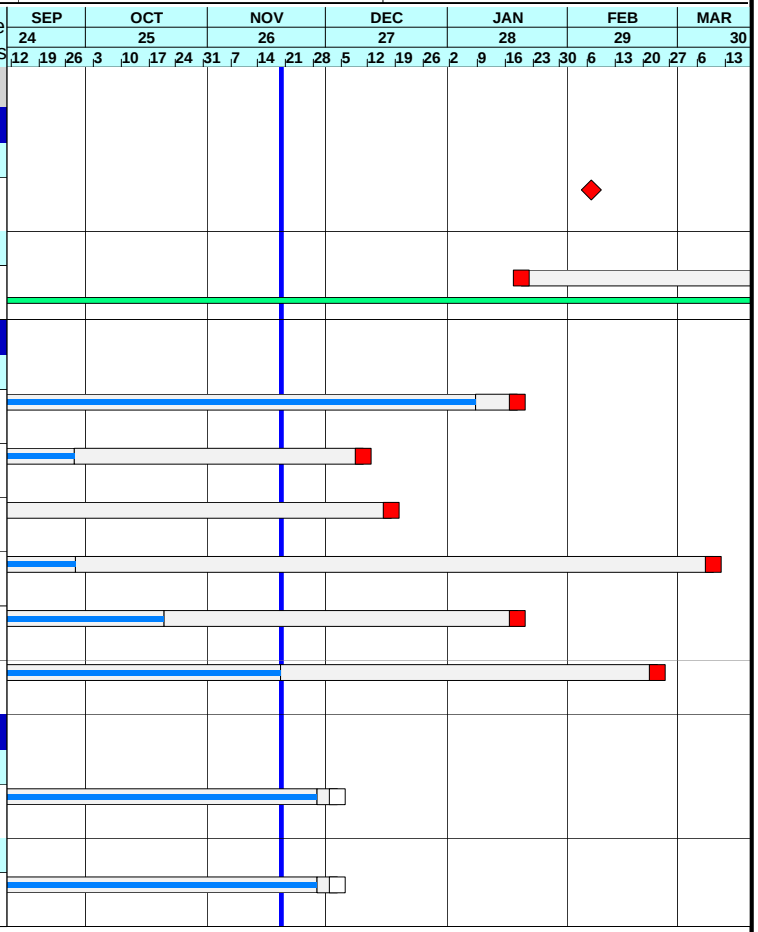
APPENDIX L
CONSTRUCTION PROGRAMME

Data Date 20NOV05
Run Date 26NOV05 16:41

3 MONTH ROLLING PROGRAMME

Monthly Update
Detailed Works Progr.(DWP)
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									
CONTRACT DEFINED DATES, STAGES & SECTIONS									
SECTIONS OF THE WORKS									
KD22	KD-22 Compl.Section 14 (01June05) 19Jun05	0		06FEB06	0		0	-232	-297
PROGRAMME RESTRAINTS									
EXC05	LCK Contr.to erect Noise Enclosure C3,C4 & I2	350	20JAN06	04JAN07	0		350	-177	-251
SUBMITTALS & APPROVALS									
DRAWING SUBMITTAL & APPROVAL									
8034	Prep.& Sub. Independ't Serv. Dwgs for SHT&T3&LCK	48	04AUG04A	18JAN06	98	100	48	-42	-334
8024	Engineer Comment / Approve ENT ISD Submissions	18	06AUG04A	10DEC05	85	100	18	-102	-424
8030	Res-sub. & Approv of ENT ISD	24	06SEP04A	17DEC05	55	100	24	-102	-406
8035	Engineer Comment / Approve SHT&T3LCK ISD Sub.	24	13SEP04A	09MAR06	70	100	84	-42	-346
8032	Engineer Comment / Approve SHT&T3&LCK CSD Sub.	18	25OCT04A	18JAN06	80	100	48	6	-406
8033	Re-sub. & Approv. of SHT & T3 & LCK CSD	24	28JUN05A	23FEB06	60	100	24	-42	-406
SEM INTERFACE WITH SHT & T3									
SHT RC FULL ENCLOSURE									
2473	Apprv.for Det.Engineering of Encl.Vent.Fans	12	07JUL04A	03DEC05	99	100	12	108	-584
T3 UNDERPASS									
2481	Apprv.for Det.Engineering of T3 Underpass	12	07JUL04A	03DEC05	99	100	12	108	-584



Leighton–Kumagai Joint Venture

LEIGHTON - KUMAGAI JV
R8- EAGLE'S NEST TUNNEL

DETAILED WORKS PROGRAMME REVISION C

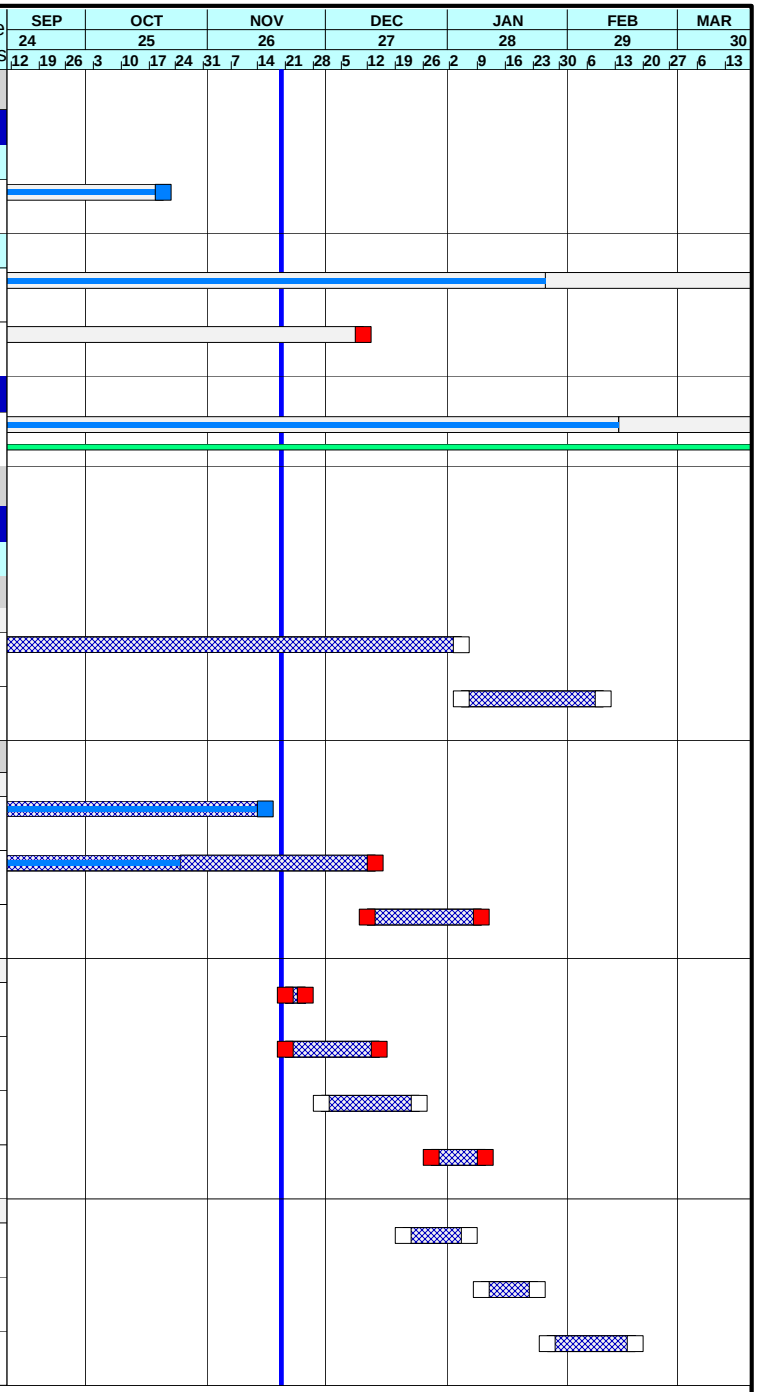
Proj. Name: W13C
Layout: 3 MONTHS ROLLING PROGRAMME
Filter: 3 MONTH ROLLING PROGRAMME
Current Proj: W13C
Target 1 Proj: BLRC
Taget 2 Proj: EOT5

Sheet 1 of 45

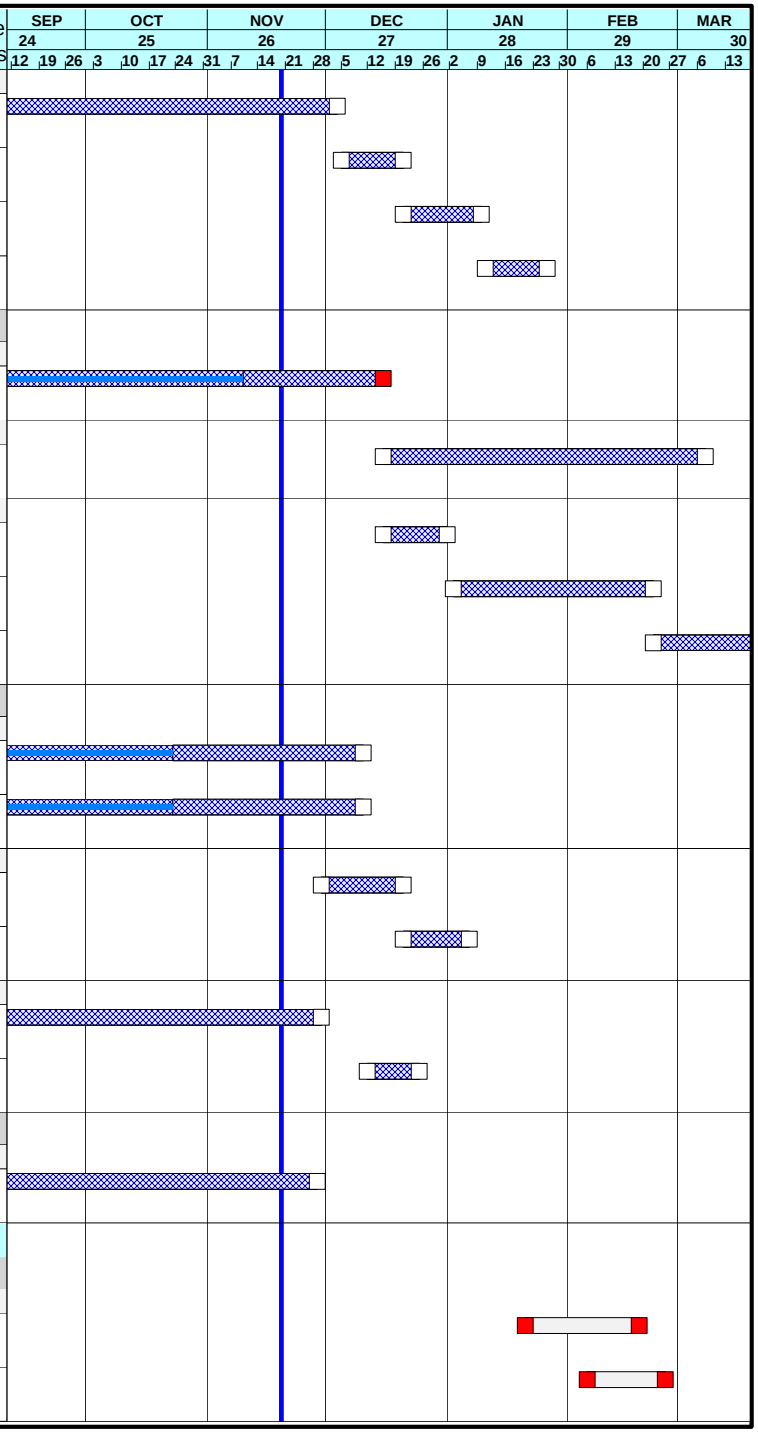
LKJV/ENT/DWP/B

Date	Revision	Checked	Approved
24NOV0	Prog update Novembe	IT	RB

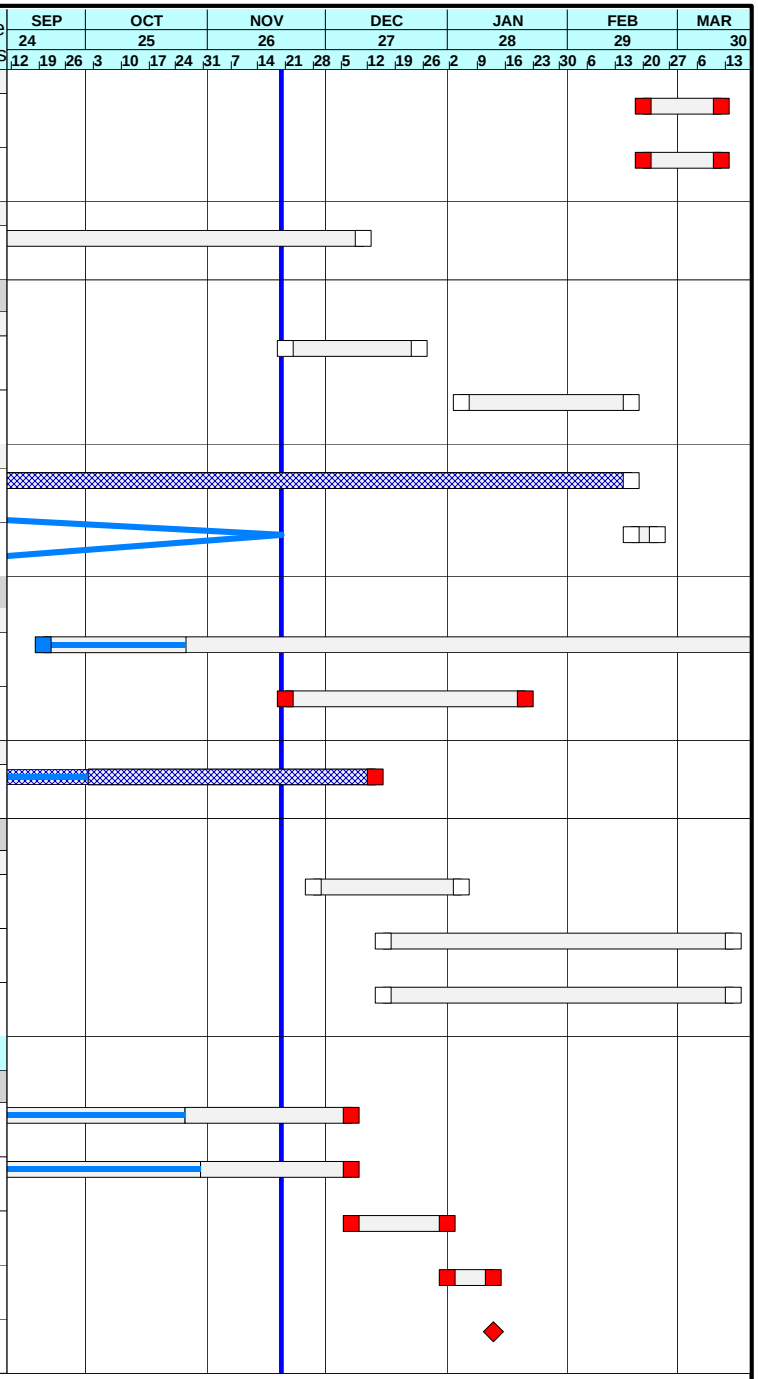
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
LAI CHI KOK VIADUCT									
SUBMITTALS & APPROVALS									
E&M EQPT./MTRL SUBMITTALS									
8313	LCKVd-Sub. Enclosure Lgt sys (incl Excision NEs)	78	02JUL04A	20OCT05A	100	100	0		-62
E&M EQPT./MTRL.APPROVALS BY ENGINEER									
8314	LCKVd-App.Enclosure Lgt sys (incl Excision NEs)	18	05AUG04A	09JUN06	80	100	156	-166	-226
8318	LCKVd-App. Elect Power sys (incl Excision NEs)	18	07DEC04A	10DEC05	65	100	18	-46	-88
PROCUREMENT - MATERIAL									
8320	LCKVd-Proc & Manuf. Elect Power sys (incl Excisi	180	20MAY05A	08JUL06	65	100	180	-46	-70
BUTTERFLY VALLEY									
CONSTRUCTION WORKS									
EARTHWORKS & SLOPEWORKS									
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	04JAN06	0	100	36	110	-430
3798	SP-S2/S3 hydro-seeding & tensar mat	24	05JAN06	09FEB06	0	100	24	237	-430
SLOPE BV-S2									
EXCAVATION (SOFT & ROCK)									
2689	BV-S2/8 Slope excavation (rock & some soft)	82	23JUL05A	15NOV05A	100	100	0		-197
2692	BV-S2/9 (South)Slope excvtn (rock & some soft)	83	05SEP05A	13DEC05	50	100	20	-103	-184
2695	BV-S2/10 (South)Slope excvtn (rock & some soft)	22	12DEC05	09JAN06	0	100	22	-103	-171
SLOPE STABILISATION (SOIL NAILS,ROCK BOLTS ETC)									
2694	BV-S2/9 Inst.Rock bolts & Test (4nr.w/1.rig)	5	21NOV05	25NOV05	0	100	5	-103	-171
3664	BV-S2/9 Row B2 Soil Nails & Test 38nr.w/1.rig	21	21NOV05	14DEC05	0	100	21	-103	-171
2691	BV-S2/8 Inst.Rock bolts & Test (60nr.w/3.rig)	22	30NOV05	24DEC05	0	100	22	243	-273
2696	BV-S2/10 Row B3 Soil Nails & Test 39nr.w/2.rig	11	28DEC05	10JAN06	0	100	11	-103	-171
HYDRO-SEEDING & TENSAR MAT									
3805	BV-S2 Berm 8 hydro-seeding & tensar mat	12	21DEC05	06JAN06	0	100	12	259	-183
3811	BV-S2 Berm 9 hydro-seeding & tensar mat	12	10JAN06	23JAN06	0	100	12	233	-183
3812	BV-S2 Berm 10 hydro-seeding & tensar mat	12	27JAN06	17FEB06	0		12	230	-171



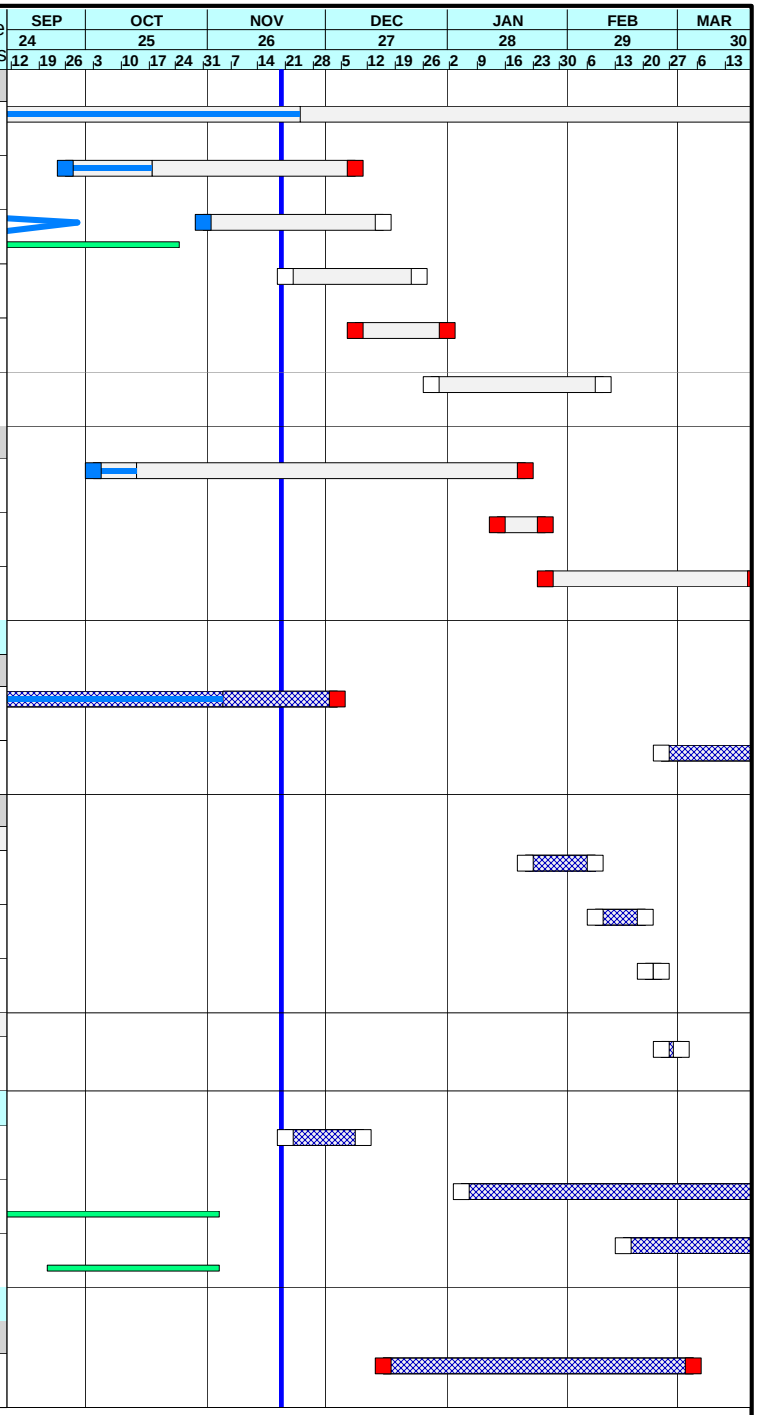
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	SURFACE DRAINAGE								
3694	BV-S2 Berm 7 Surface drainage	14	25APR05A	03DEC05	20	100	12	231	-266
3695	BV-S2 Berm 8 Surface drainage	14	05DEC05	20DEC05	0	100	14	231	-183
3696	BV-S2 Berm 9 Surface drainage	14	21DEC05	09JAN06	0	100	14	231	-183
3697	BV-S2 Berm 10 Surface drainage	14	11JAN06	26JAN06	0		14	230	-171
	SLOPE BV-S3								
	COMPACTED FILLING								
1987	BV-S3 Compact Fill to +56.0mPD ch.1+740 to 1+860	36	20JUN05A	15DEC05	80	100	22	-116	-307
	HYDRO-SEEDING & TENSAR MAT								
3806	BV-S3 hydro-seeding & tensarmat to +41.0mPD	60	16DEC05	07MAR06	0	100	60	191	-307
	SURFACE DRAINAGE								
1981	BV-S3 Slope Surface Drainage +33.5mPD	12	16DEC05	31DEC05	0	100	12	117	-355
1982	BV-S3 Slope Surface Drainage +41.0mPD	37	03JAN06	22FEB06	0	100	37	117	-344
1983	BV-S3 Slope Surface Drainage +48.5mPD	50	23FEB06	26APR06	0	100	50	117	-344
	SLOPE BV-S4								
	SLOPE STABILISATION (SOIL NAILS,ROCK BOLTS ETC)								
2352	BV-S4/4b Row A2/A3 Soil Nail & Test 28nr.w/2rig	13	11AUG05A	10DEC05	60	100	18	120	-462
2358	BV-S4/4a Row A2/A3 Soil Nail & Test 67nr.w/2rig	19	11AUG05A	10DEC05	60	100	18	120	-364
	SLOPE FINISHES								
1139	11NW&434 BV-S4/1-2-3bcd-4b Hydro-seed/Tensarmat	18	30NOV05	20DEC05	0	100	18	118	-377
2380	BV-S4/3a-4a & 5 hydro-seeding & tensarmat	12	21DEC05	06JAN06	0	100	12	118	-349
	SURFACE DRAINAGE								
3705	BV-S4/3 Surface Drainage	8	17MAR05A	29NOV05	25	100	8	118	-463
3706	BV-S4/4 Surface Drainage	12	12DEC05	24DEC05	0	100	12	120	-373
	SLOPE SP-S1								
	SURFACE DRAINAGE								
3711	Sp-S1/4 Surface Drainage	7	06JUL04A	28NOV05	40	100	7	290	-394
	RC STRUCTURES								
	RETAINING WALL BV-R1								
	CONCRETE WORKS								
1145	BV-R1(A) RC Base Slab ch.2+060	18	21JAN06	18FEB06	0	100	18	-32	-214
1146	BV-R1(A) RC Ret.Wall ch.2+060	18	06FEB06	25FEB06	0		18	-2	-214



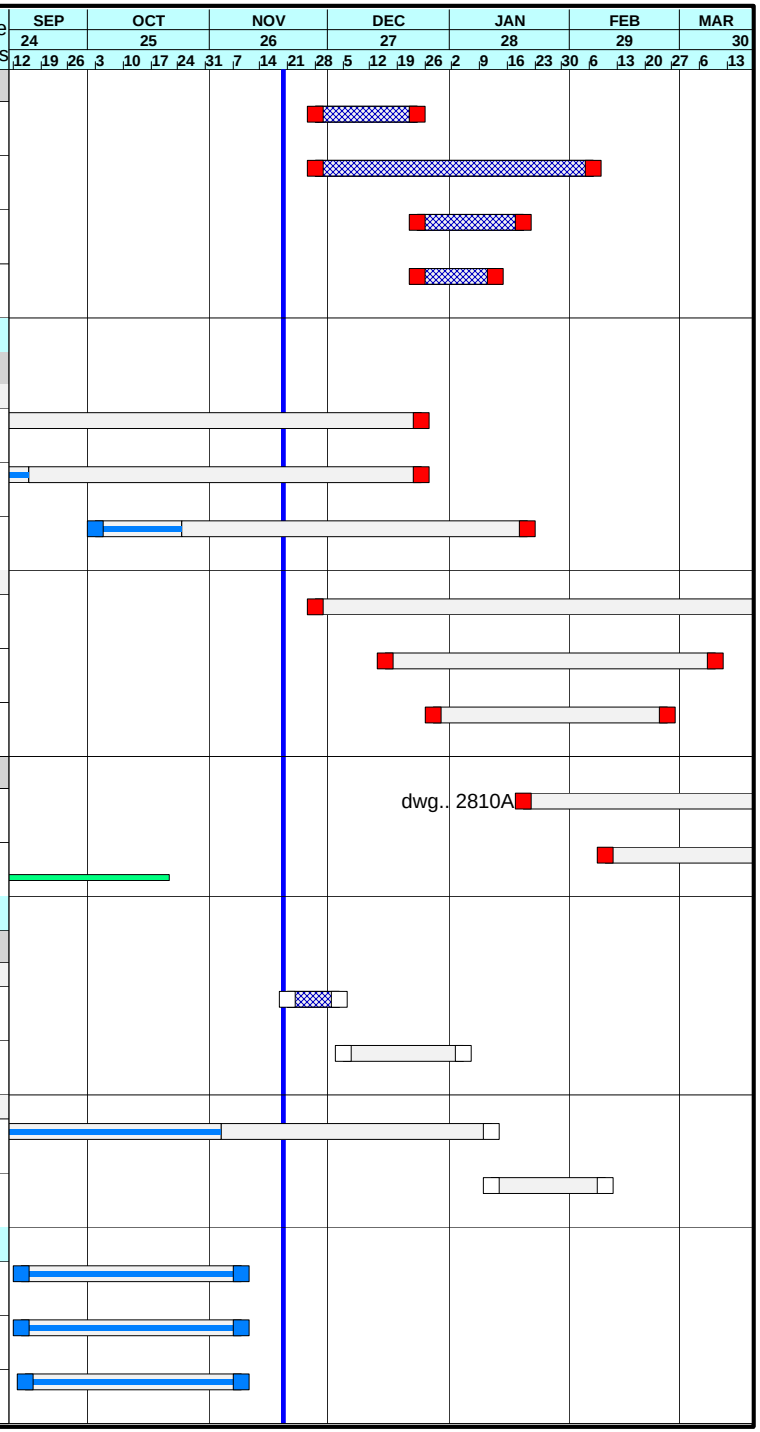
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	CONCRETE WORKS								
1143	BV-R1(C) Pile Capping Beam	18	20FEB06	11MAR06	0		18	-14	-163
1147	BV-R1(B) RC Base Slab ch.2+070 to B1(BP wall)	18	20FEB06	11MAR06	0		18	-32	-220
	EXCAVATION (SOFT & ROCK)								
2700	BV-R1 Excavation (BV-S2/8 rock)	61	23JUL05A	10DEC05	0	100	18	697	-201
	RETAINING WALL BV-R2								
	CONCRETE WORKS								
1116	BV-R2 (7) Capping Beam and wall	30	21NOV05	24DEC05	0	100	30	116	-273
1117	BV-R2 (8) Capping Beam and wall	30	05JAN06	16FEB06	0	100	30	110	-279
	BACKFILLING								
1122	BV-R2(A&B) Granular Drain & Compacted Backfill	36	07APR05A	16FEB06	5	100	36	112	-207
1126	BV-R2(C) Granular Drain & Compacted Backfill	6	17FEB06	23FEB06	0	100	6	160	0
	STEPPED CHANNEL & BOX CULVERT								
	CONCRETE WORKS								
1911	Box culvert bays (32to43) ch.2+010 to 2+110	55	20SEP05A	20MAY06	15	100	140	-148	-292
1161	Box culvert bays (44&45) ch.2+110 to 2+140	18	21NOV05*	20JAN06	0	100	50	-32	-176
	EXCAVATION (SOFT & ROCK)								
1912	Box culvert rock exc.bay 5-15 Ch.2+010 to 2+110	60	20JUL05A	13DEC05	50	100	20	-148	-191
	INLET HEADWALLS								
	INLET HEAD WALL								
3715	Inlet headwall @SP-S2/3	30	28NOV05	04JAN06	0	100	30	261	-412
3796	Inlet headwall ch.1+810	66	16DEC05	14MAR06	0	100	66	209	-307
3797	Inlet headwall ch.1+830	66	16DEC05	14MAR06	0	100	66	209	-307
	WSD WORKS								
	WSD 900 MAIN DIVERSION								
1929	Inst.900.dia pipe (incl.thrust blocks) westside	90	19JUL05A	07DEC05	70	100	15	-19	-300
1174	Inst.DN900 pipe (incl.thrust blocks) to BV-S4	66	01AUG05A	07DEC05	70	100	15	-19	-318
3163	DN900 main clean/pressure test & WSD approve	54	08DEC05	31DEC05	0	100	24	-22	-331
1175	DN900 connection by WSD	12	01JAN06	12JAN06	0	100	12	-22	-397
1176	DN900 WSD Diversion Implemented	0		12JAN06	0	100	0	-22	-343



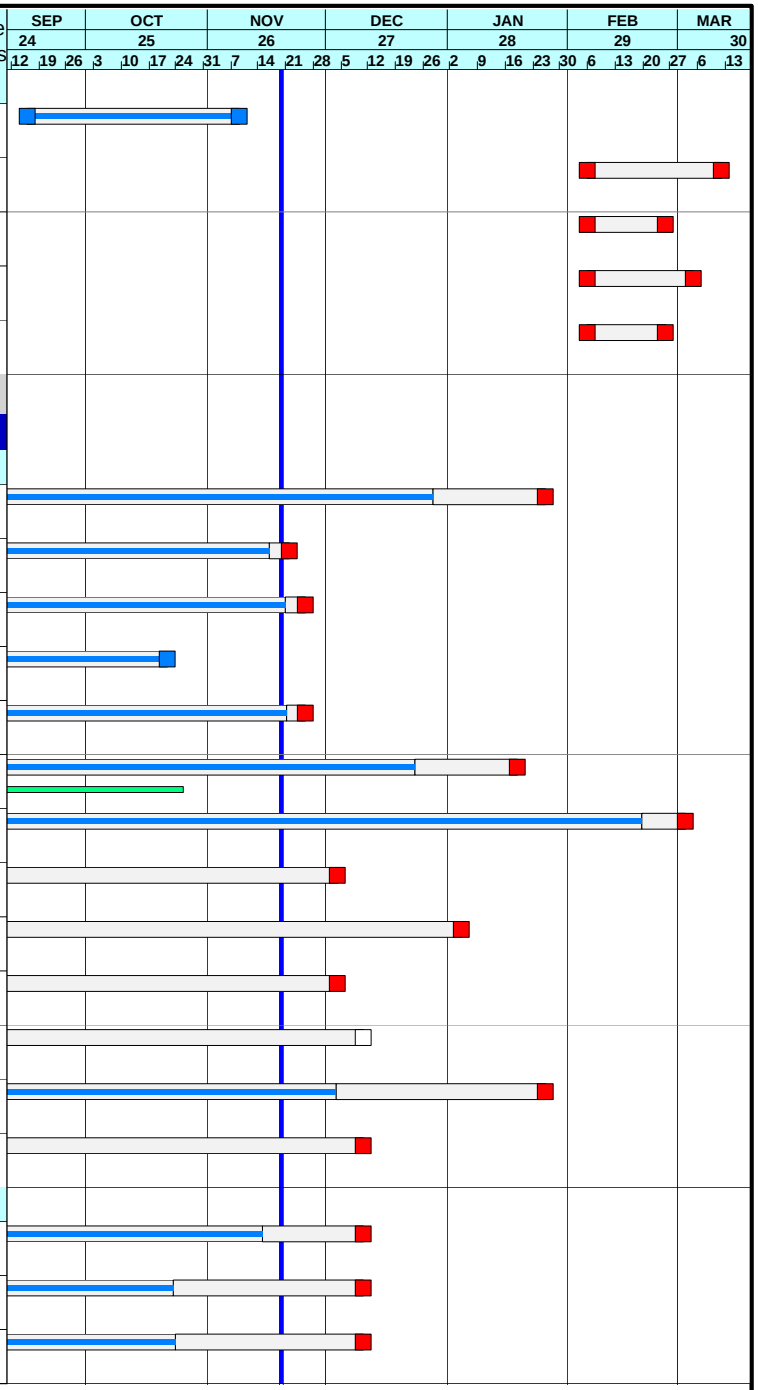
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	WSD 2x600 MAIN DIVERSION								
1169	Inst.2xDN600 WSD Pipe down BV-S2/6-7	90	21JUL05A	30MAR06	50	100	102	71	-330
1165	Construct DN600 pipe tunnel	66	26SEP05A	08DEC05	30		16	-144	-235
1167	Inst.DN600 WSD Pipe along BV-S2/8 (CH140>200)	40	31OCT05A	15DEC05	0	100	22	86	-45
1163	Inst.DN600 WSD Pipe along BV-S2/8 (CH140>45)	30	21NOV05	24DEC05	0	100	30	88	-141
1164	Inst.DN600 WSD Pipe in Pipe Tunnel	18	09DEC05	31DEC05	0	100	18	-90	-217
1166	Construct DN600 Pipe Bridge 'D' (CH225>280)	30	28DEC05	09FEB06	0	100	30	88	-312
	WSD 200 MAIN								
2338	Inst.DN200 pipe (incl.thrust blocks) to BV-S4	60	03OCT05A	20JAN06	10	100	50	-45	-359
2340	DN200 connection by WSD	12	14JAN06	25JAN06	0	100	12	-56	-445
3164	DN200 main clean/pressure test & WSD approve	54	26JAN06	20MAR06	0	100	54	-56	-445
	TERRAIN MITIGATION								
	NTMM - BV-S2								
2392	NTMM - Constr.Peforated Drain Channel	24	11JUL05A	03DEC05	80	100	12	-103	-255
2350	NTMM - Afforestation of Area	60	25FEB06	12MAY06	0	100	60	164	-316
	NTMM - CULVERT 'A'								
	SOIL STABILISATION (SOIL NAILS,ROCK BOLTS ETC)								
2384	Culvert 'A' Prep.access for Soil Nails Ch.2+140	8	21JAN06	07FEB06	0	100	8	164	-221
2385	Culvert A-Soil Nails & Test ch.2+140 19nr.w/1rig	11	08FEB06	20FEB06	0	100	11	164	-221
2386	Culvert 'A' - excavate gabion benches Ch.2+140	4	21FEB06	24FEB06	0	100	4	164	-221
	FINISHES								
2387	Culvert 'A' - place gabions Ch.2+140	4	25FEB06	01MAR06	0		4	620	-221
	RECREATED STREAM								
3808	Recreated stream DN525 pipe (east) ch.1+740	18	21NOV05	10DEC05	0	100	18	42	-442
1927	Recreated stream (east) ch.1+720 to 2+010	64	05JAN06	28MAR06	0		64	24	-114
3810	Recreated stream pond [east) ch.1+920	36	15FEB06	28MAR06	0		36	197	-114
	EXCISION WORKS - NOISE BARRIERS & ENCLOSURES								
	NOISE BARRIER (SB)								
2741	SB Barrier.Fnds.-RC Base (C2)	58	16DEC05	04MAR06	0	100	58	-46	-150



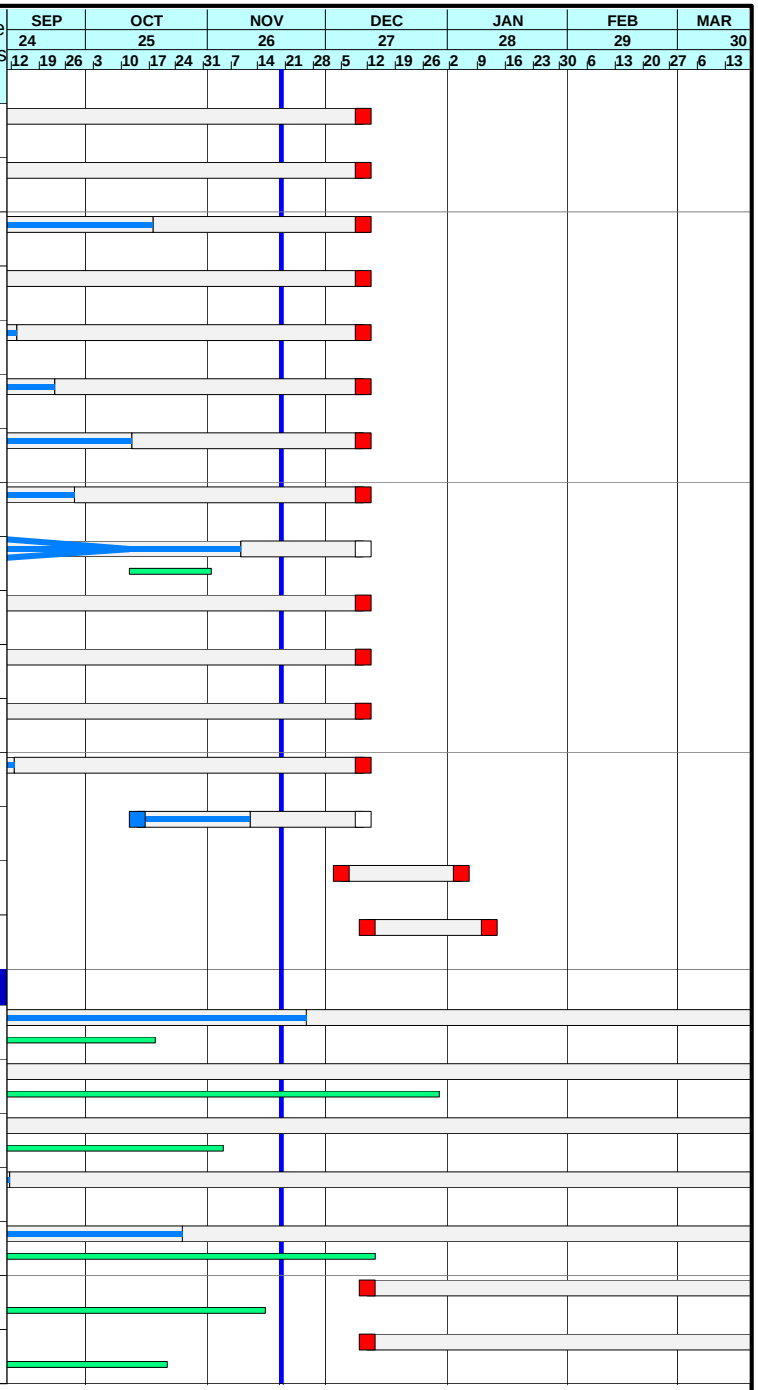
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	NOISE SEMI-ENCLOSURE [SB]								
2735	SB Semi-Encl.Fnds.- RC Base (C4)	23	28NOV05	23DEC05	0	100	23	-177	-223
2739	SB Semi-Encl.Fnds.- RC Base (C3,C4,I2)	51	28NOV05*	06FEB06	0	100	51	-200	-237
2733	SB Semi-Encl.Fnds. - RC Base (C3)	20	24DEC05	19JAN06	0	100	20	-177	-267
2737	SB Semi-Encl.Fnds.- RC Base (I2)	14	24DEC05	12JAN06	0		14	-171	-223
	SB/NB ROADWORKS & FINISHES								
	ROADS - FORMATION								
	FILLING								
1103	BV Compact.Fill to Form.ch.1+920 to 2+020	84	14JUN04A	24DEC05	80	100	30	-158	-249
1102	BV Compact.Fill to Form.ch.2+020 - 2+200	48	11AUG04A	24DEC05	80	100	30	-158	-285
2732	BV Compact.Fill to Form.ch.1+860 to 1+920	78	03OCT05A	20JAN06	20	100	50	-106	-227
	DRAINAGE								
2381	SB/NB Sth.Appr.Rd.Drainage ch.2+030 - 2+200	114	28NOV05	25APR06	0	100	114	-200	-261
2727	BV.Appr.Rd.Drainage ch.1+780 to 1+920	62	16DEC05	09MAR06	0	100	62	-116	-199
1178	BV.Appr.Rd.Drainage ch.1+920 to 1+960	44	28DEC05	25FEB06	0	100	44	-130	-249
	ROADS - FINISHES								
2717	BV CLP Inst.HV cable duct to SP	90	20JAN06	19MAY06	0		90	-157	-229
2742	TCSS Ducts NB & SB Carriageway ch.1+800 to 1+900	90	10FEB06	02JUN06	0		90	-116	-175
	EVA ROADWORKS & FINISHES								
	SB (EAST SIDE) EVA ROADWORKS								
	FILLING								
1980	BV Fill Temp.covered culvert ch.2+000	12	21NOV05	03DEC05	0		12	16	-114
2378	BV Fill to Formation (east) ch.1+840 - 1+980	24	05DEC05	04JAN06	0		24	16	-114
	DRAINAGE								
1979	SB EVA rd.drainage (east) ch.2+000 to 2+200	31	11APR05A	11JAN06	75	100	12	112	-152
1978	SB EVA rd.drain testing (east) ch.2+000 to 2+200	18	12JAN06	09FEB06	0	100	18	112	-152
	EXCISION WORK-SHEK LEI PUI WATER TREATMENT PLANT								
2747	Soilid Barrier Type II - Structural Steelwork	30	14SEP05A	08NOV05A	100	100	0		-219
2749	Soilid Barrier Type III - Structural Steelwork	24	14SEP05A	08NOV05A	100	100	0		-176
2748	Soilid Barrier Type I - Structural Steelwork	18	15SEP05A	08NOV05A	100	100	0		-201



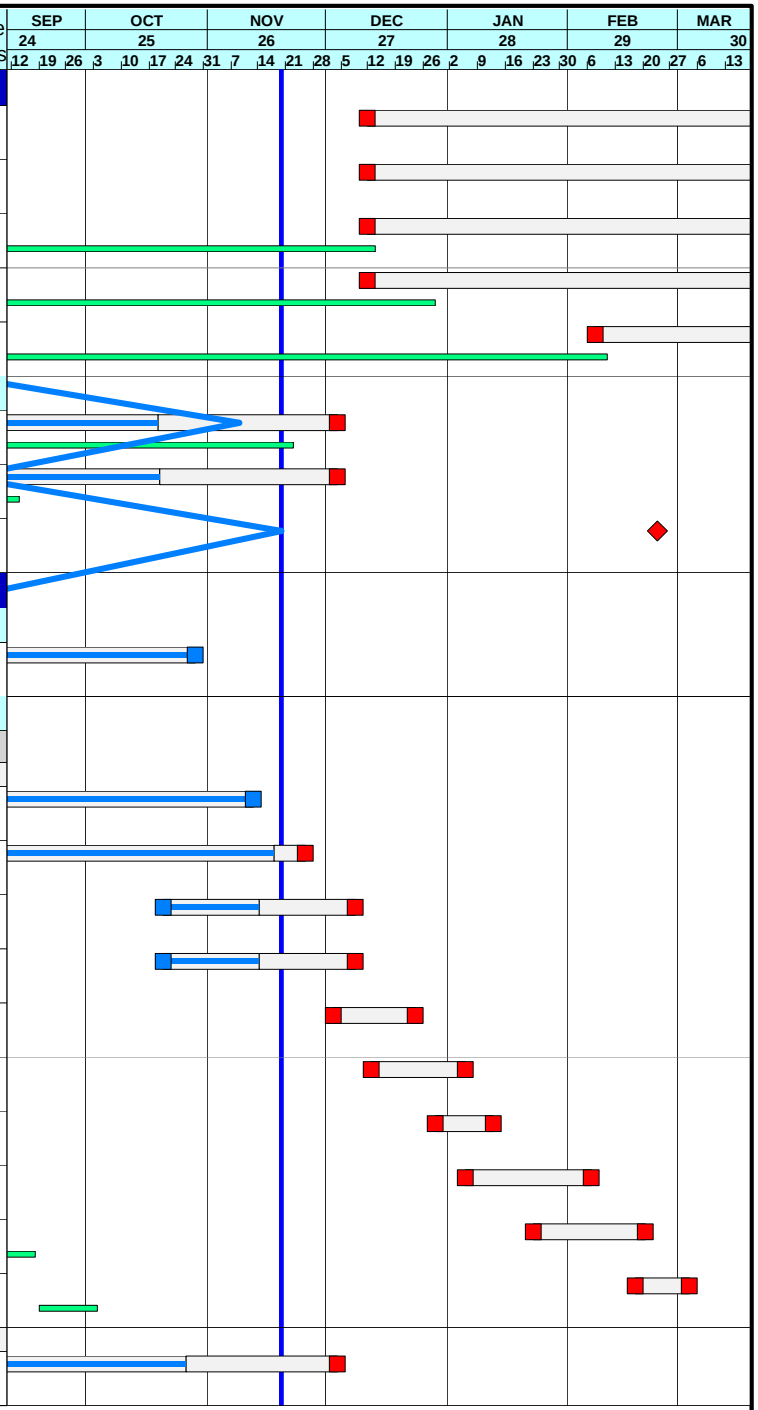
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
EXCISION WORK-SHEK LEI PUI WATER TREATMENT PLANT									
2750	Soilid Barrier Type IV - Structural Steelwork	18	16SEP05A	08NOV05A	100	100	0		-158
2751	Soilid Barrier Type II - Cladding	30	06FEB06*	11MAR06	0	100	30	-191	-285
2752	Soilid Barrier Type I - Cladding	18	06FEB06	25FEB06	0	100	18	-185	-255
2753	Soilid Barrier Type III - Cladding	24	06FEB06	04MAR06	0	100	24	-185	-237
2754	Soilid Barrier Type IV - Cladding	18	06FEB06	25FEB06	0		18	-179	-213
ENT SOUTH PORTAL VENTILATION BUILDING									
SUBMITTALS & APPROVALS									
E&M EQPT.& MATERIAL.SUBMITTALS									
8201	EntSpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	25JAN06	95	100	54	-114	-265
8204	EntSpBldg-Sub.TVF, Ductworks & Control sys	78	02JUL04A	21NOV05	99	100	1	-114	-191
8212	EntSpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	25NOV05	99	100	5	12	-82
8210	EntSpBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	21OCT05A	100	100	0		-138
8207	EntSpBldg-Sub.FS wet sys	54	05AUG04A	25NOV05	99	100	5	-12	-205
8208	EntSpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	18JAN06	95	50	48	-36	-70
8200	EntSpBldg-Sub.CMCS & ELV sys	78	26AUG04A	02MAR06	98	100	78	-90	-244
1922	SP.Bldg. - Prep & submit louvre details	24	19NOV04A	03DEC05	50	100	12	-24	-214
1942	SP.Bldg. - Prep & sub aluminium cladding	24	19NOV04A	04JAN06	50	100	12	-48	-238
1940	SP.Bldg. - Prep & sub balustrade & metal wks	24	20JAN05A	03DEC05	50	100	12	-78	-212
1944	SP.Bldg. - Prep & sub fall arrest system	24	01FEB05A	10DEC05	50		12	30	-106
8205	EntSpBldg-Sub.PD irrig. sys	54	04FEB05A	25JAN06	85	100	54	-12	-260
1918	SP.Bldg. - Prep & submit door & window detail	24	17FEB05A	10DEC05	50		12	-24	-160
E&M EQPT.& MATERIAL APPROVALS									
6001	EntSpBldg-App. HV power dist. sys	18	14JUL04A	10DEC05	95	100	18	-168	-226
6002	EntSpBldg-App. LV power dist. sys	18	13AUG04A	10DEC05	90	100	18	-174	-202
8491	EntSpBldg-App. building related luminaires	18	18AUG04A	10DEC05	90	100	18	-108	-167



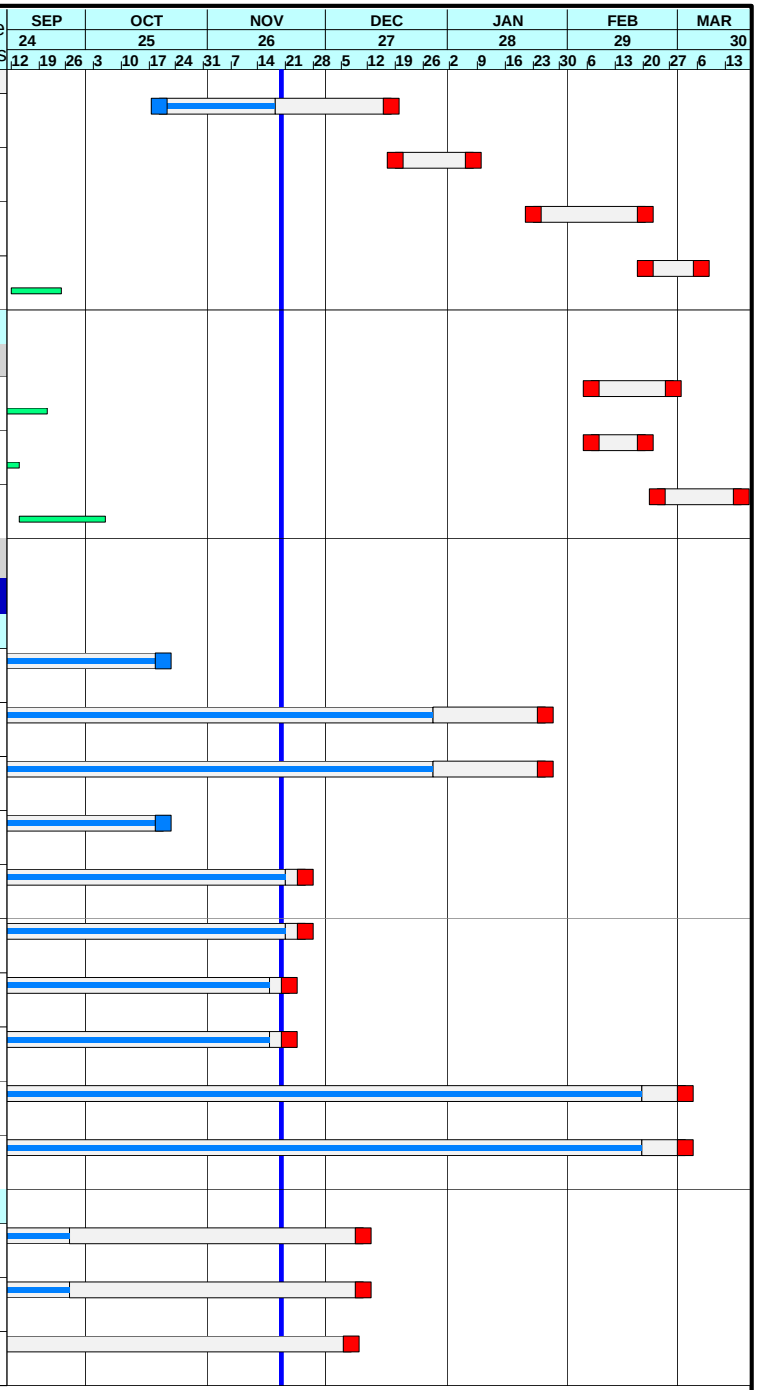
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT.& MATERIAL APPROVALS									
6006	EntSpBldg-App. FS wet sys	18	04SEP04A	10DEC05	80	100	18	-12	-200
6036	EntSpBldg-App. FS AFA & FM200 sys	18	14SEP04A	10DEC05	70	100	18	12	-77
6192	EntSpBldg-App. of CMCS & ELV sys	18	20SEP04A	10DEC05	88	100	18	-90	-166
6005	EntSpBldg-App. MVAC mech.vent. sys	18	23SEP04A	10DEC05	70	100	18	-42	-163
6003	EntSpBldg-App. PD cleans. & flush water sys	18	04NOV04A	10DEC05	78	100	18	-12	-206
6742	EntSpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	10DEC05	80	100	18	-114	-211
6760	EntSpBldg-App. TVF, Ductworks & Control sys	18	12NOV04A	10DEC05	85	100	18	-114	-190
7615	EntSpBldg-App. HV/LV main & submain cable sys	18	07DEC04A	10DEC05	80	100	18	-156	-178
6013	EntSpBldg-App. MVAC Package AC Unit sys	18	01FEB05A	10DEC05	90	0	18	24	-34
1939	SP.Bldg. - Approve louvre details	24	07APR05A	10DEC05	50		18	-24	-196
6004	EntSpBldg-App. PD irrig. sys	18	05MAY05A	10DEC05	30	100	18	-12	-206
1919	SP.Bldg. - Approve door & window details	24	07MAY05A	10DEC05	50		18	-24	-136
1947	SP.Bldg. - Approve slate cladding design	24	15JUN05A	10DEC05	50		18	-24	-196
1945	SP.Bldg. - Approve fall arrest system	24	14OCT05A	10DEC05	50		18	30	-82
1941	SP.Bldg. - Approve balustrade & metal works	24	05DEC05	04JAN06	0	100	24	-78	-212
1943	SP.Bldg. - Approve aluminium cladding	24	12DEC05	11JAN06	0		24	-48	-220
PROCUREMENT - MATERIAL									
6007	EntSpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	29JUL06	50	90	180	-186	-226
6193	EntSpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	08JUL06	20	60	180	-90	-148
6743	EntSpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	08JUL06	20	80	180	-114	-193
6012	EntSpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	25APR06	30	100	120	-12	-182
6761	EntSpBldg-Proc & Manuf. TVF,Ductwks & Cont'l sys	180	09JUN05A	08JUL06	35	70	180	-78	-160
6008	EntSpBldg-Proc & Manuf. LV power dist. equip't	180	12DEC05	29JUL06	0	80	180	-174	-202
6009	EntSpBldg-Proc & Manuf. MVAC mech.vent. sys	120	12DEC05	18MAY06	0	80	120	-42	-163



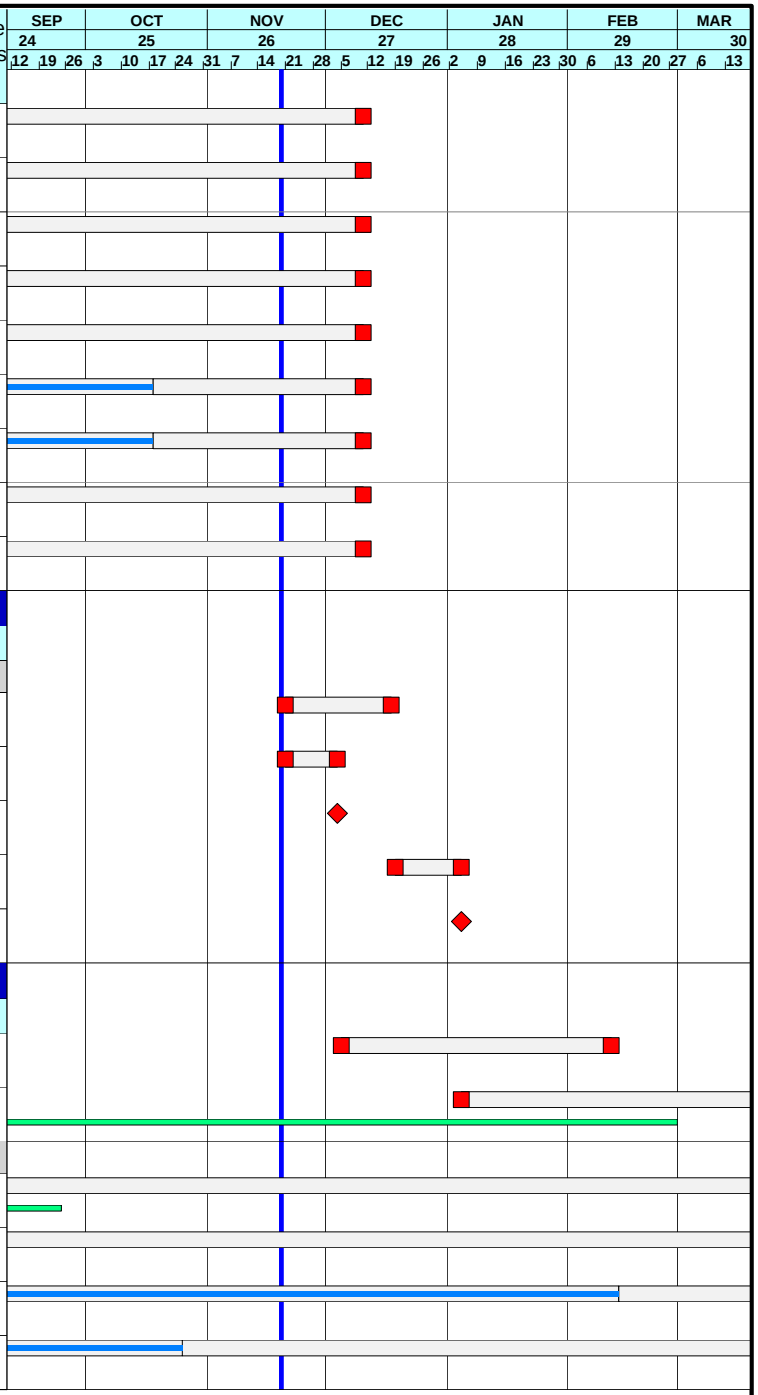
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
PROCUREMENT - MATERIAL									
6010	EntSpBldg-Proc & Manuf. Cleans & flush water sys	120	12DEC05	18MAY06	0	100	120	-12	-206
6011	EntSpBldg-Proc & Manuf. PD irrig. sys	120	12DEC05	18MAY06	0	100	120	-12	-206
7616	EntSpBldg-Proc & Manuf. HV/LV cable	180	12DEC05	29JUL06	0	70	180	-156	-178
8492	EntSpBldg-Proc & Manf bldg related luminaires	180	12DEC05	29JUL06	0	60	180	-108	-167
6079	EntSpBldg-Proc & Manuf. FS AFA & FM200 sys	120	08FEB06	06JUL06	0	10	120	-28	-117
ABWF WORKS									
1951	SP.Bldg. - Procure aluminium cladding	180	19APR05A	03DEC05	80	80	12	-48	-10
1950	SP.Bldg. - Procure balustrade & metal works	60	21APR05A	03DEC05	80	100	12	-84	-68
2030	SP.Bldg. - Initial deliver balust & metal works	0	24FEB06		0		0	-84	0
CONSTRUCTION									
SUBSTRUCTURE									
1188	SP.Bldg. - RC Fnd & Drainage GL.H-S/10-12	24	14MAY05A	28OCT05A	100	100	0		-125
SUPERSTRUCTURE									
RC WORKS									
NB CARRIAGEWAY & CENTRAL RESERVE									
1194	SP.Bldg. - Nth Bound C/Way RC Base Slab	18	14MAY05A	12NOV05A	100	100	0		-130
1195	SP.Bldg. - Nth Bound C/Way RC Ret. Wall W1	24	07SEP05A	25NOV05	90	100	5	-85	-117
1189	SP.Bldg. - RC Cols. & Walls to 1FL.GL.H-S/10-12	18	21OCT05A	08DEC05	50	100	16	-99	-148
1190	SP.Bldg. - RC Walls to Tanks/Pits GL.H-S/10-12	18	21OCT05A	08DEC05	50	100	16	-99	-142
1191	SP.Bldg. - RC S/Slab 1FL.+72.50mPD GL.H-S/10-12	18	03DEC05	23DEC05	0	100	18	-99	-137
1192	SP.Bldg. - RC Cols.& Walls to 2FL.GL.H-S/10-12	18	13DEC05	05JAN06	0	100	18	-99	-131
1193	SP.Bldg. - RC S/Slab LPL.+75.80mPD GL.H-S/10-12	12	29DEC05	12JAN06	0	100	12	-99	-131
1196	SP.Bldg - RC Trans Slab 2FL.+80.45mPD GL.H-S/2-7	20	06JAN06	06FEB06	0	100	20	-99	-125
1197	SP.Bldg. - RC Cols.& Walls to 3.FL.GL.H-T/7-3	18	23JAN06	20FEB06	0		18	-98	-121
1198	SP.Bldg. - RC S/Slab U2 FL.+81.15mPD GL.H-T/7-3	12	18FEB06	03MAR06	0		12	-98	-119
SB CARRIAGEWAY									
1206	SP.Bldg. - Sth Bound C/Way RC Base Slab	18	28JUL05A	03DEC05	70	100	12	-72	-166



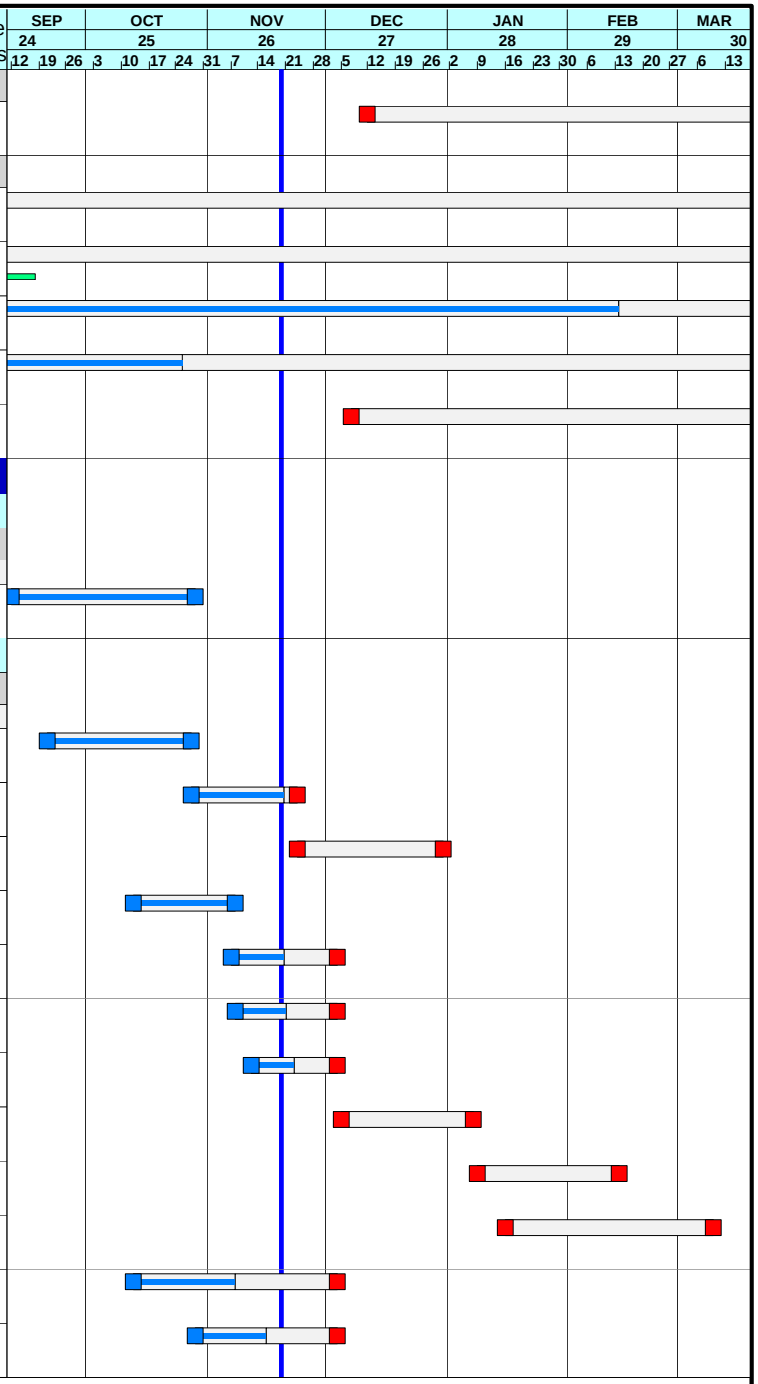
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
SB CARRIAGEWAY									
1207	SP.Bldg. - Sth Bound C/Way RC Ret Wall W2	29	20OCT05A	17DEC05	50	100	24	-84	-154
1208	SP.Bldg - RC Trans Slab 2FL.+80.45mPD GL.H-S/1-2	15	19DEC05	07JAN06	0	100	15	-84	-112
1209	SP.Bldg. - RC Cols.& Walls to 3FL.GL.H-T/1-3	18	23JAN06	20FEB06	0		18	-99	-127
1210	SP.Bldg. - RC S/Slab U2FL.+81.15mPD GL.H-T/1-3	12	21FEB06	06MAR06	0		12	-99	-127
ARCHITECTURAL & BUILDER'S WORKS									
BUILDER'S WORK									
1219	SP.Bldg.W/Proof Tank/Pits & Test GF GL.H-S/10-12	18	07FEB06	27FEB06	0		18	-87	-125
1220	SP.Bldg.Plinths GL.	12	07FEB06	20FEB06	0		12	-87	-125
1526	SP.Bldg. Wet Trades GL	18	24FEB06	16MAR06	0		18	-74	-128
EAGLES NEST TUNNEL									
SUBMITTALS & APPROVALS									
E&M EQPT./ MTRL.DETAIL SUBMITTAL									
8214	EntRtNb-Sub.Tunnel Lgt sys	78	02JUL04A	20OCT05A	100	100	0		-272
8217	EntRtNb-Sub.TVS control sys	54	02JUL04A	25JAN06	95	100	54	-90	-226
8220	EntRtSb&VA-Sub.TVS control sys	54	02JUL04A	25JAN06	95	100	54	-90	-238
8223	EntRtSb&VA-Sub.Tunnel Lgt sys	78	02JUL04A	20OCT05A	100	100	0		-275
8215	EntRtNb-Sub.FS AFA & Linear sys	54	05JUL04A	25NOV05	99	100	5	-222	-393
8219	EntRtSb&VA-Sub.FS AFA & Linear sys	54	05JUL04A	25NOV05	99	100	5	-222	-402
8218	EntRtNb-Sub.TVS in Tunnel	54	07JUL04A	21NOV05	99	100	1	-216	-317
8224	EntRtSb&VA-Sub.TVS in Tunnel	54	07JUL04A	21NOV05	99	100	1	-216	-329
8213	EntRtNb-Sub.CMCS & ELV sys	78	26AUG04A	02MAR06	98	100	78	-120	-322
8221	EntRtSb&VA-Sub.CMCS & ELV sys	78	26AUG04A	02MAR06	98	100	78	-120	-328
E&M EQPT./MTRL.APPROVAL BY ENGINEER									
7618	EntRtSb&VA-App. TVS in Tunnel	18	29JUL04A	10DEC05	85	100	18	-216	-328
7621	EntRtNb-App. TVS in Tunnel	18	29JUL04A	10DEC05	85	100	18	-216	-316
6808	EntRtSb&VA-App. Tunnel Lgt sys	18	05AUG04A	07DEC05	80	100	15	-225	-298



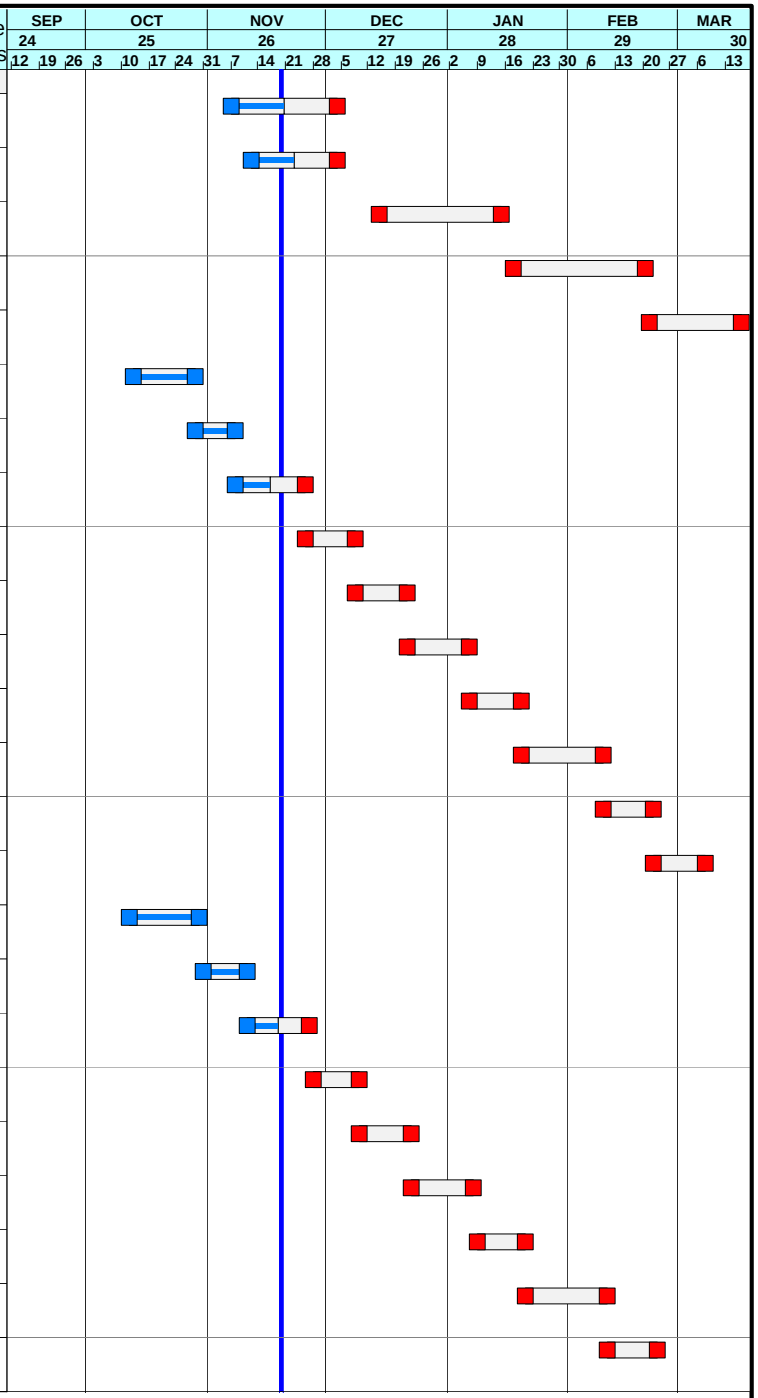
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT./MTRL.APPROVAL BY ENGINEER									
6878	EntRtNb-App. Tunnel Lgt sys	18	05AUG04A	10DEC05	80	100	18	-222	-298
6802	EntRtSb&VA-App. LV main & submain dist. sys	18	13AUG04A	10DEC05	80	100	18	-204	-316
6882	EntRtNb-App. LV main & submain dist. sys	18	13AUG04A	10DEC05	80	100	18	-192	-306
6785	EntRtSb&VA-App. FS AFA & Linear sys	18	14SEP04A	10DEC05	70	100	18	-222	-397
6880	EntRtNb-App. FS AFA & Linear sys	18	14SEP04A	10DEC05	70	100	18	-222	-388
6798	EntRtSb&VA-App. CMCS & ELV sys	18	20SEP04A	10DEC05	88	100	18	-120	-250
6877	EntRtNb-App. CMCS & ELV sys	18	20SEP04A	10DEC05	88	100	18	-120	-244
6795	EntRtSb&VA-App. TVS control sys	18	12NOV04A	10DEC05	70	100	18	-90	-184
6884	EntRtNb-App. TVS control sys	18	12NOV04A	10DEC05	70	100	18	-90	-172
DESIGN & ENGINEERING									
PERMANENT WORKS									
TUNNEL									
1657	Design/ICE Check Tunnel Clading	24	21NOV05	17DEC05	0	100	24	-57	-167
1668	Eng Approve Dsg X-passage/Adit Fire Doors	12	21NOV05	03DEC05	0	100	12	-140	-343
1669	Issue Constr Dwgs X-passage/Adit Fire Doors	0		03DEC05	0	100	0	-140	-336
1659	Eng Approve Dsg Tunnel Clading	12	19DEC05	04JAN06	0	100	12	-57	-167
1658	Issue Constr Dwgs Tunnel Clading	0		04JAN06	0	100	0	-57	-160
PROCUREMENT - MATERIAL									
TUNNEL									
1685	Order/Manufact/Del Fire Doors	50	05DEC05	11FEB06	0	100	50	-140	-236
1660	Order/Manufact/Del Tunnel Cladding	200	05JAN06	12SEP06	0	30	200	-57	-160
NORTHBOUND TUNNEL									
6879	EntRtNb-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	21AUG06	20	95	180	-157	-263
6883	EntRtNb-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	08JUL06	20	100	180	-222	-370
6885	EntRtNb-Proc & Manuf. ES Cabling	180	20MAY05A	08JUL06	65	100	180	-192	-288
7622	EntRtNb-Proc & Manuf. TVS in Tunnel	180	09JUN05A	08JUL06	35	100	180	-216	-298



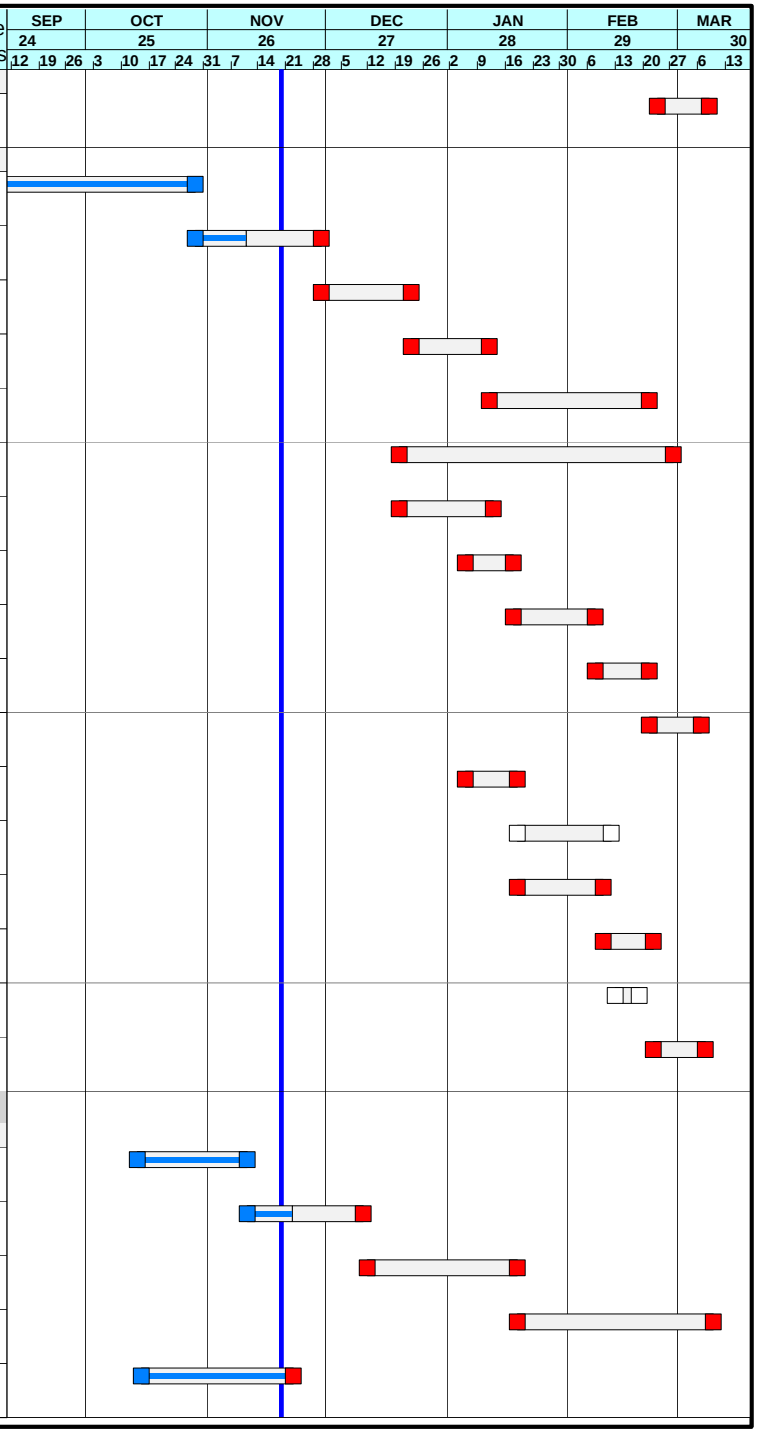
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	NORTHBOUND TUNNEL								
6881	EntRtNb-Proc & Manuf. Tunnel Lgt sys	180	12DEC05	29JUL06	0	100	180	-222	-298
	SOUTHBOUND TUNNEL & V.A TUNNEL								
6786	EntRtSb&VA-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	08JUL06	20	100	180	-222	-379
6799	EntRtSb&VA-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	15AUG06	20	100	180	-152	-264
6803	EntRtSb&VA-Proc & Manuf. ES Cabling	180	20MAY05A	08JUL06	65	100	180	-204	-298
7619	EntRtSb&VA-Proc & Manuf. TVS in Tunnel	180	09JUN05A	08JUL06	35	100	180	-216	-310
6809	EntRtSb&VA-Proc & Manuf. Tunnel Lgt sys	180	08DEC05	26JUL06	0	100	180	-225	-298
	CONSTRUCTION WORKS								
	TUNNEL PREPARATION WORKS								
	TUNNEL LINING								
	SOUTH PORTAL								
3178	Erect OHVD Form SB at SP	24	12SEP05A	28OCT05A	100	100	0		-169
	NORTHBOUND TUNNEL DRIVE								
	TUNNEL INVERT								
	NORTH PORTAL								
3206	NB Kicker/form part Service Trough (fr.NP) 148m	22	21SEP05A	27OCT05A	100	100	0		-151
3207	NB Kicker/form part Service Trough (fr.NP) 129m	19	28OCT05A	23NOV05	88	100	3	-105	-152
3208	NB Kicker/form part Service Trough (fr.NP) 118m	30	24NOV05	30DEC05	0	100	30	-105	-137
3182	NB exc.grnd/foul water drain trough 149m (fr.NP)	28	13OCT05A	07NOV05A	100	100	0		-267
3184	NB exc.grnd/foul water drain trough 139m(fr.NP)	27	07NOV05A	03DEC05	50	100	12	-13	-246
3183	NB exc.grnd/foul water drain trough 128m(fr.NP)	24	08NOV05A	03DEC05	50	100	12	-13	-271
3185	NB exc.grnd/foul water drain trough 150m(fr.NP)	28	12NOV05A	03DEC05	50	100	12	-13	-216
3186	NB exc.grnd/foul water drain trough 148m(fr.NP)	27	05DEC05	07JAN06	0	100	27	-13	-219
3187	NB exc.grnd/foul water drain trough 129m(fr.NP)	24	09JAN06	13FEB06	0	100	24	-13	-224
3188	NB exc.grnd/foul water drain trough 118m(fr.NP)	39	16JAN06	09MAR06	0	30	39	-13	-210
3192	NB Invert Cleaning (fr.NP 149m)	24	13OCT05A	03DEC05	50	100	12	-1	-287
3193	NB Invert Cleaning (fr.NP 128m)	22	29OCT05A	03DEC05	50	100	12	-1	-265



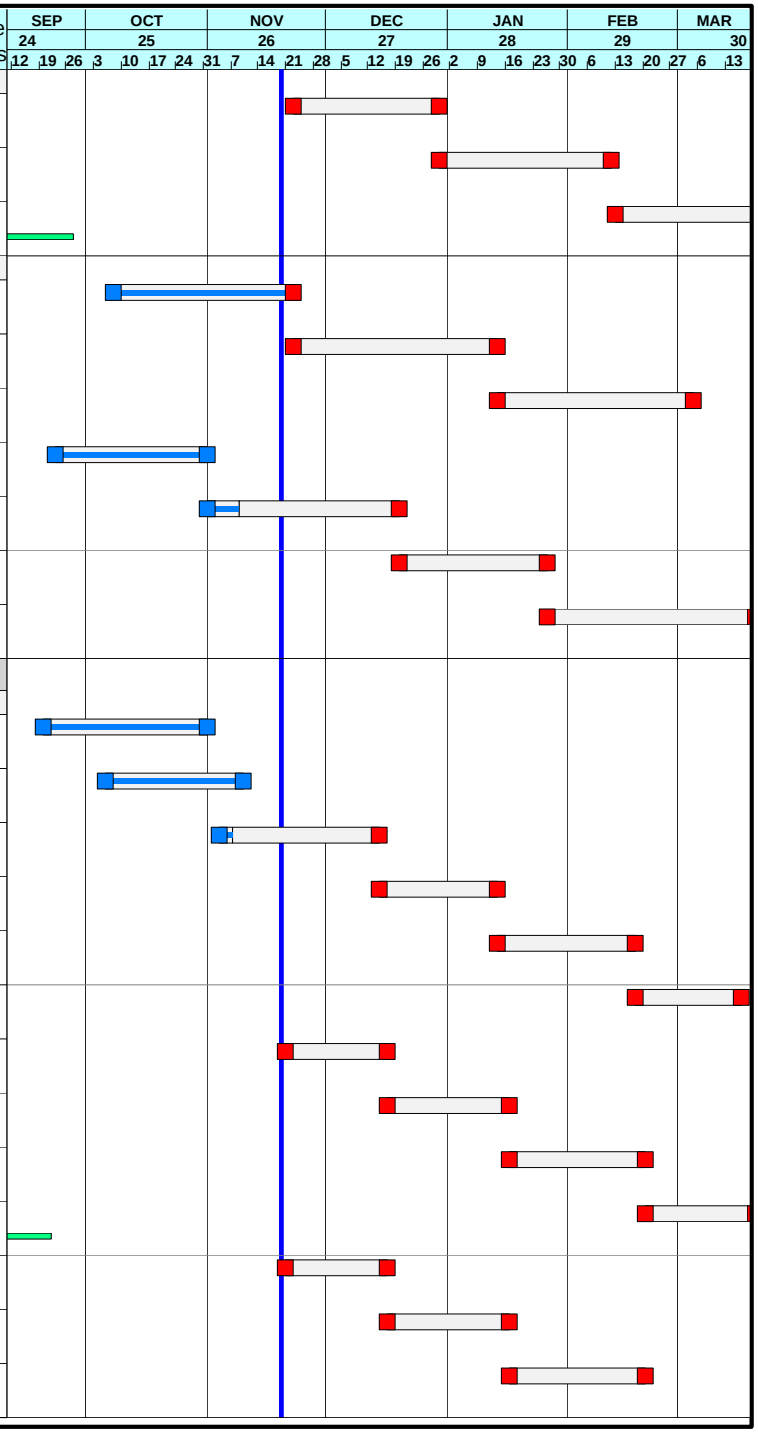
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTH PORTAL									
3194	NB Invert Cleaning (fr.NP 139m)	23	07NOV05A	03DEC05	50	100	12	-1	-242
3195	NB Invert Cleaning (fr.NP 150m)	24	12NOV05A	03DEC05	50	100	12	-1	-213
3196	NB Invert Cleaning (fr.NP 148m)	24	15DEC05	14JAN06	0		24	-10	-222
3197	NB Invert Cleaning (fr.NP 129m)	22	18JAN06	20FEB06	0		22	-12	-224
3198	NB Invert Cleaning (fr.NP 118m)	20	22FEB06	16MAR06	0		20	-13	-210
3360	NB Foulwater Gulley ENF-35 to ENF-36 [50m]	11	13OCT05A	28OCT05A	100	100	0		-193
3359	NB Foulwater Gulley ENF-34 to ENF-35 [50m]	11	29OCT05A	07NOV05A	100	100	0		-190
3358	NB Foulwater Gulley ENF-33 to ENF-34 [49m]	11	08NOV05A	25NOV05	50	100	5	-93	-195
3357	NB Foulwater Gulley ENF-32 to ENF-33 [49m]	11	26NOV05	08DEC05	0		11	-93	-195
3356	NB Foulwater Gulley ENF-31 to ENF-32 [50m]	11	09DEC05	21DEC05	0		11	-93	-195
3355	NB Foulwater Gulley ENF-30 to ENF-31 [49m]	11	22DEC05	06JAN06	0		11	-93	-195
3354	NB Foulwater Gulley ENF-29 to ENF-30 [49m]	11	07JAN06	19JAN06	0		11	-93	-195
3353	NB Foulwater Gulley ENF-28 to ENF-29 [49m]	11	20JAN06	09FEB06	0		11	-93	-195
3352	NB Foulwater Gulley ENF-27 to ENF-28 [50m]	11	10FEB06	22FEB06	0		11	-93	-195
3351	NB Foulwater Gulley ENF-26 to ENF-27 [49m]	11	23FEB06	07MAR06	0		11	-93	-195
3446	NB Ground water ENG-35 to ENG-36 [50m]	11	12OCT05A	29OCT05A	100	100	0		-197
3445	NB Ground water ENG-34 to ENG-35 [50m]	11	31OCT05A	10NOV05A	100	100	0		-196
3444	NB Ground water ENG-33 to ENG-34 [49m]	11	11NOV05A	26NOV05	50	100	6	-94	-199
3443	NB Ground water ENG-32 to ENG-33 [49m]	11	28NOV05	09DEC05	0	100	11	-94	-199
3442	NB Ground water ENG-31 to ENG-32 [50m]	11	10DEC05	22DEC05	0	100	11	-94	-199
3441	NB Ground water ENG-30 to ENG-31 [49m]	11	23DEC05	07JAN06	0		11	-94	-199
3440	NB Ground water ENG-29 to ENG-30 [49m]	11	09JAN06	20JAN06	0		11	-94	-199
3439	NB Ground water ENG-28 to ENG-29 [49m]	11	21JAN06	10FEB06	0		11	-94	-199
3438	NB Ground water ENG-27 to ENG-28 [50m]	11	11FEB06	23FEB06	0		11	-94	-199



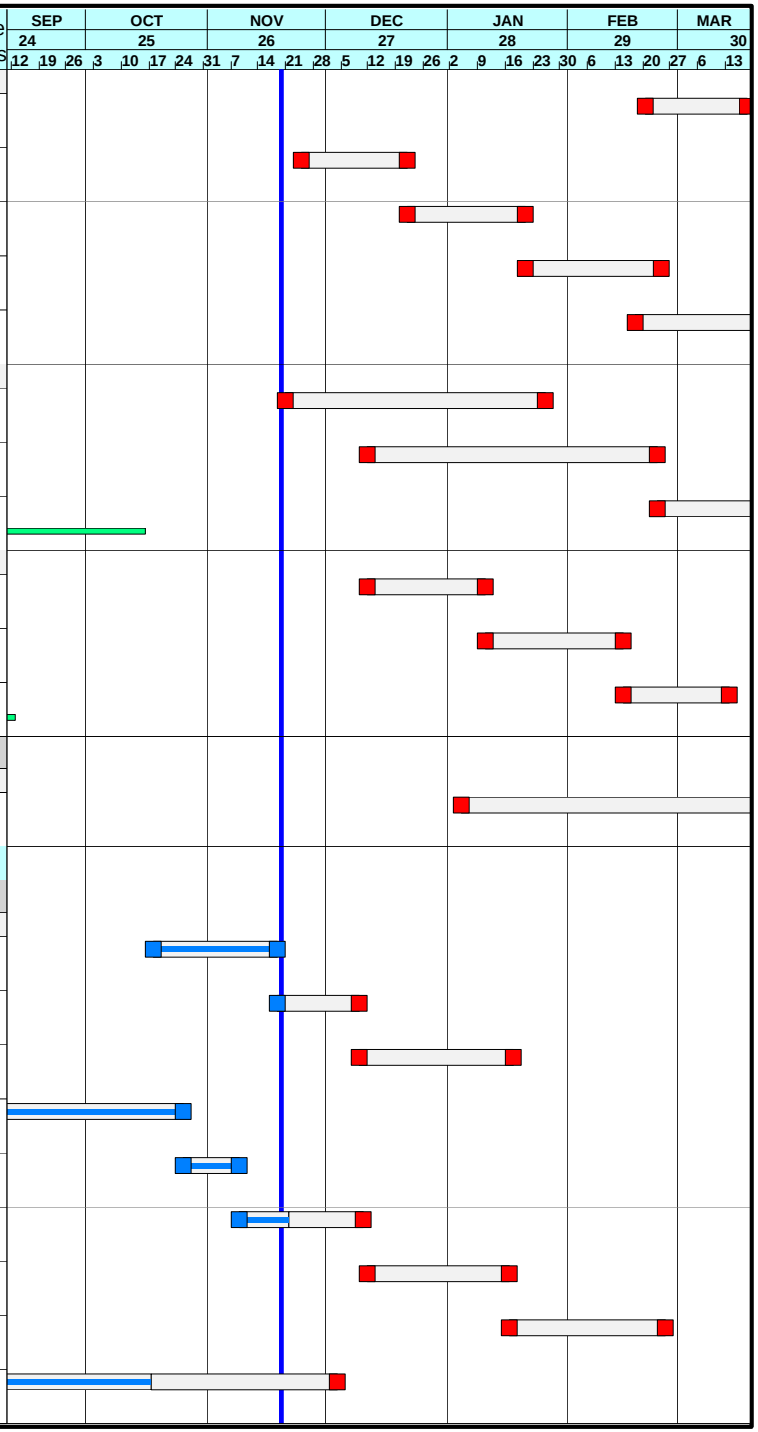
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTH PORTAL									
3437	NB Ground water ENG-26 to ENG-27 [49m]	11	24FEB06	08MAR06	0		11	-94	-199
SOUTH PORTAL									
3226	NB Kicker/form part Service Trough (fr.SP) 253m	35	22JUL05A	28OCT05A	100	100	0		-181
3227	NB Kicker/form part Service Trough (fr.SP) 90m	13	29OCT05A	29NOV05	41	100	8	-94	-195
3228	NB Kicker/form part Service Trough (fr.SP) 146m	20	30NOV05	22DEC05	0	100	20	-94	-189
3229	NB Kicker/form part Service Trough (fr.SP) 100m	14	23DEC05	11JAN06	0	100	14	-94	-181
3230	NB Kicker/form part Service Trough (fr.SP) 199m	28	12JAN06	21FEB06	0	100	28	-94	-178
3210	NB exc.grnd/foul water drain trough 253m(fr.SP)	50	20DEC05	27FEB06	0	100	50	-57	-301
3216	NB Invert Cleaning [fr.SP] 253m	18	20DEC05	12JAN06	0	100	18	-57	-266
3324	NB Foulwater Gulley ENF-1A to ENF-1 [44m]	10	06JAN06	17JAN06	0		10	-57	-218
3325	NB Foulwater Gulley ENF-1 to ENF-2 [50m]	11	18JAN06	07FEB06	0		11	-57	-218
3326	NB Foulwater Gulley ENF-2 to ENF-3 [53m]	12	08FEB06	21FEB06	0		12	-57	-218
3327	NB Foulwater Gulley ENF-3 to ENF-4 [51m]	11	22FEB06	06MAR06	0		11	-57	-218
3412	NB Ground water ENG-1B to ENG-2 [50m]	11	06JAN06	18JAN06	0		11	-48	-218
3410	NB Ground water ENG-1C to ENG-1B [44m]	14	19JAN06	11FEB06	0		14	63	-218
3413	NB Ground water ENG-2 to ENG-3 [53m]	12	19JAN06	09FEB06	0		12	-48	-218
3414	NB Ground water ENG-3 to ENG-4 [51m]	11	10FEB06	22FEB06	0		11	-48	-218
3411	NB Ground water ENG-1A to ENG-1B	6	13FEB06	18FEB06	0		6	63	-218
3415	NB Ground water ENG-4 to ENG-5 [51m]	11	23FEB06	07MAR06	0		11	-48	-218
TUNNEL LINING									
NORTH PORTAL									
3240	NB NP Arch Lining 150m Tch.2+280 to 2+130	30	14OCT05A	10NOV05A	100	100	0		-148
3241	NB NP Arch Lining 150m Tch.2+130 to 1+980	30	11NOV05A	10DEC05	39	100	18	-124	-144
3242	NB NP Arch Lining 150m Tch.1+980 to 1+830	30	12DEC05	18JAN06	0	100	30	-120	-144
3243	NB NP Arch Lining 157m Tch.1+830 to 1+673 VA	36	19JAN06	09MAR06	0		36	-120	-144
3250	NB NP OHVD 150m Tch.2+280 to 2+130	30	15OCT05A	22NOV05	95	100	2	-126	-146



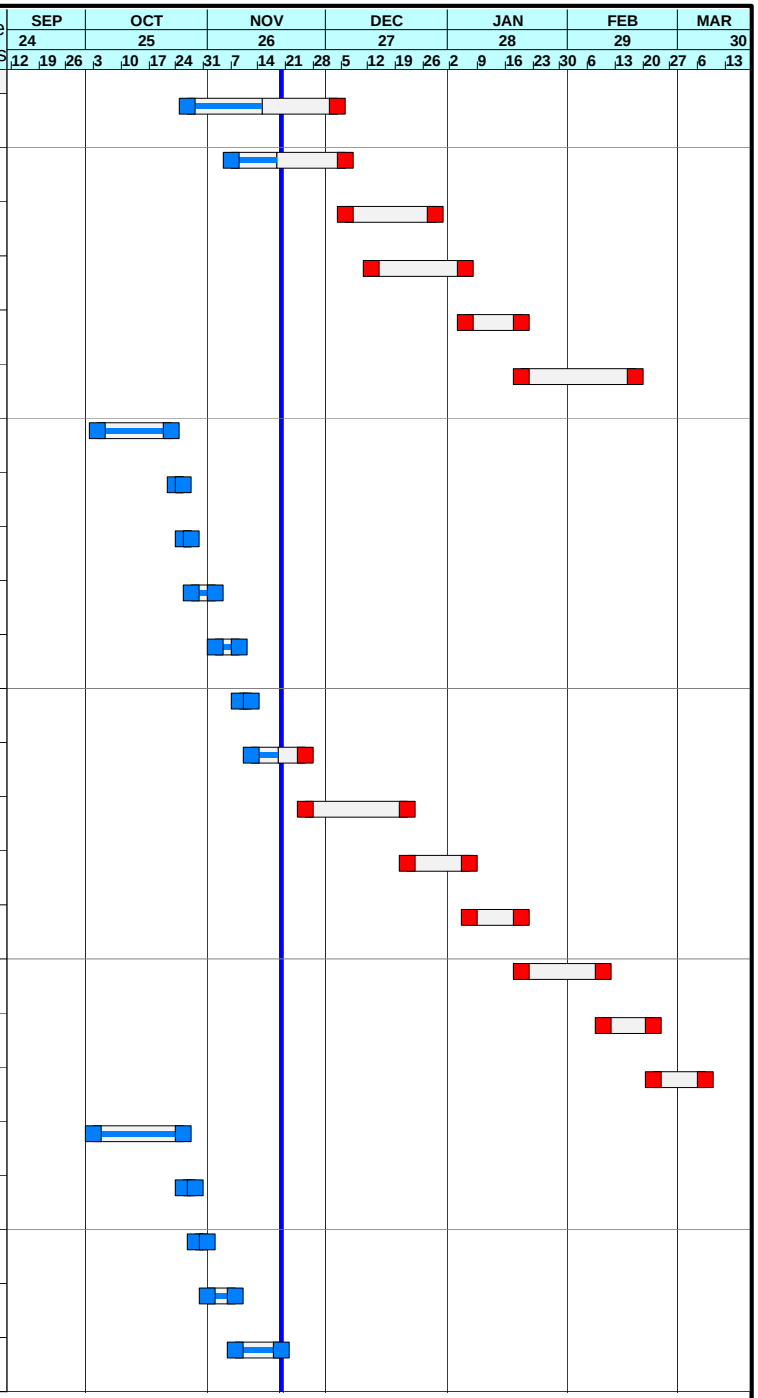
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTH PORTAL									
3251	NB NP OHVD 150m Tch.2+130 to 1+980	30	23NOV05	29DEC05	0	100	30	-126	-146
3252	NB NP OHVD 150m Tch.1+980 to 1+830	30	30DEC05	11FEB06	0		30	-126	-146
3253	NB NP OHVD 157m Tch.1+830 to 1+673 VA	40	13FEB06	30MAR06	0		40	-126	-146
SOUTH PORTAL									
3311	NB SP Arch Lining 150m Tch.1+213 to 1+363	42	08OCT05A	22NOV05	96	100	2	-135	-147
3312	NB SP Arch Lining 150m Tch.1+363 to 1+513	42	23NOV05	13JAN06	0	100	42	-130	-147
3313	NB SP Arch Lining 130m Tch.1+513 to 1+643	36	14JAN06	04MAR06	0		36	-128	-147
3314	NB NP OHVD 150m Tch.1+063 to 1+213	30	23SEP05A	31OCT05A	100	100	0		-164
3315	NB NP OHVD 150m Tch.1+213 to 1+363	30	01NOV05A	19DEC05	17	100	25	-135	-164
3316	NB NP OHVD 150m Tch.1+363 to 1+513	30	20DEC05	26JAN06	0	100	30	-135	-152
3317	NB NP OHVD 130m Tch.1+513 to 1+643	38	27JAN06	20MAR06	0		38	-135	-152
TUNNEL FINISHING WORKS									
SERVICE TROUGH & UTILITIES									
3527	NB service trough 150m Tch.3+030 to 2+880 fr.NP	23	20SEP05A	31OCT05A	100	100	0		-254
3528	NB service trough 150m Tch.2+880 to 2+730 fr.NP	23	06OCT05A	09NOV05A	100	100	0		-239
3529	NB service trough 150m Tch.2+730 to 2+580 fr.NP	23	04NOV05A	14DEC05	8	100	21	-189	-246
3530	NB service trough 150m Tch.2+580 to 2+430 fr.NP	23	15DEC05	13JAN06	0	100	23	-189	-239
3531	NB service trough 150m Tch.2+430 to 2+280 fr.NP	23	14JAN06	17FEB06	0		23	-189	-232
3532	NB service trough 150m Tch.2+280 to 2+130 fr.NP	23	18FEB06	16MAR06	0		23	-189	-225
3537	NB service trough 150m Tch.1+063 to 1+213 fr.SP	23	21NOV05	16DEC05	0	100	23	-133	-195
3538	NB service trough 150m Tch.1+213 to 1+363 fr.SP	23	17DEC05	16JAN06	0	100	23	-133	-176
3539	NB service trough 150m Tch.1+363 to 1+513 fr.SP	23	17JAN06	20FEB06	0	100	23	-133	-157
3540	NB service trough 160m Tch.1+513 to 1+673 fr.SP	24	21FEB06	20MAR06	0	100	24	-133	-142
3511	NB NP 200 main 183m Tch.3+063 to 2+880 fr.NP	23	21NOV05	16DEC05	0	100	23	-233	-306
3512	NB NP 200 main 150m Tch.2+880 to 2+730 fr.NP	23	17DEC05	16JAN06	0	100	23	-233	-305
3513	NB NP 200 main 150m Tch.2+730 to 2+580 fr.NP	23	17JAN06	20FEB06	0	100	23	-233	-298



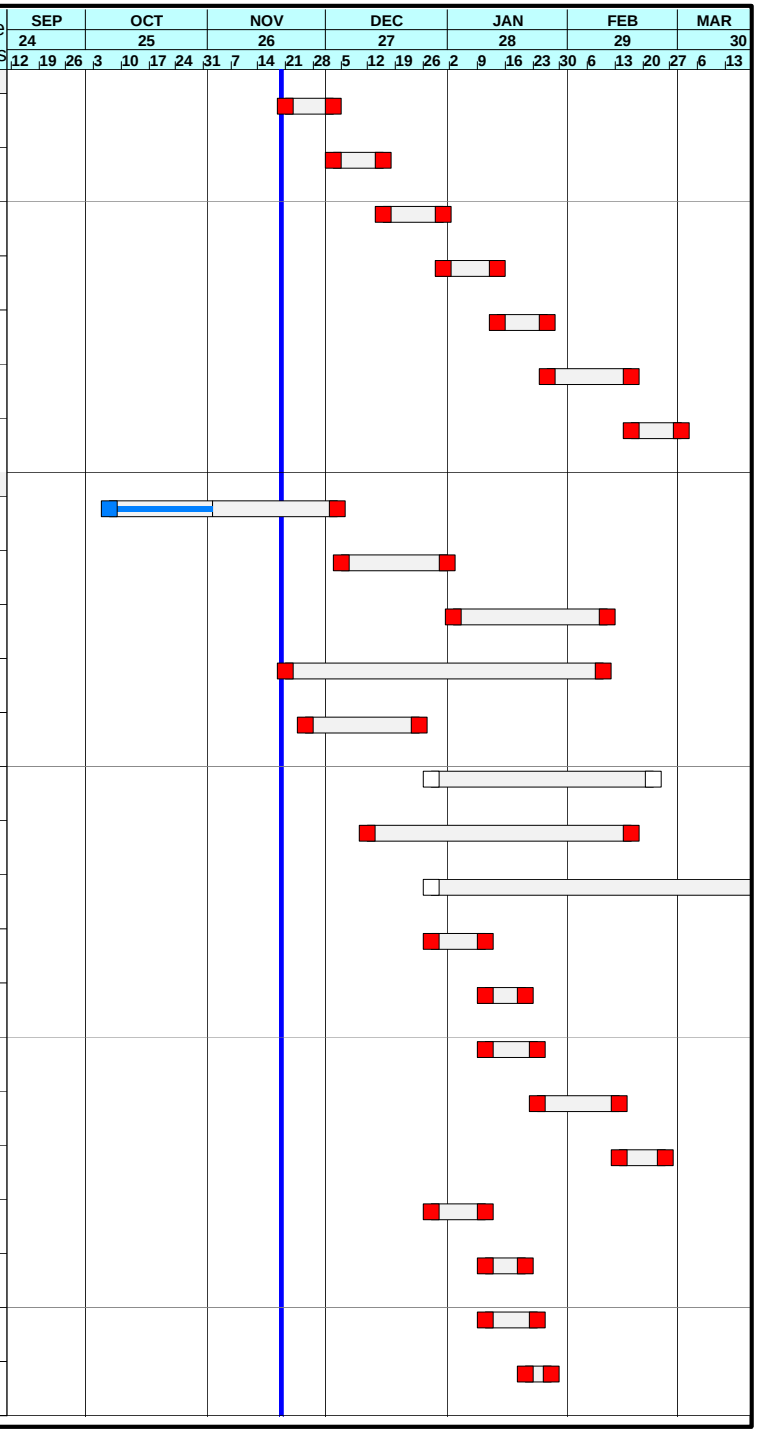
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	SERVICE TROUGH & UTILITIES								
3514	NB NP 200 main 150m Tch.2+580 to 2+430 fr.NP	23	21FEB06	18MAR06	0	100	23	-233	-291
3520	NB SP 200 main 150m Tch.1+063 to 1+213 fr.SP	23	25NOV05	21DEC05	0	100	23	-133	-203
3521	NB SP 200 main 150m Tch.1+213 to 1+363 fr.SP	23	22DEC05	20JAN06	0	100	23	-133	-184
3522	NB SP 200 main 150m Tch.1+363 to 1+513 fr.SP	23	21JAN06	24FEB06	0		23	-133	-165
3640	NB NP - 50% TCSS Containment KD6	60	18FEB06	04MAY06	0		60	-151	-232
	DRAINAGE & RC SLAB								
3583	NB Invert Drainage & RC.Slab - rightside 650m	54	21NOV05	25JAN06	0	100	54	-31	-156
3587	NB Invert Drainage & RC.Slab - leftside 650m	54	12DEC05	23FEB06	0	100	54	1	-156
3588	NB Invert Drainage & RC.Slab - leftside 650m	54	24FEB06	03MAY06	0		54	1	-156
	WALL PANELS								
3606	NB VE Panel Support System - rightside 650m	23	12DEC05	10JAN06	0	100	23	-98	-144
3607	NB VE Panel Support System - rightside 650m	23	11JAN06	14FEB06	0		23	-98	-144
3608	NB VE Panel Support System - rightside 650m	23	15FEB06	13MAR06	0		23	-98	-144
	TUNNEL VENTILATION SYSTEM								
	TUNNEL VENTILATION								
6896	EntRtNb-TVS Tunnel vent. & SE 1st fix	72	05JAN06	07APR06	0	100	72	-96	-178
	TUNNEL DRIVE SOUTHBOUND								
	TUNNEL INVERT								
	NORTH PORTAL								
1936	SB Kicker/form part Service Trough (fr.NP) 152m	22	18OCT05A	18NOV05A	100	100	0		-146
1937	SB Kicker/form part Service Trough (fr.NP) 142m	19	19NOV05A	09DEC05	9	100	17	-90	-144
1913	SB Kicker/form part Service Trough (fr.NP) 213m	30	10DEC05	17JAN06	0	100	30	-90	-141
1306	SB exc.grnd/foul water drain trough 146m (fr.NP)	27	31AUG05A	25OCT05A	100	100	0		-318
1568	SB exc.grnd/foul water drain trough 156m (fr.NP)	28	26OCT05A	08NOV05A	100	100	0		-297
1569	SB exc.grnd/foul water drain trough 162m (fr.NP)	30	09NOV05A	10DEC05	40	100	18	-66	-295
1570	SB exc.grnd/foul water drain trough 152m(fr.NP)	28	12DEC05	16JAN06	0	100	28	-66	-296
1579	SB exc.grnd/foul water drain trough 151m(fr.NP)	28	17JAN06	25FEB06	0	100	28	-66	-293
1593	SB Invert Cleaning (fr.NP) 146m	24	31AUG05A	03DEC05	50	100	12	-65	-349



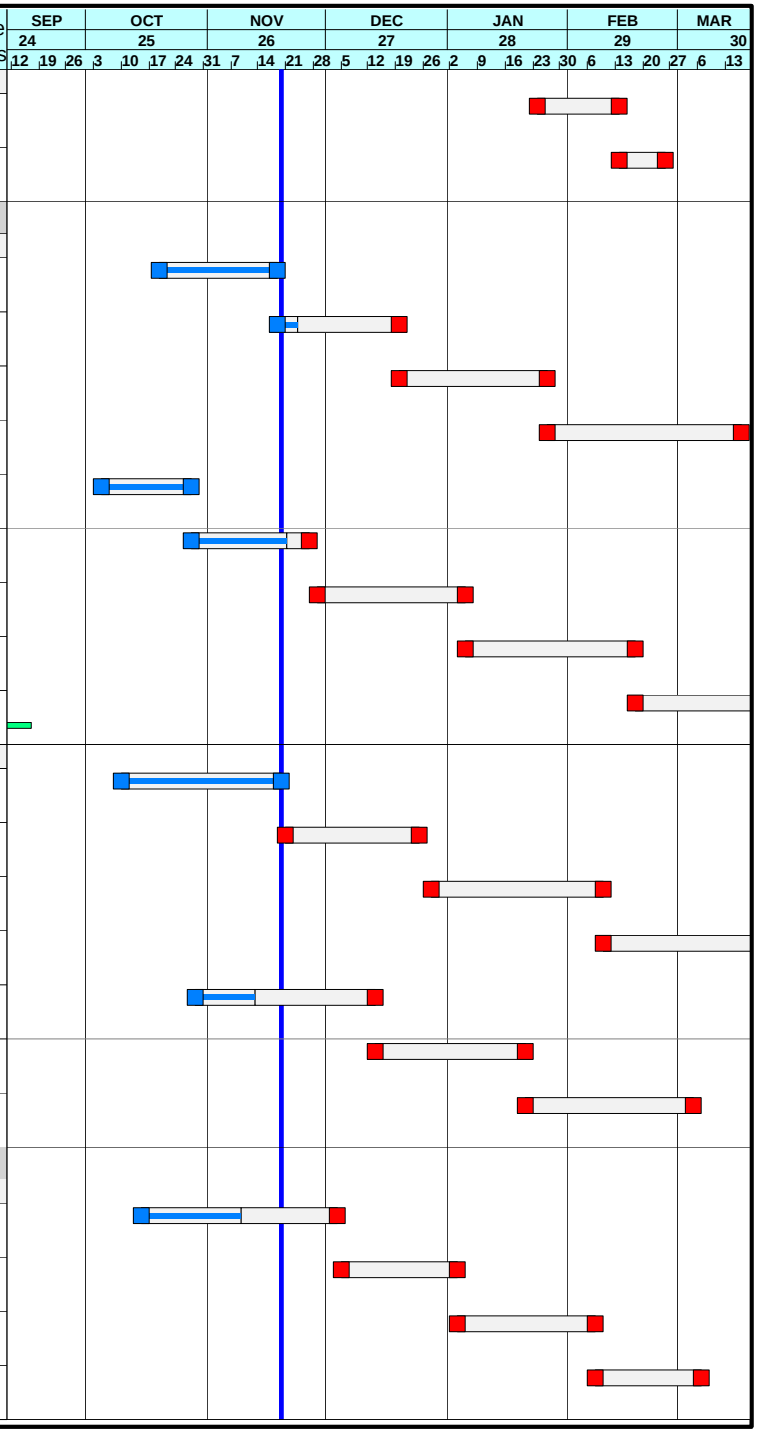
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTH PORTAL									
1594	SB Invert Cleaning (fr.NP) 156m	20	27OCT05A	03DEC05	50	100	12	-65	-316
1595	SB Invert Cleaning (fr.NP) 162m	22	07NOV05A	05DEC05	40	100	13	-43	-287
1596	SB Invert Cleaning (fr.NP) 152m	18	06DEC05	28DEC05	0	100	18	-43	-278
1597	SB Invert Cleaning (fr.NP) 150m	18	13DEC05	05JAN06	0	100	18	-43	-253
1598	SB Invert Cleaning (fr.NP) 137m	12	06JAN06	19JAN06	0	100	12	-43	-239
1599	SB Invert Cleaning (fr.NP) 152m	18	20JAN06	17FEB06	0		18	-28	-233
3406	SB Foulwater Gulley ESF-38 to ESF-39 [50m]	11	04OCT05A	22OCT05A	100	100	0		-233
3405	SB Foulwater Gulley ESF-37 to ESF-38 [50m]	11	24OCT05A	25OCT05A	100	100	0		-224
3404	SB Foulwater Gulley ESF-36 to ESF-37 [50m]	11	26OCT05A	27OCT05A	100	100	0		-215
3403	SB Foulwater Gulley ESF-35 to ESF-36 [50m]	11	28OCT05A	02NOV05A	100	100	0		-209
3402	SB Foulwater Gulley ESF-34 to ESF-35 [50m]	11	03NOV05A	08NOV05A	100	100	0		-203
3401	SB Foulwater Gulley ESF-33 to ESF-34 [52m]	11	09NOV05A	11NOV05A	100	100	0		-195
3400	SB Foulwater Gulley ESF-32 to ESF-33 [50m]	11	12NOV05A	25NOV05	50		5	-65	-196
3399	SB Foulwater Gulley ESF-31 to ESF-32 [101m]	22	26NOV05	21DEC05	0		22	-65	-196
3398	SB Foulwater Gulley ESF-30 to ESF-31 [51m]	11	22DEC05	06JAN06	0		11	-65	-196
3397	SB Foulwater Gulley ESF-29 to ESF-30 [51m]	11	07JAN06	19JAN06	0		11	-65	-196
3396	SB Foulwater Gulley ESF-28 to ESF-29 [50m]	11	20JAN06	09FEB06	0		11	-65	-196
3395	SB Foulwater Gulley ESF-27 to ESF-28 [51m]	11	10FEB06	22FEB06	0		11	-65	-196
3394	SB Foulwater Gulley ESF-26 to ESF-27 [51m]	11	23FEB06	07MAR06	0		11	-65	-196
3493	SB Ground water ESG-38 to ESG-39 [50m]	11	03OCT05A	25OCT05A	100	100	0		-235
3492	SB Ground water ESG-37 to ESG-38 [50m]	11	26OCT05A	28OCT05A	100	100	0		-215
3491	SB Ground water ESG-36 to ESG-37 [50m]	11	29OCT05A	31OCT05A	100	100	0		-206
3490	SB Ground water ESG-35 to ESG-36 [50m]	11	01NOV05A	07NOV05A	100	100	0		-201
3489	SB Ground water ESG-34 to ESG-35 [50m]	11	08NOV05A	19NOV05A	100	100	0		-201



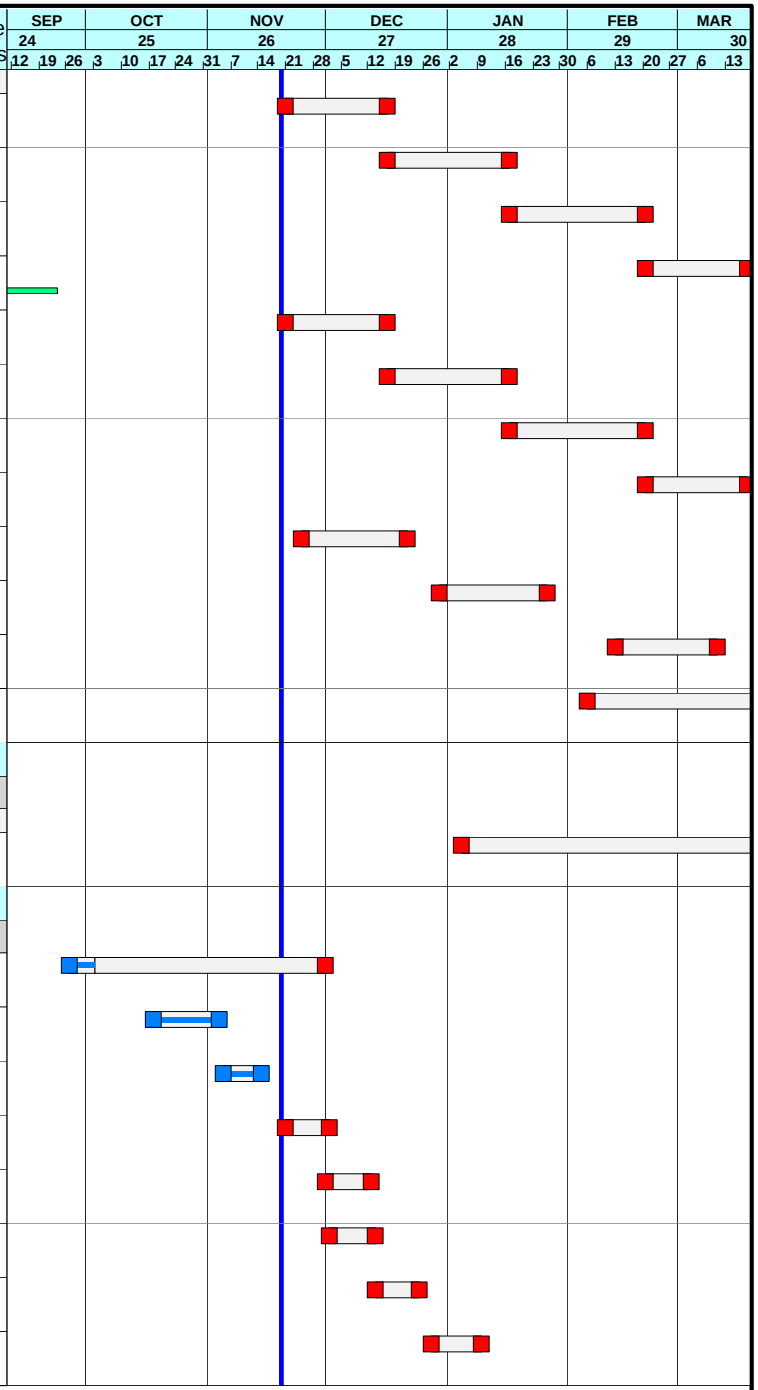
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTH PORTAL									
3488	SB Ground water ESG-33 to ESG-34 [52m]	11	21NOV05	02DEC05	0	100	11	-82	-201
3487	SB Ground water ESG-32 to ESG-33 [50m]	11	03DEC05	15DEC05	0		11	-82	-194
3486	SB Ground water ESG-31 to ESG-32 [51m]	11	16DEC05	30DEC05	0		11	-82	-194
3485	SB Ground water ESG-30 to ESG-31 [51m]	11	31DEC05	13JAN06	0		11	-82	-194
3484	SB Ground water ESG-29 to ESG-30 [51m]	11	14JAN06	26JAN06	0		11	-82	-194
3483	SB Ground water ESG-28 to ESG-29 [50m]	11	27JAN06	16FEB06	0		11	-82	-194
3482	SB Ground water ESG-27 to ESG-28 [51m]	11	17FEB06	01MAR06	0		11	-82	-194
SOUTH PORTAL									
3742	SB Kicker/form part Service Trough (fr.SP) 150m	22	07OCT05A	03DEC05	45	100	12	-131	-188
3743	SB Kicker/form part Service Trough (fr.SP) 150m	22	05DEC05	31DEC05	0	100	22	-131	-188
3744	SB Kicker/form part Service Trough (fr.SP) 192m	27	03JAN06	10FEB06	0	100	27	-123	-188
1586	SB exc.grnd/foul water drain trough 342m	60	21NOV05	09FEB06	0	100	60	-32	-242
1583	SB exc.grnd/foul water drain trough 89m(fr.SP)	25	26NOV05	24DEC05	0	100	25	-99	-279
1584	SB exc.grnd/foul water drain trough 150m(fr.SP)	41	28DEC05	22FEB06	0	100	41	35	-253
3166	SB Invert Cleaning (fr.SP 342m)	48	12DEC05	16FEB06	0	100	48	-32	-242
1311	SB Invert Cleaning (fr.SP) 239m	66	28DEC05	23MAR06	0	100	66	16	-272
3368	SB Foulwater Gulley ESF-1 to ESF-2 [48m]	11	28DEC05	10JAN06	0		11	-99	-188
3367	SB Foulwater Gulley ESF-1A to ESF-1 [41m]	9	11JAN06	20JAN06	0		9	-86	-188
3369	SB Foulwater Gulley ESF-2 to ESF-3 [50m]	11	11JAN06	23JAN06	0		11	-99	-188
3370	SB Foulwater Gulley ESF-3 to ESF-4 [48m]	11	24JAN06	13FEB06	0		11	-99	-188
3371	SB Foulwater Gulley ESF-4 to ESF-5 [49m]	11	14FEB06	25FEB06	0		11	-99	-188
3456	SB Ground water ESG-1B to ESG-2 [49m]	11	28DEC05	10JAN06	0		11	-94	-188
3454	SB Ground water ESG-1C to ESG-1B [40m]	9	11JAN06	20JAN06	0		9	-76	-188
3457	SB Ground water ESG-2 to ESG-3 [50m]	11	11JAN06	23JAN06	0		11	-94	-188
3455	SB Ground water ESG-1A to ESG-1B	6	21JAN06	27JAN06	0		6	-76	-188



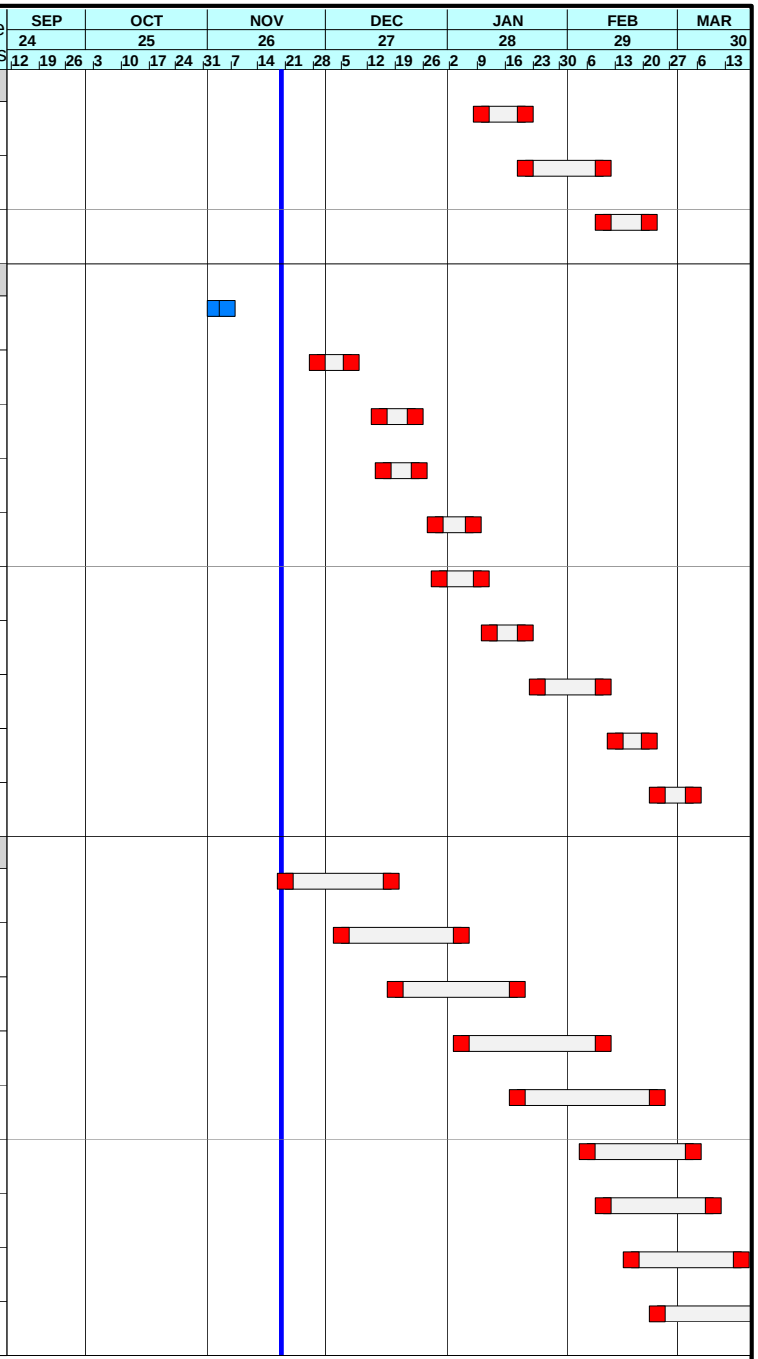
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
SOUTH PORTAL									
3458	SB Ground water ESG-3 to ESG-4 [48m]	11	24JAN06	13FEB06	0		11	-94	-188
3459	SB Ground water ESG-4 to ESG-5 [49m]	11	14FEB06	25FEB06	0		11	-94	-188
TUNNEL LINING									
NORTH PORTAL									
2191	SB NP Arch Lining 150m Tch.2+285 to 2+135	30	20OCT05A	18NOV05A	100	100	0		-163
2192	SB NP Arch Lining 150m Tch.2+135 to 1+985	30	19NOV05A	19DEC05	17	100	25	-131	-159
2193	SB NP Arch Lining 150m Tch.1+985 to 1+835	30	20DEC05	26JAN06	0		30	-127	-159
2194	SB NP Arch Lining 175m Tch.1+835 to 1+660 VA	35	27JAN06	16MAR06	0		35	-127	-159
3157	SB NP OHVD 150m Tch.2+435 to 2+285	30	05OCT05A	27OCT05A	100	100	0		-163
3158	SB NP OHVD 150m Tch.2+285 to 2+135	30	28OCT05A	26NOV05	81	100	6	-130	-159
3159	SB NP OHVD 150m Tch.2+135 to 1+985	30	29NOV05	05JAN06	0	100	30	-131	-160
3160	SB NP OHVD 150m Tch.1+985 to 1+835	30	06JAN06	17FEB06	0		30	-131	-160
3161	SB NP OHVD 175m Tch.1+835 to 1+660 VA	40	18FEB06	06APR06	0		40	-131	-160
SOUTH PORTAL									
1320	SB SP Arch Lining 150m Tch.1+063 to 1+213	30	10OCT05A	19NOV05A	100	100	0		-170
3167	SB SP Arch Lining 150m Tch.1+213 to 1+363	30	21NOV05	24DEC05	0	100	30	-143	-170
3151	SB SP Arch Lining 150m Tch.1+363 to 1+513	30	28DEC05	09FEB06	0		30	-143	-170
3168	SB SP Arch Lining 130m Tch.1+513 to 1+643	38	10FEB06	25MAR06	0		38	-143	-170
3172	SB SP OHVD 150m Tch.1+063 to 1+213	30	29OCT05A	13DEC05	33	100	20	-139	-178
3173	SB SP OHVD 150m Tch.1+213 to 1+363	30	14DEC05	20JAN06	0	100	30	-139	-178
3174	SB SP OHVD 150m Tch.1+363 to 1+513	30	21JAN06	04MAR06	0		30	-139	-178
TUNNEL FINISHING WORKS									
SERVICE TROUGH & UTILITIES									
3560	SB service trough 150m Tch.3+035 to 2+885 fr.NP	23	15OCT05A	03DEC05	51	100	12	-233	-306
3561	SB service trough 150m Tch.2+885 to 2+735 fr.NP	23	05DEC05	03JAN06	0	100	23	-226	-299
3562	SB service trough 150m Tch.2+735 to 2+585 fr.NP	23	04JAN06	07FEB06	0	100	23	-226	-292
3563	SB service trough 150m Tch.2+585 to 2+435 fr.NP	23	08FEB06	06MAR06	0	100	23	-226	-285



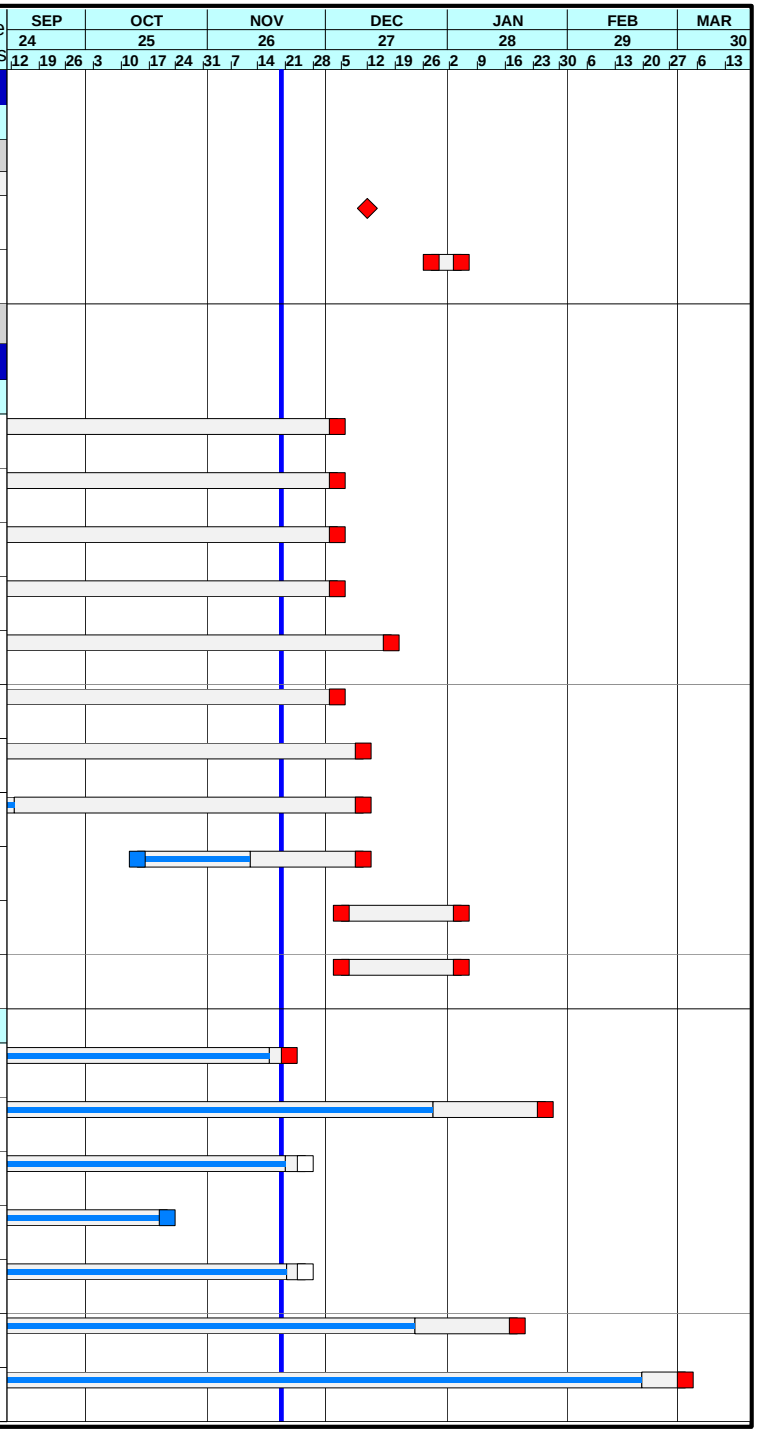
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
SERVICE TROUGH & UTILITIES									
3570	SB service trough 150m Tch.1+063 to 1+213 fr.SP	23	21NOV05	16DEC05	0	100	23	-122	-172
3571	SB service trough 150m Tch.1+213 to 1+363 fr.SP	23	17DEC05	16JAN06	0	100	23	-122	-165
3572	SB service trough 150m Tch.1+363 to 1+513 fr.SP	23	17JAN06	20FEB06	0		23	-122	-158
3573	SB service trough 150m Tch.1+513 to 1+663 fr.SP	23	21FEB06	18MAR06	0		23	-122	-139
3545	SB NP 200 main 150m Tch.3+035 to 2+885 fr.NP	23	21NOV05	16DEC05	0	100	23	-233	-321
3546	SB NP 200 main 150m Tch.2+885 to 2+735 fr.NP	23	17DEC05	16JAN06	0	100	23	-233	-314
3547	SB NP 200 main 150m Tch.2+735 to 2+585 fr.NP	23	17JAN06	20FEB06	0	100	23	-233	-307
3548	SB NP 200 main 150m Tch.2+585 to 2+435 fr.NP	23	21FEB06	18MAR06	0	100	23	-233	-300
3555	SB SP 200 main 150m Tch.1+063 to 1+213 fr.SP	23	25NOV05	21DEC05	0	100	23	-120	-180
3556	SB SP 200 main 150m Tch.1+213 to 1+363 fr.SP	23	30DEC05	26JAN06	0		23	-125	-178
3557	SB SP 200 main 150m Tch.1+363 to 1+513 fr.SP	23	13FEB06	10MAR06	0		23	-132	-178
3642	SB & VA - 50% TCSS Contain't from NP KD6	66	06FEB06	27APR06	0	100	66	-212	-230
SOUTHBOUND & VENTILATION ADIT TUNNEL									
TUNNEL VENTILATION SYSTEM									
TUNNEL VENTILATION									
6764	EntRtSb&VA-TVS Tunnel vent. & SE 1st fix	72	05JAN06	07APR06	0	100	72	-96	-190
CROSS PASSAGES									
X-PASSAGE LINING									
2603	Invert Clean & Lining to CP.2	10	27SEP05A	30NOV05	10	100	9	-143	-165
2597	Invert Clean & Lining to CP.13	10	18OCT05A	03NOV05A	100	100	0		-201
2598	Invert Clean & Lining to CP.12	10	05NOV05A	14NOV05A	100	100	0		-195
2599	Invert Clean & Lining to CP.11	10	21NOV05	01DEC05	0	100	10	-144	-195
2604	Invert Clean & Lining to CP.3	10	01DEC05	12DEC05	0	100	10	-143	-165
2600	Invert Clean & Lining to CP.10	10	02DEC05	13DEC05	0	100	10	-144	-186
2601	Invert Clean & Lining to CP.9	10	14DEC05	24DEC05	0	100	10	-144	-166
2602	Invert Clean & Lining to CP.8	10	28DEC05	09JAN06	0	100	10	-144	-166



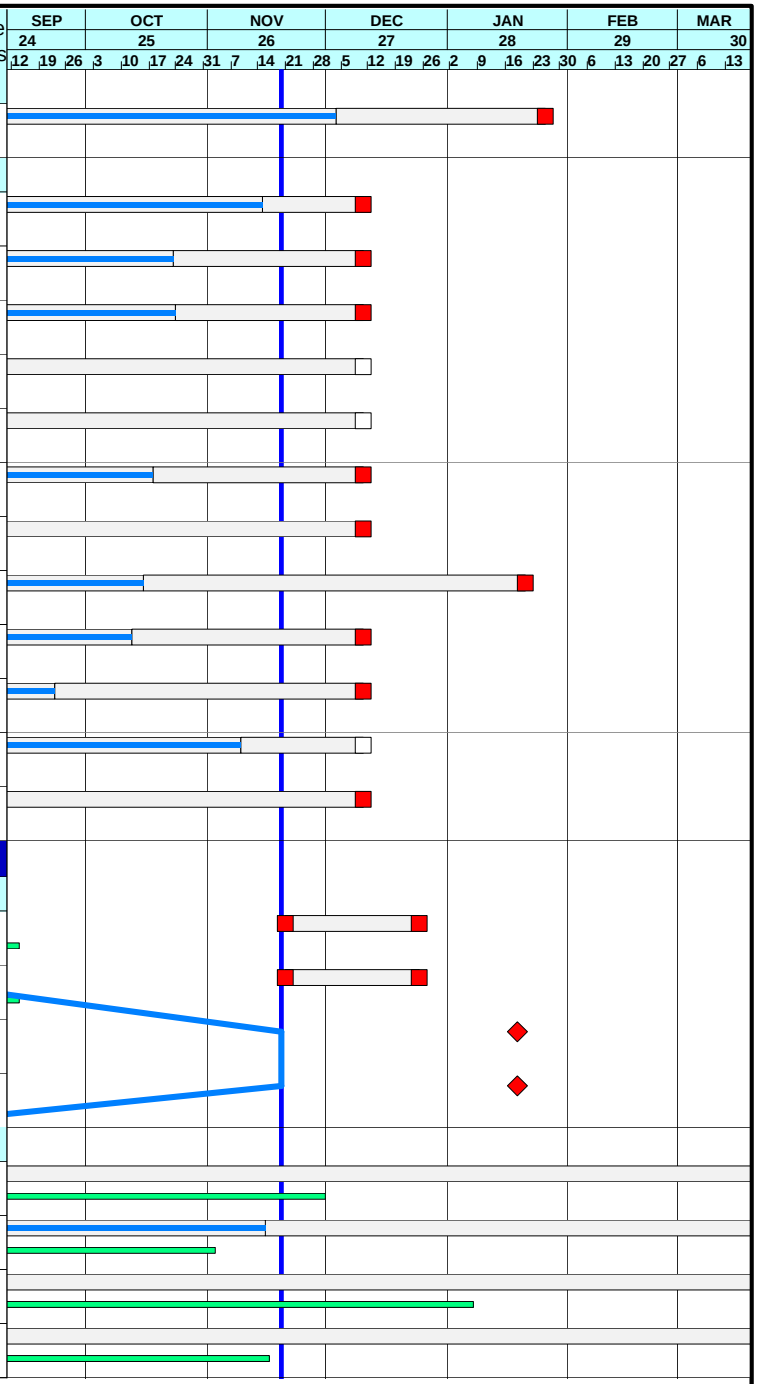
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
X-PASSAGE LINING									
2605	Invert Clean & Lining to CP.4	10	10JAN06	20JAN06	0		10	-144	-166
2606	Invert Clean & Lining to CP.5	10	21JAN06	09FEB06	0		10	-144	-166
2607	Invert Clean & Lining to CP.6	10	10FEB06	21FEB06	0		10	-144	-166
X-PASSAGE INVERT									
2617	Invert Lining to CP.13	8	03NOV05A	05NOV05A	100	100	0		-183
2618	Invert Lining to CP.12	8	29NOV05	07DEC05	0	100	8	-131	-195
2623	Invert Lining to CP.2	8	15DEC05	23DEC05	0	100	8	-99	-165
2619	Invert Lining to CP.11	8	16DEC05	24DEC05	0	100	8	-138	-195
2624	Invert Lining to CP.3	8	29DEC05	07JAN06	0		8	-101	-165
2620	Invert Lining to CP.10	8	30DEC05	09JAN06	0	100	8	-140	-186
2621	Invert Lining to CP.9	8	12JAN06	20JAN06	0		8	-142	-166
2622	Invert Lining to CP.8	8	24JAN06	09FEB06	0		8	-144	-166
2625	Invert Lining to CP.4	8	13FEB06	21FEB06	0		8	-124	-166
2626	Invert Lining to CP.5	8	24FEB06	04MAR06	0		8	-142	-166
X-PASSAGE FINISHING WORKS									
2630	Construct Rooms (incl.ABWF) at CP.20	24	21NOV05	17DEC05	0	100	24	-192	-259
2631	Construct Rooms (incl.ABWF) at CP.19	24	05DEC05	04JAN06	0	100	24	-192	-259
2632	Construct Rooms (incl.ABWF) at CP.18	24	19DEC05	18JAN06	0	100	24	-192	-259
2633	Construct Rooms (incl.ABWF) at CP.17	24	05JAN06	09FEB06	0	100	24	-192	-259
2634	Construct Rooms (incl.ABWF) at CP.16	24	19JAN06	23FEB06	0	100	24	-192	-259
2641	Construct Rooms (incl.ABWF) at CP.9	24	06FEB06	04MAR06	0		24	-104	-166
2635	Construct Rooms (incl.ABWF) at CP.15	24	10FEB06	09MAR06	0	100	24	-192	-259
2642	Construct Rooms (incl.ABWF) at CP.8	24	17FEB06	16MAR06	0		24	-144	-166
2636	Construct Rooms (incl.ABWF) at CP.14	24	24FEB06	23MAR06	0	100	24	-192	-259



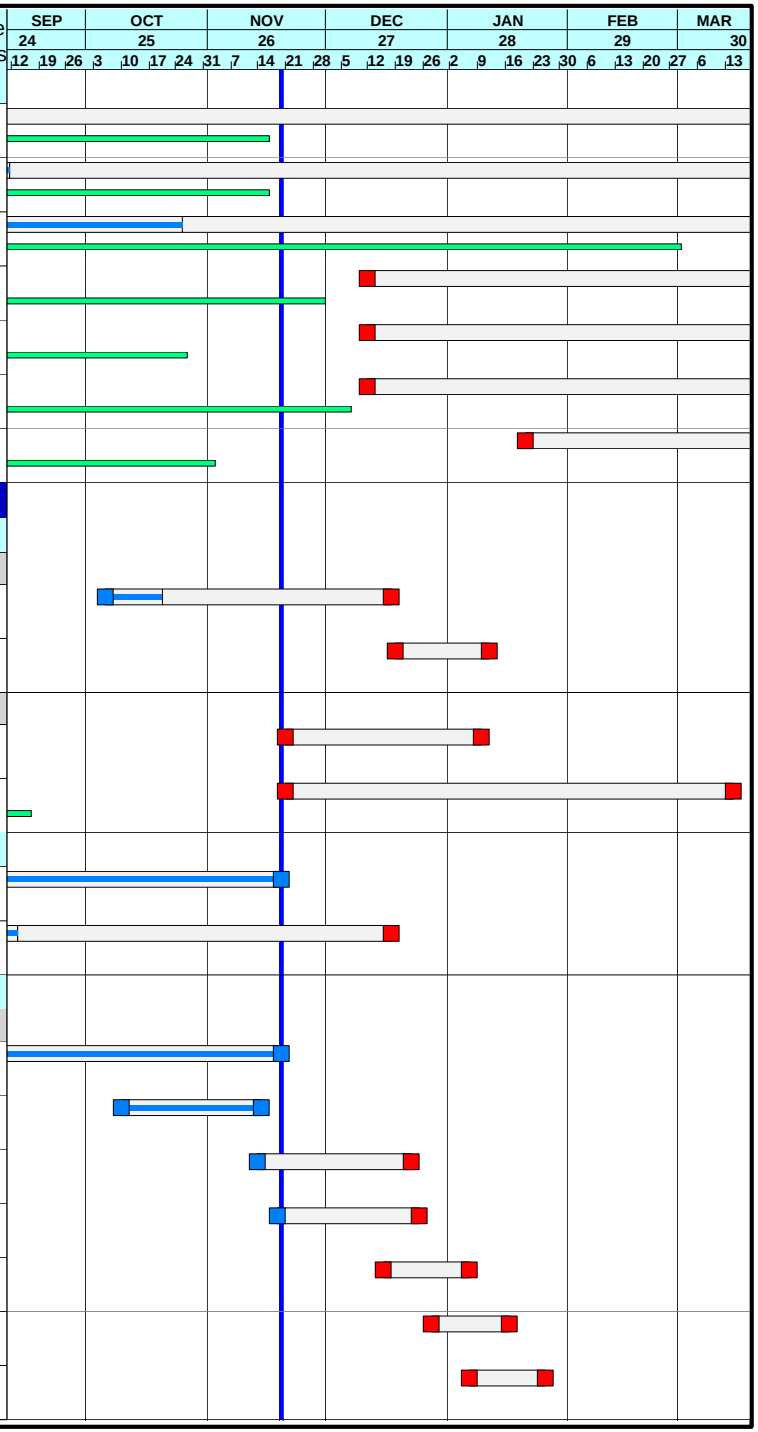
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
TESTING & COMMISSIONING									
EAGLE'S NEST TUNNEL									
STATUTORY INSPECTIONS									
FSD INSPECTION									
6917	EntRt-All FS design approved by FSD (MHJV)	0	12DEC05		0	100	0	-114	-190
6918	EntRt-Issue, endorse & submit FSI 314 to FSD	6	28DEC05	04JAN06	0	100	6	-114	-190
VENTILATION ADIT & BUILDING									
SUBMITTALS & APPROVALS									
ABWF & BUILDER'S WORKS									
1973	VA Bldg. - Prep & submit louvre details	90	22NOV04A	03DEC05	50	100	12	-100	-214
1985	VA Bldg. - Prep & sub aluminium cladding	90	22NOV04A	03DEC05	0	100	12	-94	-214
1975	VA Bldg. - Prep & sub balustrade & metal wks	90	24NOV04A	03DEC05	0	100	12	-94	-212
1971	VA Bldg. - Prep & submit door & window detail	90	03FEB05A	03DEC05	40	100	12	-70	-154
1974	VA Bldg. - Approve louvre details	24	07APR05A	17DEC05	50	100	24	-112	-202
1989	VA Bldg. - Prep & sub fall arrest system	90	19APR05A	03DEC05	50	100	12	-70	-100
1972	VA Bldg. - Approve door & window details	24	07MAY05A	10DEC05	0		18	-76	-136
1991	VA Bldg. - Approve slate cladding	24	15JUN05A	10DEC05	50	100	18	-106	-196
1990	VA Bldg. - Approve fall arrest system	24	14OCT05A	10DEC05	50		18	-76	-82
1976	VA Bldg. - Approve balustrade & metal works	24	05DEC05	04JAN06	0		24	-94	-212
1988	VA Bldg. - Approve aluminium cladding	24	05DEC05	04JAN06	0		24	-94	-214
E&M EQPT./MTRL.DETAIL SUBMITTAL									
8232	VaBldg-Sub.TVF, Ductworks & Control sys	78	02JUL04A	21NOV05	99	100	1	-39	-122
8234	VaBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	25JAN06	95	100	54	-91	-255
8231	VaBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	25NOV05	99	100	5	21	-146
8229	VaBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	21OCT05A	100	100	0		-164
8228	VaBldg-Sub.FS wet sys	54	05AUG04A	25NOV05	99	100	5	21	-146
8233	VaBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	18JAN06	95	100	48	-33	-111
8230	VaBldg-Sub.CMCS & ELV sys	78	26AUG04A	02MAR06	98	100	78	-87	-237



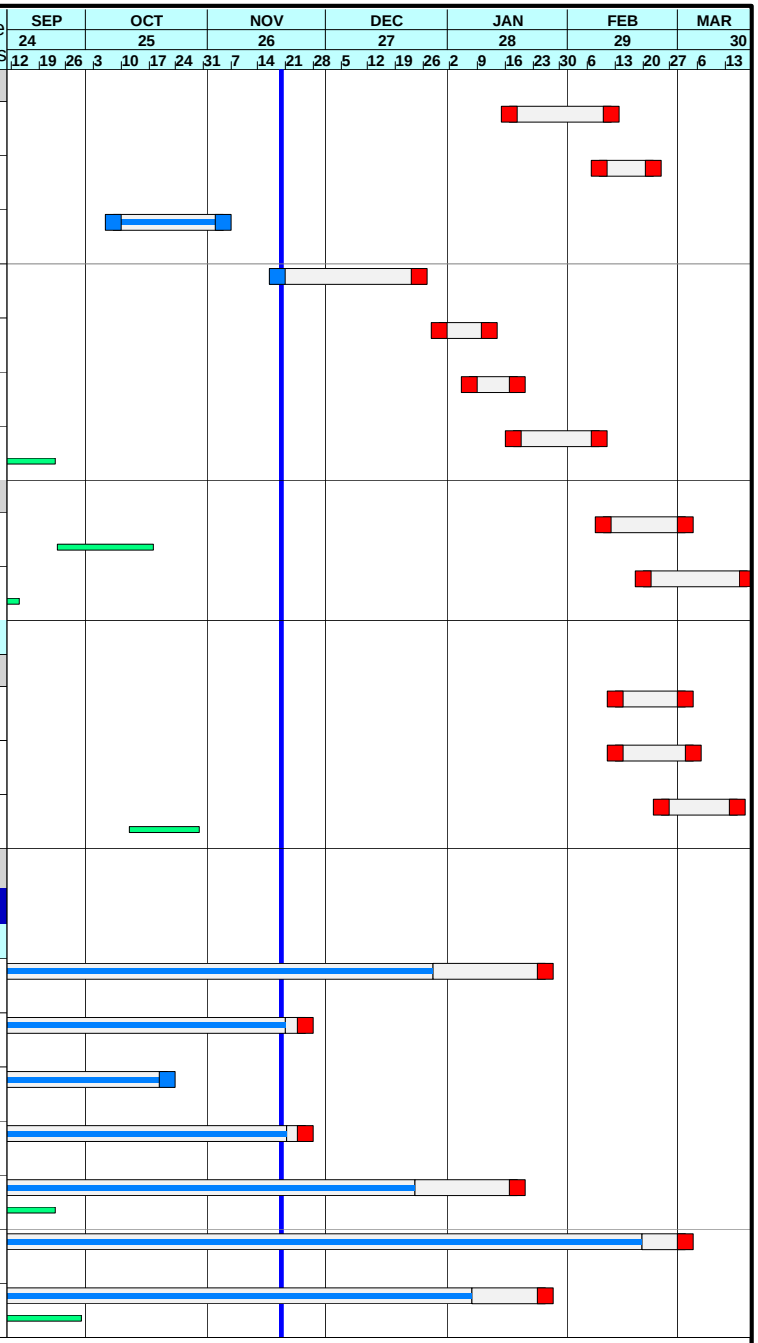
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT./MTRL.DETAIL SUBMITTAL									
8235	VaBldg-Sub.PD irrig. sys	54	04FEB05A	25JAN06	85	100	54	-3	-213
E&M EQPT./MTRL.APPROVAL BY ENGINEER									
6578	VaBldg-App. HV power dist. sys	18	14JUL04A	10DEC05	95	100	18	-99	-213
6579	VaBldg-App. LV power dist. sys	18	13AUG04A	10DEC05	90	100	18	-93	-189
8495	VaBldg-App. building related luminaires	18	18AUG04A	10DEC05	90	100	18	-93	-183
6581	VaBldg-App. FS wet sys	18	04SEP04A	10DEC05	80	100	18	21	-141
6590	VaBldg-App. FS AFA & FM200 sys	18	14SEP04A	10DEC05	70	100	18	21	-141
6587	VaBldg-App. of CMCS & ELV sys	18	20SEP04A	10DEC05	88	100	18	-87	-159
6582	VaBldg-App. MVAC mech.vent. sys	18	23SEP04A	10DEC05	70	100	18	-129	-189
6580	VaBldg-App. PD all fresh & flush water sys	18	04NOV04A	20JAN06	78	100	50	-47	-185
6850	VaBldg-App. TVF, Ductworks & Control sys	18	12NOV04A	10DEC05	85	100	18	-39	-121
6864	V6aBldg-App. MVAC MCC, power & control sys	18	12NOV04A	10DEC05	80	100	18	-91	-201
8515	VaBldg-App. MVAC Package AC Unit sys	18	01FEB05A	10DEC05	90	100	18	15	-99
7590	VaBldg-App. PD irrig. sys	18	05MAY05A	10DEC05	30	100	18	-3	-159
PROCUREMENT									
ARCHITECTURAL									
1994	VA Bldg. - Procure balustrade & metal works	30	21NOV05	24DEC05	0	100	30	-108	-86
1995	VA Bldg. - Procure aluminium cladding	30	21NOV05	24DEC05	0	100	30	-108	-86
2032	VA Bldg. - Initial delivery doors & windows	0	19JAN06		0		0	-76	0
2034	VA Bldg. - Initial delivery fall arrest system	0	19JAN06		0		0	-76	0
E&M MATERIALS									
6584	VaBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	08JUL06	30	70	180	-93	-171
6583	VaBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	08JUL06	50	80	180	-99	-195
6591	VaBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	08JUL06	20	50	180	-87	-141
6636	VaBldg-Proc & Manuf. FS AFA & FM200 sys	120	25MAR05A	25APR06	20	60	120	21	-123



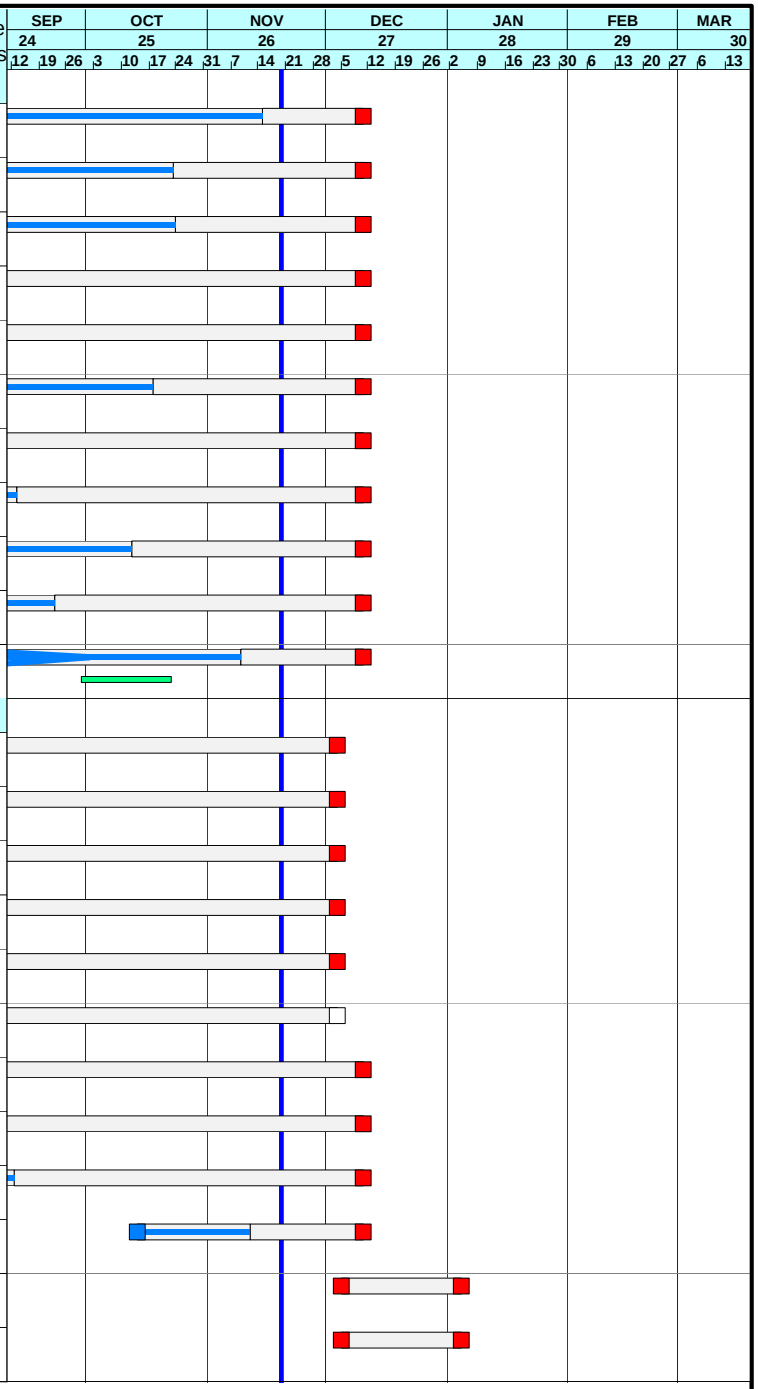
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M MATERIALS									
6865	VaBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	08JUL06	20	80	180	-91	-183
6586	VaBldg-Proc & Manuf. FS wet sys	120	06JUN05A	25APR06	30	70	120	21	-123
6851	VaBldg-Proc & Manuf. TVF, Ductwks & Cont'l sys	180	09JUN05A	08JUL06	35	30	180	-39	-103
6588	VaBldg-Proc & Manuf. MVAC mech.vent. sys	180	12DEC05	29JUL06	0	80	180	-129	-189
7591	VaBldg-Proc & Manuf. PD irrig. sys	120	12DEC05	18MAY06	0	90	120	-3	-159
8496	VaBldg-Proc & Manf bldg related luminaires	180	12DEC05	29JUL06	0	80	180	-93	-183
6585	VaBldg-Proc & Manuf. PD fresh & flush water sys	120	21JAN06	26JUN06	0	90	120	-47	-185
CONSTRUCTION WORKS									
ADIT TUNNEL									
TUNNEL LINING									
1535	VA Portal Lining (20m) Bldg.	24	06OCT05A	17DEC05	20	100	24	-72	-181
1536	VA Form Portal Transition Structure VA Bldg.	18	19DEC05	11JAN06	0	100	18	-72	-187
VA TRANSITION STRUCTURE									
1923	VA RC Tnl Interface Lower part	40	21NOV05	09JAN06	0	100	40	-64	-181
1924	VA RC Tnl Interface upper part	88	21NOV05	14MAR06	0	100	88	-112	-141
SUBSTRUCTURE									
1642	VA Bldg. Fnd.GL.A-F/1-6 +101.7mPD	24	23APR05A	19NOV05A	100	100	0		-157
6589	VaBldg Drainage & Earth mat	48	23APR05A	17DEC05	60	100	24	-130	-193
SUPERSTUCTURE									
RC WORKS									
1538	VA Bldg.RC.Walls/Cols to GL GL.D-F/1-6	18	23AUG05A	19NOV05A	100	100	0		-134
1537	VA Bldg.RC Base LPL GL.D-F/1-6 +105.00mPD	18	10OCT05A	14NOV05A	100	100	0		-140
1539	VA Bldg.RC.GL S/Slab GL.C-F/1-6 +109.60mPD	16	14NOV05A	22DEC05	0	100	28	-130	-154
1540	VA Bldg.RC Walls/Cols to 1FL GL.C-F/1-6	16	19NOV05A	24DEC05	0	100	30	-130	-148
1541	VA Bldg.RC S/Slab 1FL.GL.C-F/1-6 +116.70mPD	16	16DEC05	06JAN06	0	100	16	-130	-148
1542	VA Bldg.RC Walls/Cols to 2FL GL.C-F/1-6	16	28DEC05	16JAN06	0	100	16	-130	-148
1543	VA Bldg.RC S/Slab 2FL GL.C-F/1-6 +124.95mPD	16	07JAN06	25JAN06	0	100	16	-130	-148



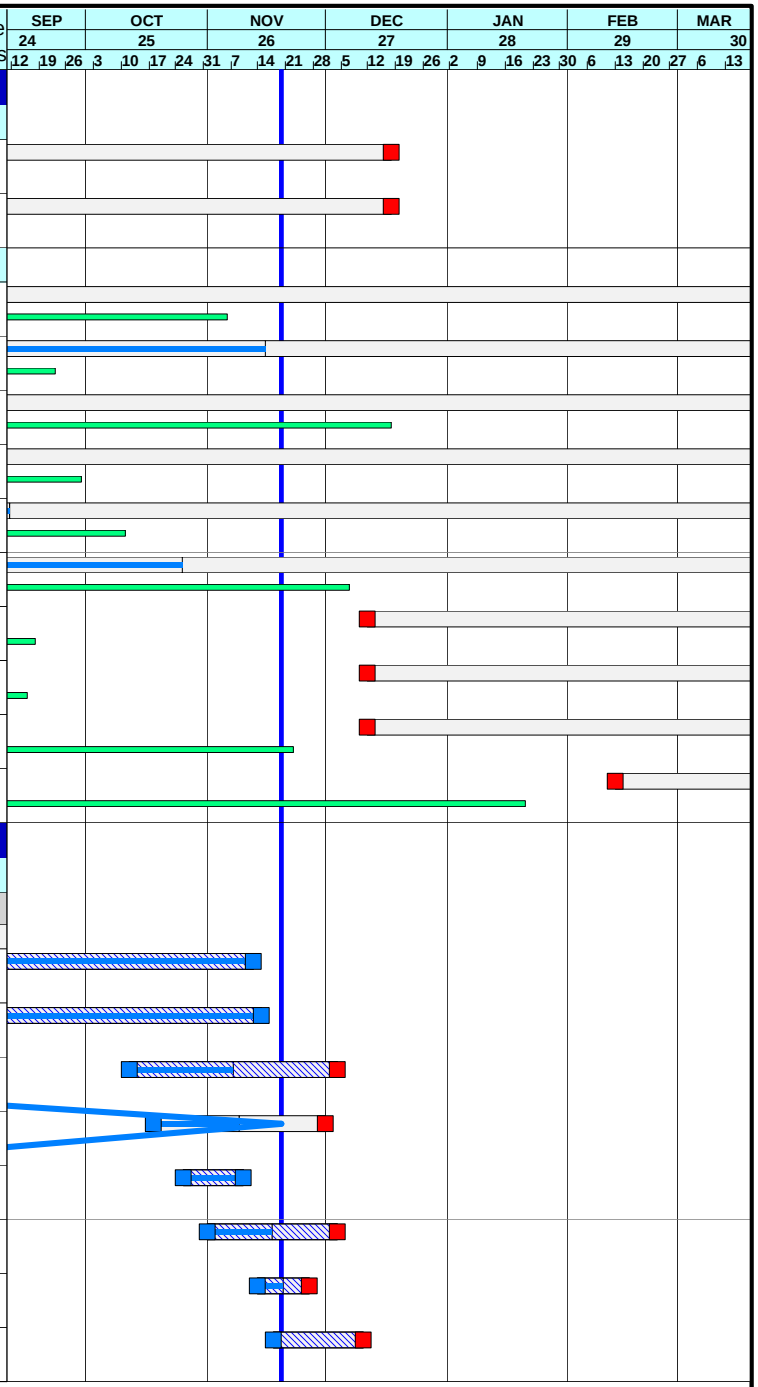
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	RC WORKS								
1544	VA Bldg.RC Walls/Cols to URFL GL.C-F/1-6	16	17JAN06	11FEB06	0	100	16	-130	-148
1545	VA Bldg.RC S/Slab URFL +131.65mPD	12	09FEB06	22FEB06	0	100	12	-126	-148
1547	VA Bldg.RC.Grnd.Slab GL.A-C/1-6 +109.60mPD	12	08OCT05A	04NOV05A	100	100	0		-69
1548	VA Bldg.RC.Walls/Cols to 1F GL.A-C/1-6	14	19NOV05A	24DEC05	0	100	30	-90	-101
1549	VA Bldg.RC S/Slab 1FL.GL.A-C/1-6 +116.70mPD	10	30DEC05	11JAN06	0		10	-90	-107
1550	VA Bldg.RC Walls/Cols to 2FL GL.A-C/1-6	10	07JAN06	18JAN06	0		10	-89	-107
1551	VA Bldg.RC S/Slab 2FL GL.A-C/1-6 +124.95mPD	12	18JAN06	08FEB06	0		12	-89	-107
	STRUCTURAL STEELWORKS								
1561	VA Bldg. - Crane Beam to underside of 1FL & test	18	10FEB06	02MAR06	0		18	-9	-107
1546	VA Bldg.Struct.Steelworks URFL +131.65mPD	24	20FEB06	18MAR06	0	100	24	-126	-148
	ARCHITECTURAL & BUILDER'S WORKS								
	BUILDER'S WORKS								
1553	VA.Bldg.W/Proof Tanks/Pits & Test GL.H-S/10-12	16	13FEB06	02MAR06	0	100	16	-130	-148
1554	VA.Bldg.Plinths LPL.	18	13FEB06	04MAR06	0	100	18	-120	-148
1645	VA.Bldg. Wet Trades 2F/L	16	25FEB06	15MAR06	0		16	-89	-107
	ENT NORTH PORTAL VENTILATION BUILDING								
	SUBMITTALS & APPROVALS								
	E&M EQPT.& MATERIAL.SUBMITTALS								
8260	EntNpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	25JAN06	95	100	54	-138	-294
8257	EntNpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	25NOV05	99	100	5	0	-93
8254	EntNpBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	21OCT05A	100	100	0		-227
8253	EntNpBldg-Sub.FS wet sys	54	05AUG04A	25NOV05	99	100	5	12	-177
8259	EntNpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	18JAN06	95	100	48	-36	-96
8255	EntNpBldg-Sub.CMCS & ELV sys	78	28AUG04A	02MAR06	98	100	78	-90	-252
8256	EntNpBldg-Sub.MVAC Package AC Units	54	17JAN05A	25JAN06	95	90	54	12	-96



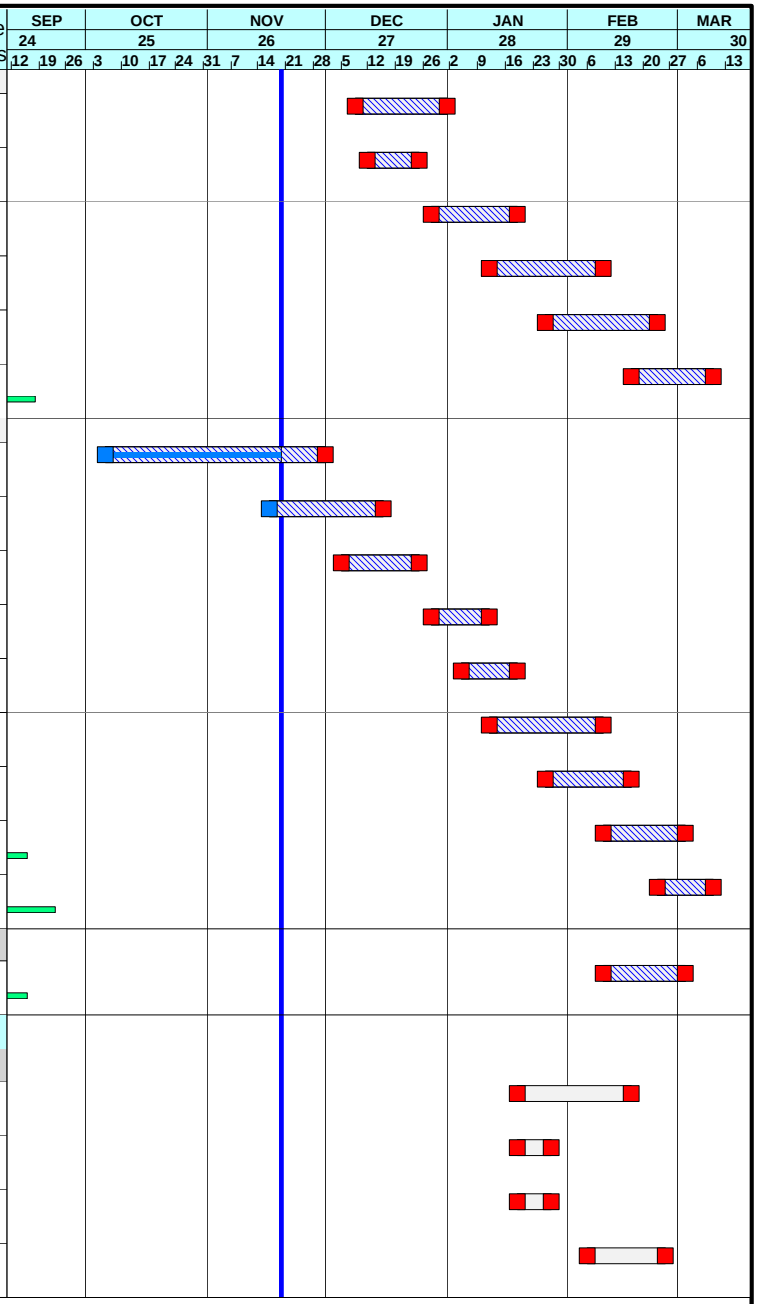
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT.& MATERIAL APPROVALS									
6196	EntNpBldg-App. HV power dist. sys	18	14JUL04A	10DEC05	95	100	18	-138	-246
6197	EntNpBldg-App. LV power dist. sys	18	13AUG04A	10DEC05	90	100	18	-144	-210
8499	EntNpBldg-App. building related luminaires	18	18AUG04A	10DEC05	90	100	18	-84	-196
6199	EntNpBldg-App. FS wet sys	18	04SEP04A	10DEC05	80	100	18	12	-172
6210	EntNpBldg-App. FS AFA & FM200 sys	18	14SEP04A	10DEC05	70	100	18	0	-88
6203	EntNpBldg-App. CMCS & ELV sys	18	20SEP04A	10DEC05	88	100	18	-90	-174
6200	EntNpBldg-App. MVAC mech.vent. sys	18	23SEP04A	10DEC05	70	100	18	-162	-252
6198	EntNpBldg-App. PD cleans. & flush water sys	18	04NOV04A	10DEC05	78	100	18	-6	-190
6823	EntNpBldg-App. TVF, Ductworks & Control sys	18	12NOV04A	10DEC05	85	100	18	-90	-184
6837	EntNpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	10DEC05	80	100	18	-138	-240
6207	EntNpBldg-App. MVAC Package AC Unit sys	18	01FEB05A	10DEC05	90	0	18	12	-42
ABWF WORKS									
1955	NP.Bldg. - Prep & submit louvre details	24	19NOV04A	03DEC05	50	100	12	-45	-282
1959	NP.Bldg. - Prep & sub aluminium cladding	24	19NOV04A	03DEC05	50	100	12	-69	-282
1970	NP.Bldg. - Prep & submit slate cladding	24	19NOV04A	03DEC05	50	100	12	-45	-282
1957	NP.Bldg. - Prep & sub balustrade & metal wks	24	20JAN05A	03DEC05	50	100	12	-39	-232
1961	NP.Bldg. - Prep & sub fall arrest system	24	01FEB05A	03DEC05	50	100	12	-45	-222
1946	NP.Bldg. - Prep & submit door & window detail	24	17FEB05A	03DEC05	50	100	12	703	-214
1954	NP.Bldg. - Approve door & window details	24	06APR05A	10DEC05	50	100	18	-21	-196
1956	NP.Bldg. - Approve louvre details	24	08APR05A	10DEC05	50	100	18	-51	-264
1963	NP.Bldg. - Approve slate cladding	24	15JUN05A	10DEC05	50	100	18	-51	-264
1962	NP.Bldg. - Approve fall arrest system	24	14OCT05A	10DEC05	50	100	18	-51	-204
1958	NP.Bldg. - Approve balustrade & metal works	24	05DEC05	04JAN06	0	100	24	-39	-232
1960	NP.Bldg. - Approve aluminium cladding	24	05DEC05	04JAN06	0	100	24	-69	-282



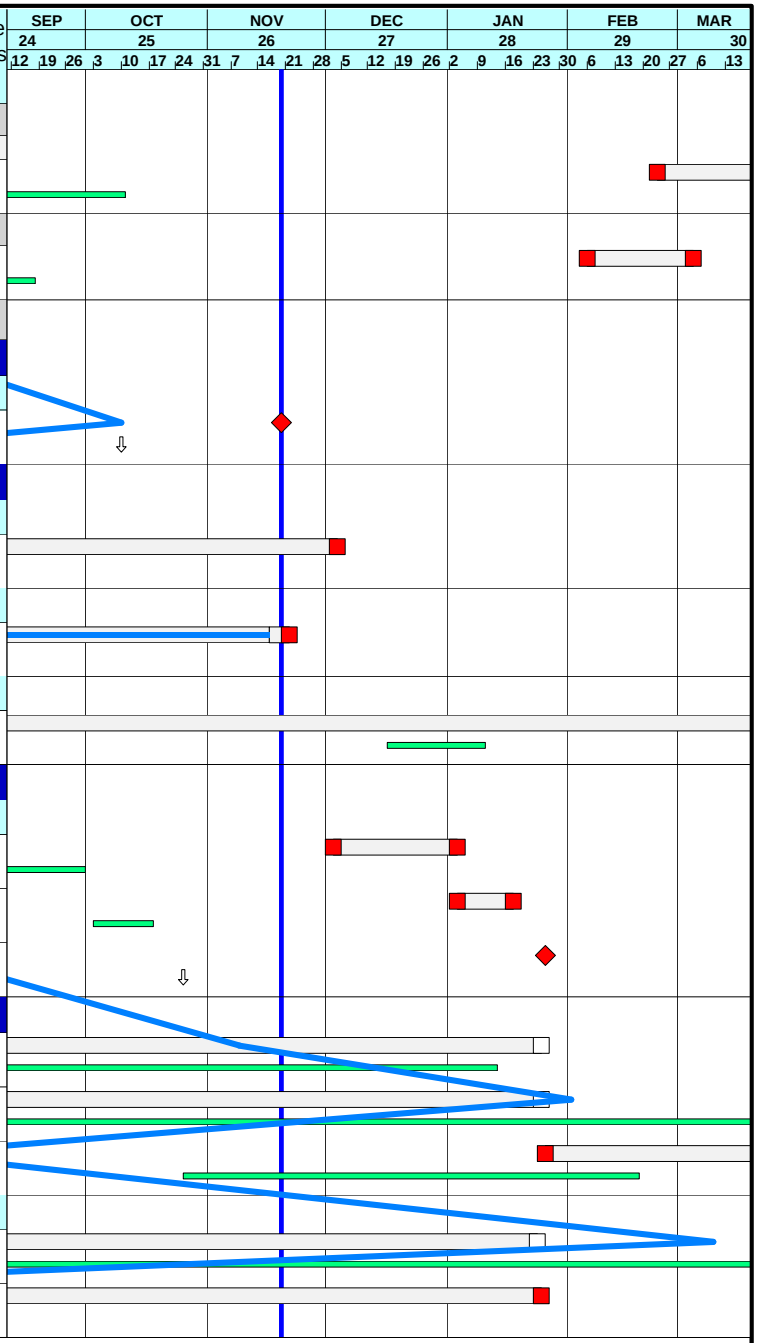
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
PROCUREMENT - MATERIAL									
ABWF WORKS									
1967	NP.Bldg. - Procure aluminium cladding	180	18JAN05A	17DEC05	50	100	24	-87	-90
1966	NP.Bldg. - Procure balustrade & metal works	120	24MAR05A	17DEC05	50	100	24	-79	-100
E&M WORKS									
6202	EntNpBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	08JUL06	30	80	180	-144	-192
6201	EntNpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	08JUL06	50	100	180	-138	-228
6208	EntNpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	08JUL06	20	70	180	-90	-156
6838	EntNpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	08JUL06	20	95	180	-138	-222
6205	EntNpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	25APR06	30	90	120	12	-154
6824	EntNpBldg-Proc & Manuf. TVF, Ductwks&Cont'l sys	180	09JUN05A	08JUL06	35	80	180	-90	-166
6204	EntNpBldg-Proc & Manuf. Cleans & flush water sys	120	12DEC05	18MAY06	0	100	120	-6	-190
6206	EntNpBldg-Proc & Manuf. MVAC mech.vent. sys	180	12DEC05	29JUL06	0	100	180	-162	-252
8500	EntNpBldg-Proc & Manf bldg related luminaires	180	12DEC05	29JUL06	0	80	180	-84	-196
6269	EntNpBldg-Proc & Manuf. FS AFA & FM200 sys	120	13FEB06	11JUL06	0		120	-44	-132
CONSTRUCTION									
SUPERSTRUCTURE									
RC WORKS									
NB CARRIAGEWAY & CENTRAL RESERVE									
1387	NP.Bldg. - RC Cols.& Walls to 1FL.GL.A-K/2-6	18	03AUG05A	12NOV05A	100	100	0		-180
1385	NP.Bldg. - Nth Bound C/Way RC Ret. Wall W1	24	03SEP05A	14NOV05A	100	100	0		-169
1389	NP.Bldg. - RC S/Slab 1FL.+72.50mPD GL.A-K/2-6	18	12OCT05A	03DEC05	50	100	12	-99	-174
1427	NP.Bldg - RC Trans Slab - Nth Bound [New Act]	36	18OCT05A	30NOV05	50		9	-102	0
1391	NP.Bldg. - RC S/Slab LPL.+74.40mPD GL.A-F/2-6	12	26OCT05A	09NOV05A	100	100	0		-135
1392	NP.Bldg. - RC S/Slab LPL.+75.50mPD GL.G-K/2-6	12	01NOV05A	03DEC05	50	100	12	-107	-150
1390	NP.Bldg. - RC Cols.& Walls to 2FL.GL.A-K/2-6	18	14NOV05A	26NOV05	50	100	6	-99	-156
1393	NP.Bldg - RC Trans Slab 2FL.~+78.5mPD GL.A-K/2-7	20	18NOV05A	10DEC05	0	100	18	-111	-136



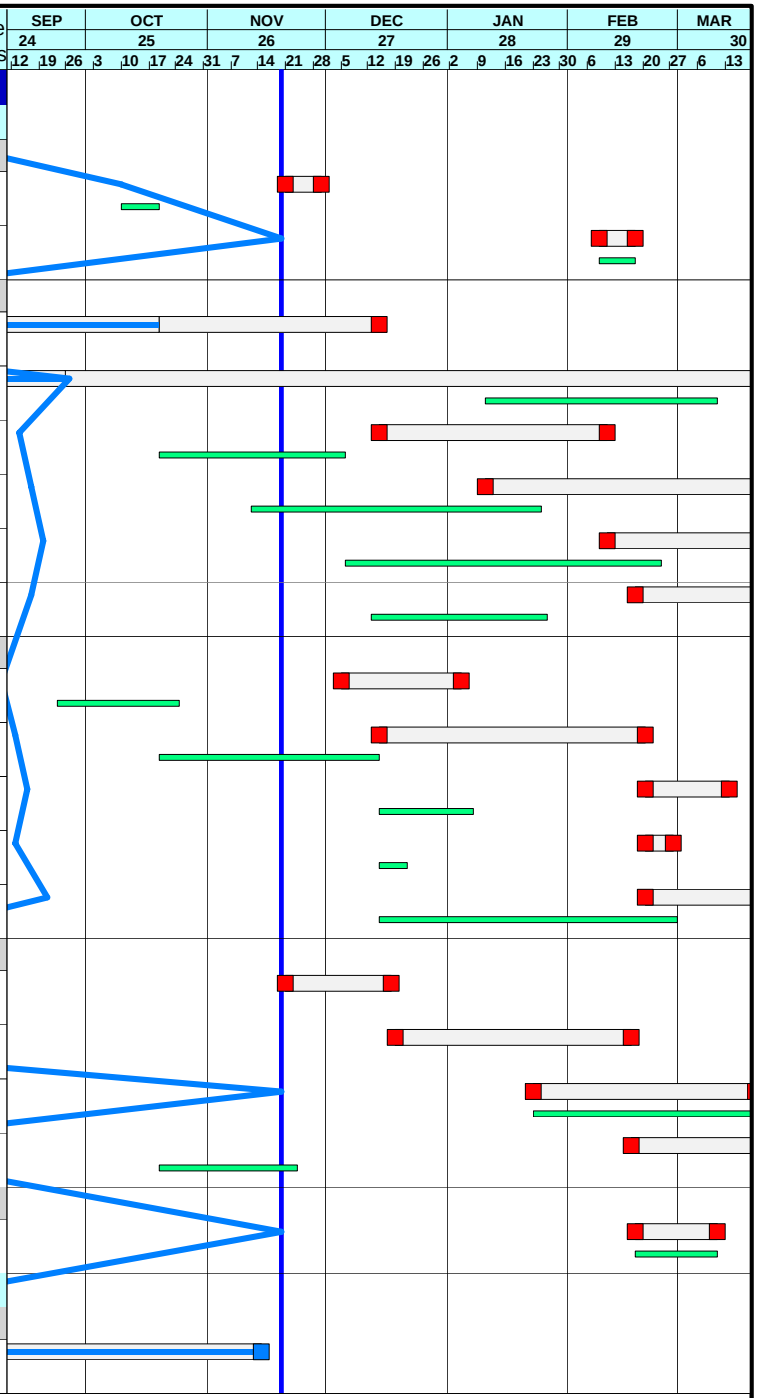
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	NB CARRIAGEWAY & CENTRAL RESERVE								
1395	NP.Bldg. - RC Cols.& Walls to 3FL.GL.A-J/3-6	18	09DEC05	31DEC05	0	100	18	-109	-136
1394	NP.Bldg - RC S/Slab U2FL.+78.40.65mPD GL.E-H/3-7	12	12DEC05	24DEC05	0	100	12	-111	-136
1396	NP.Bldg. - RC S/Slab 3FL.+85.98mPD GL.A-J/3-7	18	28DEC05	18JAN06	0		18	-111	-136
1397	NP.Bldg. - RC Cols.& Walls to 4FL.GL.A-J/3-7	18	12JAN06	09FEB06	0		18	-57	-136
1398	NP.Bldg. - RC S/Slab 4FL.+93.83mPD GL.A-H/3-7	18	26JAN06	23FEB06	0		18	-57	-136
1399	NP.Bldg. - RC Cols.& Walls to 5FL.GL.A-H/3-7	18	17FEB06	09MAR06	0		18	-57	-136
	SB CARRIAGEWAY								
1405	NP.Bldg. - Sth Bound C/Way RC Ret Wall W2	24	06OCT05A	30NOV05	80	100	9	-111	-141
1406	NP.Bldg. - RC Trans Slab 2FL.~78.5mPD GL.A-K/1-2	15	17NOV05A	15DEC05	0	100	22	-111	-139
1408	NP.Bldg. - RC Cols.& Walls to 3FL.GL.A-J/1-3	18	05DEC05	24DEC05	0	100	18	-111	-132
1407	NP.Bldg. - RC S/Slab U2FL.~78.5mPD GL.E-H/1-3	12	28DEC05	11JAN06	0	100	12	-111	-132
1409	NP.Bldg. - RC S/Slab 3FL.+85.98mPD GL.A-J/1-3	12	05JAN06	18JAN06	0	100	12	-111	-132
1410	NP.Bldg. - RC Cols.& Walls to 4FL.GL.A-J/1-3	18	12JAN06	09FEB06	0	100	18	-39	-132
1411	NP.Bldg. - RC S/Slab 4FL.+93.83mPD GL.A-H/1-3	12	26JAN06	16FEB06	0		12	-39	-132
1412	NP.Bldg. - RC Cols.& Walls to 5FL.GL.A-H/1-3	18	10FEB06	02MAR06	0		18	-39	-132
1413	NP.Bldg. - RC S/Slab 5FL.+100.88mPD GL.A-H/1-3	9	24FEB06	09MAR06	0		12	-39	-132
	STRUCTURAL STEELWORKS								
1232	NP.Bldg.- Crane beams to underside of U2F & test	18	10FEB06	02MAR06	0		18	-72	-132
	ARCHITECTURAL & BUILDER'S WORKS								
	BUILDER'S WORK								
1418	NP.Bldg. -W/Proof Tanks/Pits & Test GL.H-S/10-12	18	19JAN06	16FEB06	0		18	-44	-136
1419	NP.Bldg. - Plinths GL.	8	19JAN06	27JAN06	0		8	-44	-132
1420	NP.Bldg. - Plinths 2FL.	8	19JAN06	27JAN06	0		8	-111	-132
1626	NP.Bldg.Wet Trades 2FL	18	06FEB06	25FEB06	0		18	-111	-132



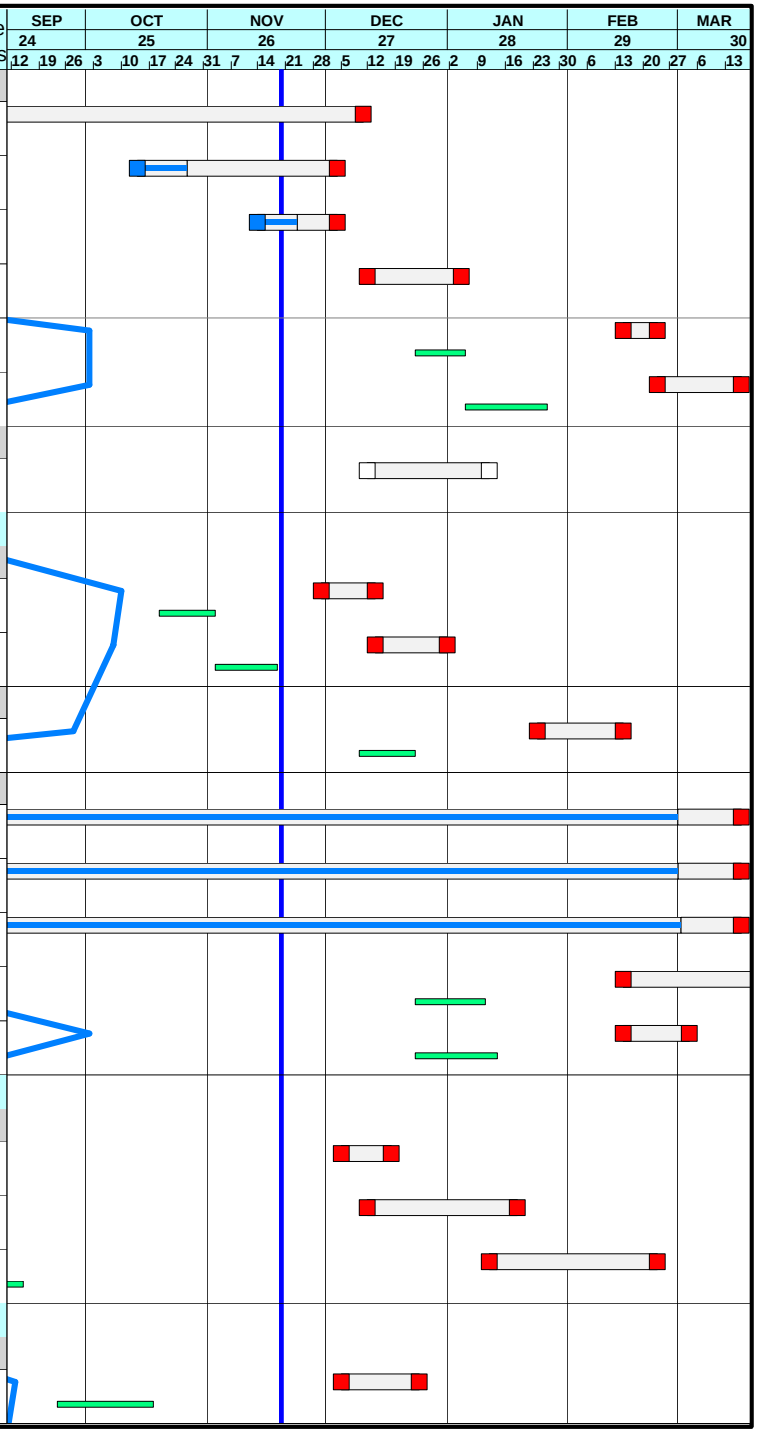
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M - GENERAL									
ELECTRICAL WORKS									
EARTHING & LIGHTNING PROTECTION									
6209	EntNpBldg-Earth'g & lightn'g - Earth Mat & Rods	30	24FEB06	30MAR06	0		30	-12	-136
TCSS CONTAINMENT									
8481	EntNpBldg - TCSS Contain't for KD7	24	06FEB06	04MAR06	0		24	-111	-132
TOLL PLAZA & ANCILLIARY STRUCTURES									
CONTRACT DEFINED DATES & SECTIONS									
AREA ACCESS & VACATION DATES									
ACS_D5	Access to Portion - D5	0	20NOV05		0	0	0	-61	-41
SUBMITTALS & APPROVALS									
ABWF & BUILDER'S WORKS									
1522	TP/FB - Approve footbridge details	24	28JUL05A	03DEC05	0	100	12	1	-317
E&M EQPT. / MTRL. SUBMITTALS									
8258	EntNpBldg-Sub.TVF	78	02JUL04A	21NOV05	99	100	1	-90	-185
E&M EQPT. / MTRL. APPROVALS									
7547	TP-App. MVAC Package AC Unit sys	18	01FEB05A	25APR06	30	0	18	-27	-79
DESIGN & ENGINEERING									
PERMANENT WORKS									
1244	Design/ICE Check Tool Booth Canopy	24	03DEC05	03JAN06	0	70	24	-45	-76
1341	Eng Approve Dsg Tool Booth Canopy	12	04JAN06	17JAN06	0	0	12	-45	-76
1358	Issue Constr Dwgs Tool Booth Canopy	0		25JAN06	0		0	-45	-76
PROCUREMENT - MAJOR MATERIAL									
2184	Order/Fabricate/Deliver FBridge Structural Steel	120	01APR05A	24JAN06	0	30	53	22	-9
1518	Admin Bldg - Procure & maunfacture lift	270	01JUN05A	24JAN06	0	40	53	127	56
2185	Order/Fabricate/Deliver Tool Booth Canopy	90	26JAN06	25MAY06	0		90	-45	-76
TOLL PLAZA									
1512	TP/FB - Procure & maunfacture lifts (x2)	270	15JUL05A	23JAN06	0	30	52	149	82
1521	TP/FB - Procure & fabricate footbridge	110	15JUL05A	24JAN06	0	100	53	7	-178



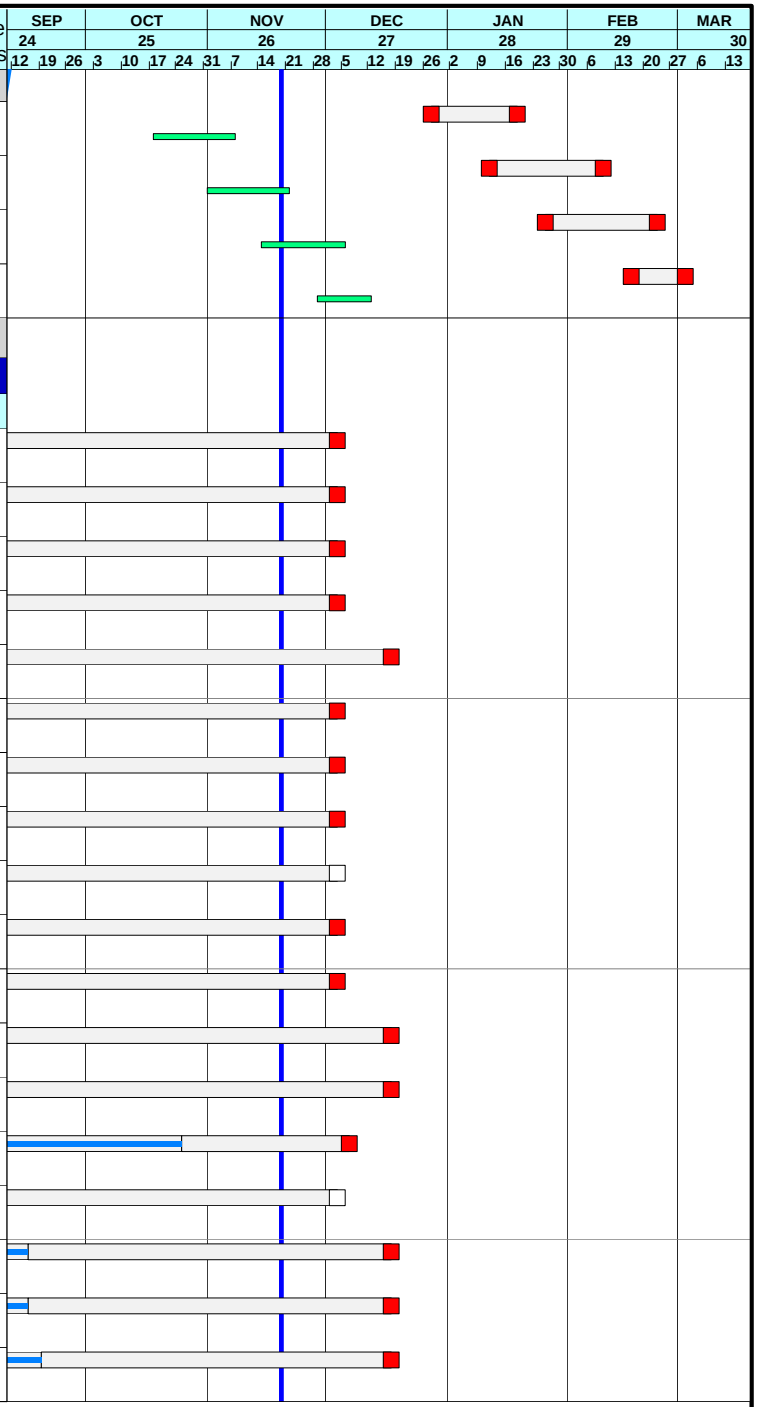
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
CONSTRUCTION WORKS									
TOLL PLAZA ROADWORKS									
SURVEY									
1737	TP - Land Survey & report - Portion D5	8	21NOV05	29NOV05	0	0	8	-51	-35
1738	TP - Land Survey & report - Portion D8	8	09FEB06	17FEB06	0		8	4	0
ROADS - FORMATION									
1770	TP/Rd - Perm materials storage area; Ptn D2 & D3	175	01JUN04A	14DEC05	90	100	21	-112	-145
1497	TP/Rd - Drainage ch.4+520 to 4+680	44	01AUG05A	03MAY06	20	0	126	-32	-41
1744	TP/Rd - Drainage ch.4+320 to 4+460	40	15DEC05	10FEB06	0	0	40	-37	-48
1877	TP/Rd - Water main	60	11JAN06	29MAR06	0	0	60	-37	-48
1878	TP/Rd - HV & LV Cable ducting	60	11FEB06	26APR06	0	0	60	-37	-48
1825	TP/Rd - Drain Testing - ch.4+320 to 4+460	36	18FEB06	31MAR06	0	0	36	-3	-48
ROADS - EVA									
1776	TP/Rd - Petrol Interceptor	24	05DEC05	04JAN06	0	0	24	-29	-59
1743	TP/Rd - Drainage - EVA loop road - SW area	48	15DEC05	20FEB06	0	0	48	-40	-48
1751	TP/Rd - Drain Testing - EVA loop road - SW area	18	21FEB06	13MAR06	0	0	18	-11	-48
1752	TP/Rd - Sub-base - EVA loop road - SW area	6	21FEB06	27FEB06	0	0	6	1	-48
1756	TP/Rd - Drainage - EVA loop rd - E & NE area	55	21FEB06	29APR06	0	0	55	-40	-48
ROADS - FINISHES									
1824	TP/Rd - Ptn D4 TCSS Ducts S&NB ch.4+460 to 4+520	24	21NOV05	17DEC05	0	100	24	-115	-125
1736	TP/Rd - Ptn D2&D3TCSS Dct S&NB ch.4+320 to 4+460	42	19DEC05	16FEB06	0	100	42	-115	-125
1500	TP/Rd - TCSS Ducts SB&NB C'Way ch.4+520 to 4+680	42	23JAN06	20MAR06	0	0	42	4	0
1747	TP/Rd - Ptn D5 - TCSS Dct S&NB ch.4+320 to 4+460	30	17FEB06	23MAR06	0	0	30	-71	-93
STRUCTURAL STEEL									
1849	TP/Rd - TCSS Sign ch.4+520 to 4+680	18	18FEB06	10MAR06	0		18	12	0
TOLL PLAZA COLLECTOR'S SUBWAY									
STRUCTURE									
1714	TP/CS - Substructure construction - Ptn A	18	25JUL05A	14NOV05A	100	100	0		-140



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	STRUCTURE								
1716	TP/CS - Substructure construction - Ptn C	18	25JUL05A	10DEC05	20	100	18	-97	-127
1719	TP/CS - Waterproof & backfill - Ptn B	18	14OCT05A	03DEC05	25	100	12	-97	-121
1718	TP/CS - Waterproof & backfill - Ptn A	18	14NOV05A	03DEC05	50	100	12	-103	-139
1720	TP/CS - Waterproof & backfill - Ptn C	18	12DEC05	04JAN06	0	100	18	-97	-127
1470	TP/CS - Excavation - Ptn D	8	15FEB06	23FEB06	0	0	8	-20	-35
1717	TP/CS - Substructure construction - Ptn D	18	24FEB06	16MAR06	0		18	-20	-35
	ABWF								
1471	TP/CS - Internal Finishes Ptn A, B & C	24	12DEC05	11JAN06	0	100	24	43	-127
	TOLL PLAZA FOOTBRIDGE								
	BORED PILES								
1490	TP/FB - Site Investigation & Report - Cap FT1	12	30NOV05	13DEC05	0	0	12	-51	-35
1491	TP/FB - Bored Pile 1.2m dia 4nr - Cap FT1	14	14DEC05	31DEC05	0	0	14	-51	-35
	FOUNDATIONS								
1495	TP/FB - Pile Cap - Cap FT1	12	24JAN06	14FEB06	0	0	12	-51	-35
	RC SUPERSTRUCTURE								
1694	TP/FB - Column & bearings C2	12	27APR05A	16MAR06	95	100	90	-30	-215
1707	TP/FB - Column & bearings C1	12	29APR05A	16MAR06	95	100	90	-21	-214
1494	TP/FB - Column & bearings W2 (FT4)	12	13MAY05A	16MAR06	95	100	90	-30	-242
1506	TP/FB - Column & bearings W1 (FT1)	56	15FEB06	25APR06	0	0	56	-51	-79
1507	TP/FB - Lift Machine room walls & stair (FT1)	15	15FEB06	03MAR06	0	0	15	-4	-35
	TOLL PLAZA BOOTHS								
	STRUCTURE								
1510	TP/B - Construct toll islands - Portion A - 1 no	12	05DEC05	17DEC05	0	100	12	-103	-139
1713	TP/B - Construct toll islands - Portion B - 5 no	30	12DEC05	18JAN06	0	100	30	-103	-127
1722	TP/B - Construct toll islands - Portion C - 5 no	30	12JAN06	23FEB06	0		30	-103	-127
	ADMIN.BLDG. - WORKSHOP								
	FOUNDATIONS								
1750	Admin.Bldg. Wk Shop - Raft footing	18	05DEC05	24DEC05	0	0	18	-41	-59



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
STRUCTURE									
1749	Admin.Bldg. Wk Shop - GF Slab	18	28DEC05	18JAN06	0	0	18	-41	-59
1768	Admin.Bldg. Wk Shop - Columns & walls GF to Roof	18	12JAN06	09FEB06	0	0	18	-41	-59
1777	Admin.Bldg. Wk Shop - Roof Slab	18	26JAN06	23FEB06	0		18	-41	-59
1779	Admin. Wk Shop - Col & walls Roof to Upper Roof	12	17FEB06	02MAR06	0		12	-41	-59
ADMINISTRATION BUILDING									
SUBMITTALS & APPROVALS									
ABWF & BUILDER'S WORKS									
1879	Admin.Bldg. - Prep & submit glass canopy details	24	25AUG04A	03DEC05	50	100	12	-151	-353
1893	Admin.Bldg. - Prep & submit louvre details	24	25AUG04A	03DEC05	50	100	12	-151	-353
1897	Admin.Bldg. - Prep & sub aluminium cladding	24	25AUG04A	03DEC05	50	100	12	-12	-353
1889	Admin.Bldg. - Prep & submit curtain wall details	24	30SEP04A	03DEC05	50	100	12	-133	-323
1883	Admin.Bldg. - Prep & sub sheet decking details	24	13NOV04A	17DEC05	12	100	24	-139	-299
1891	Admin.Bldg. - Prep & submit door & window detail	24	13NOV04A	03DEC05	10	100	12	-127	-287
1885	Admin.Bldg. - Prep & submit wood ceiling details	24	20NOV04A	03DEC05	50	100	12	-151	-281
1899	Admin.Bldg. - Prep & sub fall arrest system	24	18DEC04A	03DEC05	50	100	12	-96	-257
1517	Admin Bldg - Engineering & Submit lift details	78	28DEC04A	03DEC05	50	100	12	127	-197
1895	Admin.Bldg. - Prep & sub balustrade & metal wks	24	05JAN05A	03DEC05	50	100	12	-151	-245
1881	Admin.Bldg. - Prep & sub GRP water tank details	24	12JAN05A	03DEC05	50	100	12	-133	-239
1892	Admin.Bldg. - Approve door & window details	24	06APR05A	17DEC05	50	100	24	-139	-275
1894	Admin.Bldg. - Approve louvre details	24	07APR05A	17DEC05	50	100	24	-163	-341
1880	Admin.Bldg. - Approve glass canopy details	24	07MAY05A	06DEC05	80	100	14	-153	-331
1516	Admin Bldg - Approve lifts details	24	01JUN05A	03DEC05	50	100	12	127	-173
1819	Admin.Bldg. - Approve stone cladding design	24	15JUN05A	17DEC05	50		24	0	-191
1820	Admin.Bldg. - Approve slate cladding design	24	15JUN05A	17DEC05	50		24	0	-191
1890	Admin.Bldg. - Approve curtain wall details	24	22JUN05A	17DEC05	50	100	24	-145	-311



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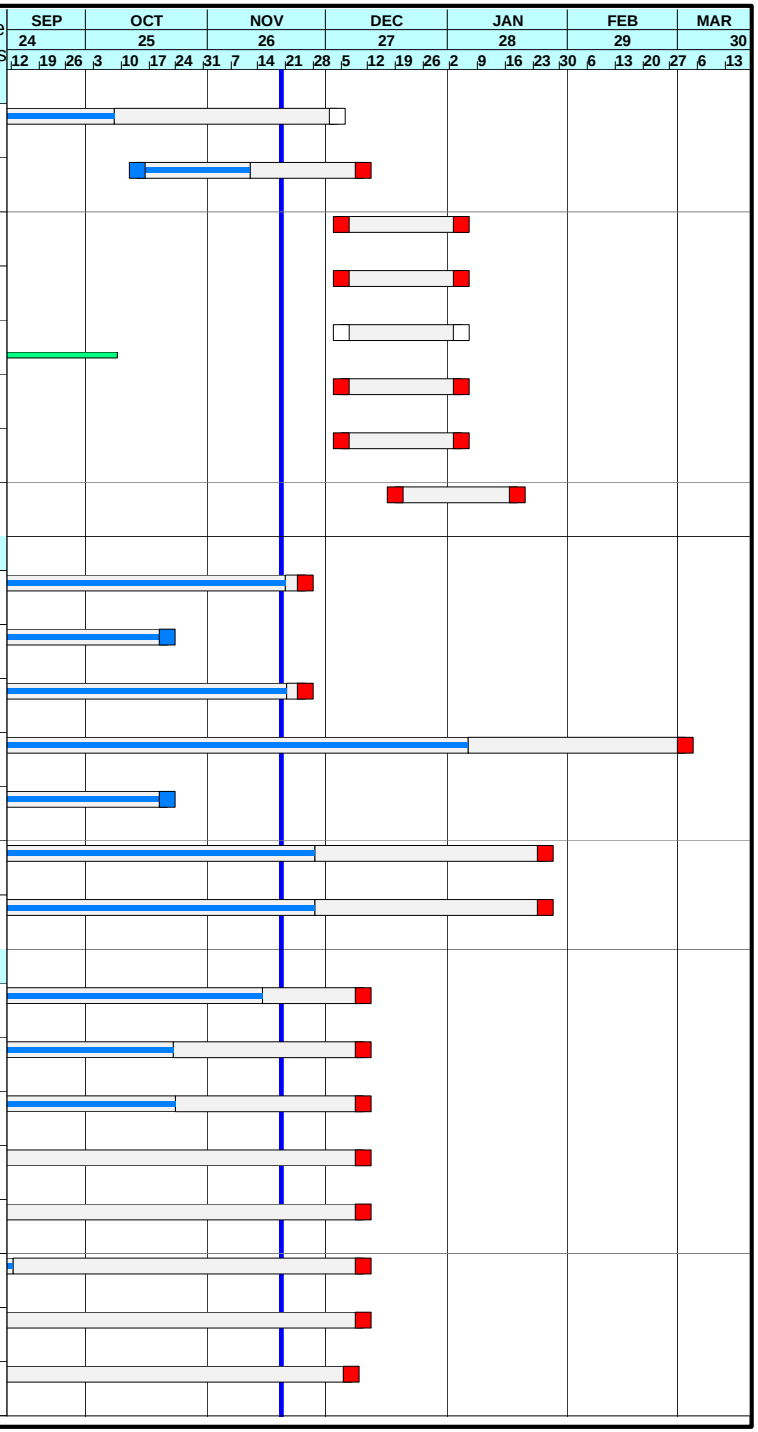
ABWF & BUILDER'S WORKS									
1887	Admin.Bldg. - Prep & sub suspend ceiling details	24	12AUG05A	03DEC05	50	100	12	44	-71
1900	Admin.Bldg. - Approve fall arrest system	24	14OCT05A	10DEC05	50	100	18	-102	-239
1882	Admin.Bldg. - Approve GRP water tank details	24	05DEC05	04JAN06	0	100	24	-133	-239
1886	Admin.Bldg. - Approve wood ceiling details	24	05DEC05	04JAN06	0	100	24	-151	-281
1888	Admin.Bldg. - Approve suspended ceiling details	24	05DEC05	04JAN06	0		24	44	-71
1896	Admin.Bldg. - Approve balustrade & metal works	24	05DEC05	04JAN06	0	100	24	-151	-245
1898	Admin.Bldg. - Approve aluminium cladding	24	05DEC05	04JAN06	0	100	24	-12	-353
1884	Admin.Bldg. - Approve sheet decking details	24	19DEC05	18JAN06	0	100	24	-139	-299
E&M EQPT. / MTRL. SUBMITTALS									
8244	AdmBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	25NOV05	99	100	5	-18	-116
8241	AdmBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	21OCT05A	100	100	0		-242
8240	AdmBldg-Sub.FS wet sys	54	05AUG04A	25NOV05	99	100	5	6	-260
8242	AdmBldg-Sub.CMCS, TCS & ELV sys	78	26AUG04A	02MAR06	90	100	78	-148	-299
8243	AdmBldg-Sub.FCUs & PAUs	54	04JAN05A	21OCT05A	100	100	0		-302
8247	AdmBldg-Design LPG sys	54	07APR05A	25JAN06	80	100	54	-63	-185
8249	AdmBldg-Sub.LPG sys	54	07APR05A	25JAN06	80	100	54	-63	-131
E&M EQPT. / MTRL. APPROVALS									
6385	AdmBldg-App. HV power dist. sys	18	14JUL04A	10DEC05	95	100	18	-114	-327
6386	AdmBldg-App. LV power dist. sys	18	13AUG04A	10DEC05	90	100	18	-114	-291
8503	AdmBldg-App. building related luminaires	18	18AUG04A	10DEC05	90	100	18	-102	-177
6388	AdmBldg-App. FS wet sys	18	04SEP04A	10DEC05	80	100	18	6	-255
6399	AdmBldg-App. FS AFA & FM200 sys	18	14SEP04A	10DEC05	70	100	18	-18	-111
6392	AdmBldg-App. of CMCS, TCS & ELV sys	18	20SEP04A	10DEC05	80	100	18	-148	-221
6389	AdmBldg-App. MVAC mech.vent. sys	18	23SEP04A	10DEC05	70	100	18	-138	-267
6396	AdmBldg-App. FCUs & PAUs	18	23SEP04A	07DEC05	70	100	15	-135	-324



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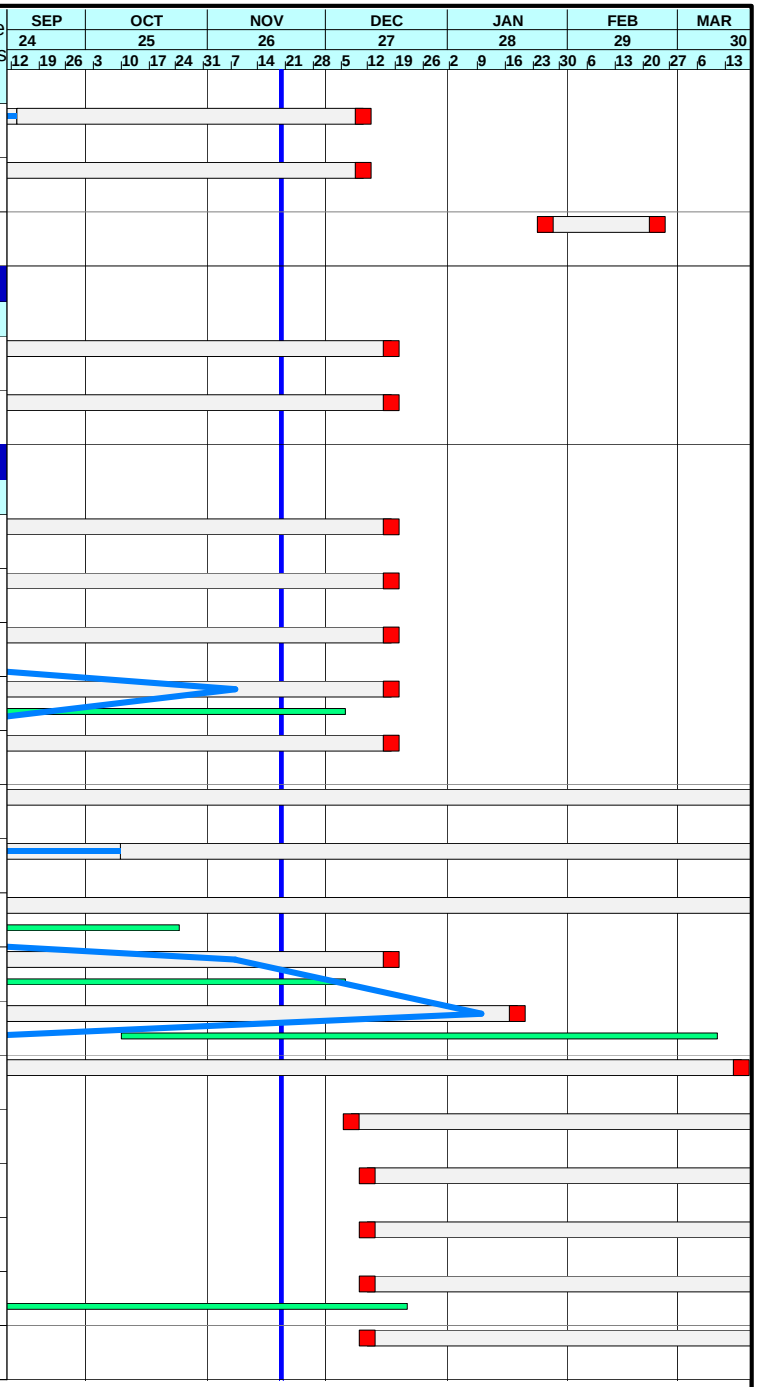
E&M EQPT. / MTRL. APPROVALS									
6387	AdmBldg-App. PD all fresh & flush water sys	18	04NOV04A	10DEC05	78	100	18	-12	-279
6478	AdmBldg-App. Chiller & Pumps	18	17JAN05A	10DEC05	30	100	18	-78	-285
7586	AdmBldg-App. LPG sys	18	26JAN06	23FEB06	0	100	18	-63	-131
DESIGN & ENGINEERING									
ABWF WORKS									
1802	Admin.Bldg. - Design stone cladding	36	04APR05A	17DEC05	50	100	24	0	-215
1803	Admin.Bldg. - Design slate cladding	36	04APR05A	17DEC05	50	100	24	0	-215
PROCUREMENT - MATERIAL									
ABWF WORKS									
1904	Admin.Bldg. - Procure wood ceiling	90	19JAN05A	17DEC05	0	100	24	-169	-89
1909	Admin.Bldg. - Procure balustrade & metal works	90	09MAR05A	17DEC05	0	100	24	-139	-143
1910	Admin.Bldg. - Procure aluminium cladding	90	09MAR05A	17DEC05	0	100	24	-30	-161
1916	Admin.Bldg. - Procure slate cladding	90	14MAR05A	17DEC05	50	80	24	-30	-11
1902	Admin.Bldg. - Procure GRP water tank	90	16MAR05A	17DEC05	0	100	24	-151	-107
6391	AdmBldg-Proc & Manuf. LV power dist. equip't	120	20MAR05A	25APR06	30	100	120	-114	-213
6390	AdmBldg-Proc & Manuf. of HV dist. equip't	120	25MAR05A	25APR06	50	100	120	-114	-249
6397	AdmBldg-Proc & Manuf. of CMCS, ELV & TCS sys	180	25MAR05A	08JUL06	15	90	180	-148	-203
1917	Admin.Bldg. - Procure stone cladding	90	03MAY05A	17DEC05	50	70	24	-30	-11
1905	Admin.Bldg. - Procure suspended ceiling	120	09MAY05A	18JAN06	0	0	48	2	37
6394	AdmBldg-Proc & Manuf. FS wet sys	90	06JUN05A	16MAR06	30	100	90	6	-207
6415	AdmBldg-Proc & Manuf. FCUs & PAUs	90	08DEC05	03APR06	0	100	90	-135	-234
6393	AdmBldg-Proc & Manuf. PD fresh & flush water sys	90	12DEC05	07APR06	0	100	90	-12	-249
6395	AdmBldg-Proc & Manuf. MVAC mech.vent. sys	90	12DEC05	07APR06	0	100	90	-138	-237
6444	AdmBldg-Proc & Manuf. FS AFA & FM200 sys	120	12DEC05	18MAY06	0	40	120	-18	-111
6479	AdmBldg-Proc & Manuf. Chiller & Pumps	90	12DEC05	07APR06	0	100	90	-78	-195



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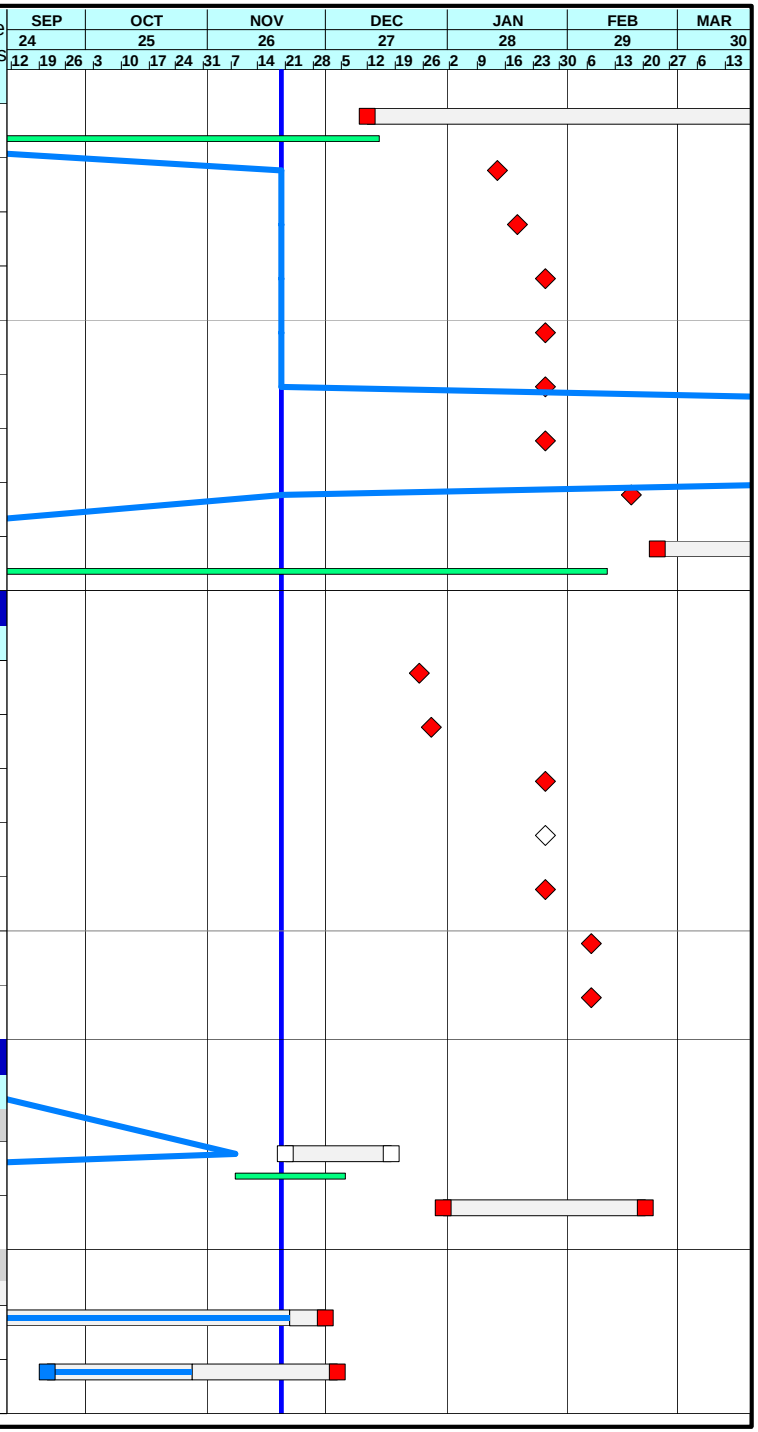
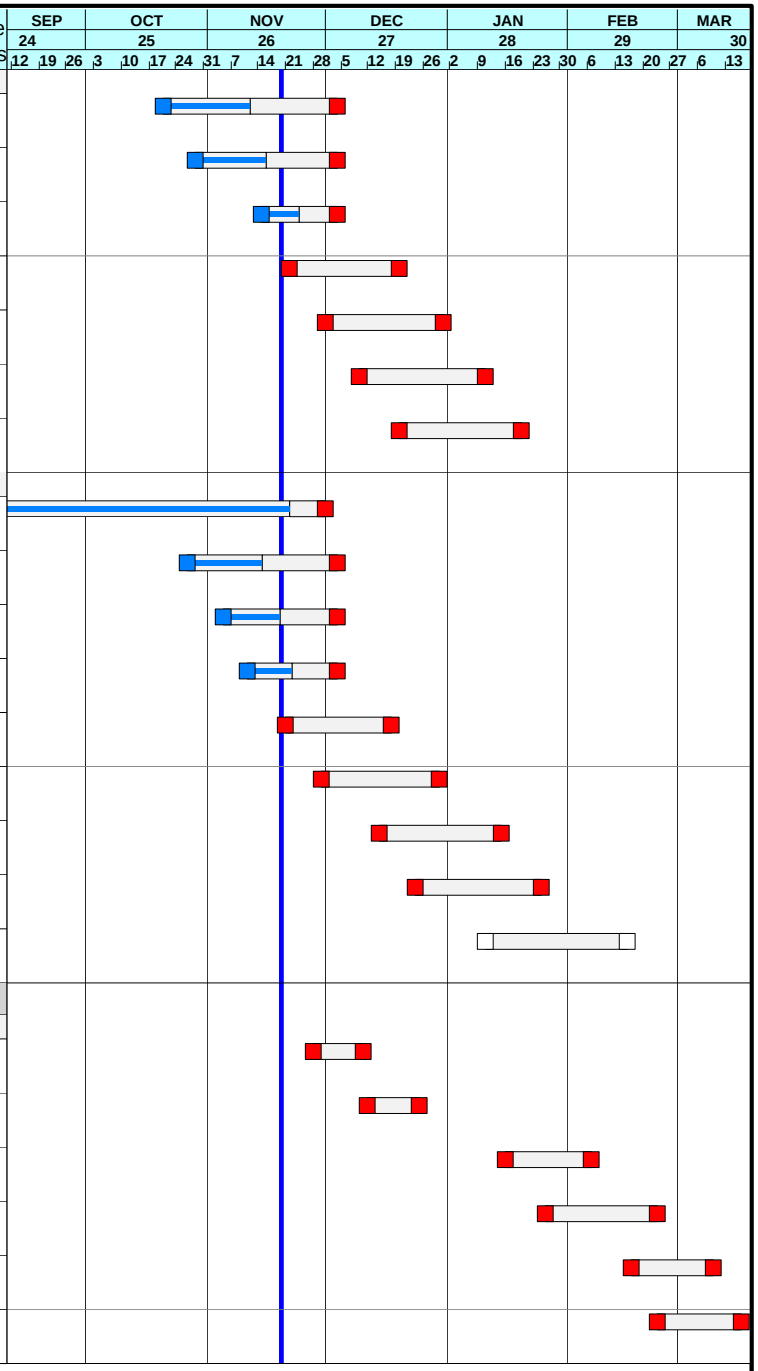
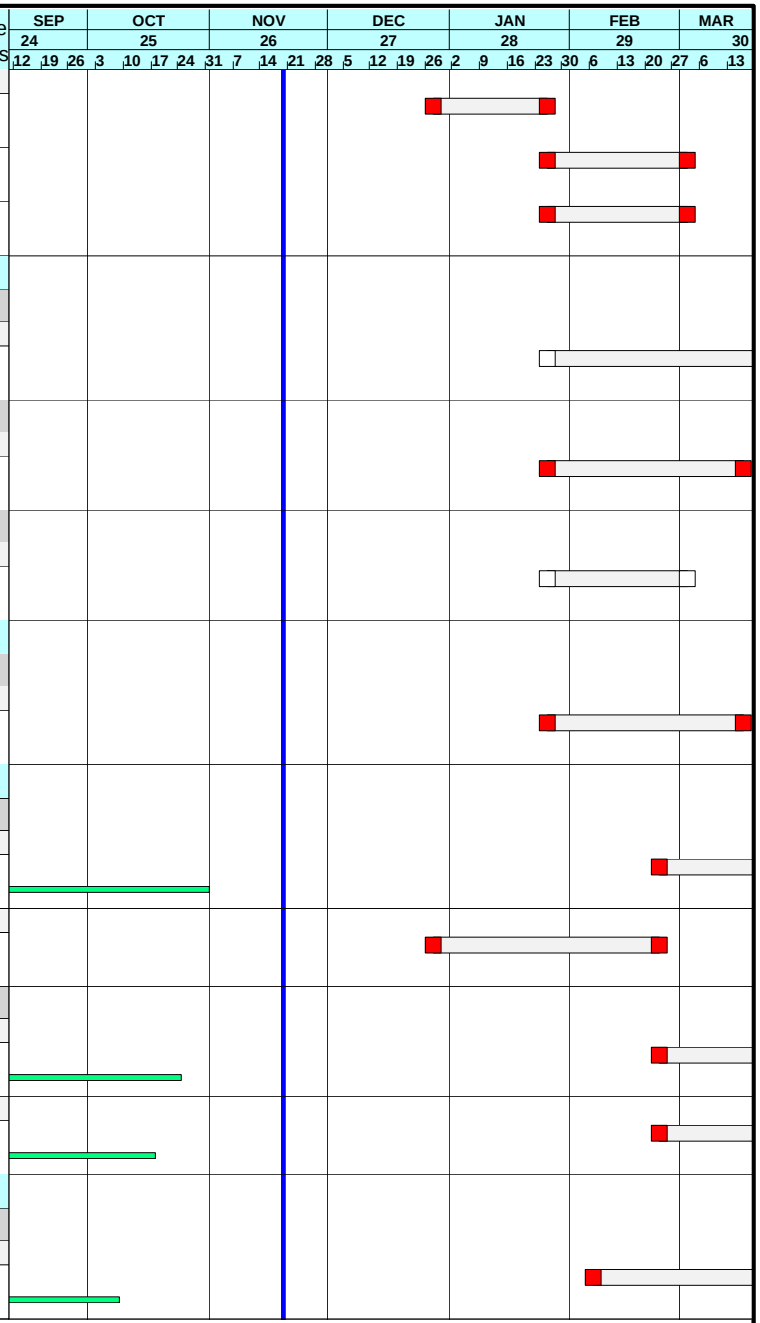
ABWF WORKS									
8504	AdmBldg-Proc & Manf bldg related luminaires	180	12DEC05	29JUL06	0	80	180	-102	-177
1938	Admin.Bldg. - Initial delivey glass canopy	0	14JAN06		0		0	-153	0
2059	Admin.Bldg. - Initial delivery fall arrest syst	0	19JAN06		0		0	-102	0
2054	Admin.Bldg. - Initial delivery louvres	0	26JAN06		0		0	-163	0
2055	Admin.Bldg. - Initial delivery curtain wall	0	26JAN06		0		0	-145	0
2056	Admin.Bldg. - Initial delivery sheet decking	0	26JAN06		0		0	-139	0
2057	Admin.Bldg. - Initial delivery doors & windows	0	26JAN06		0		0	-139	534
2060	Admin.Bldg. - Initial delivery balust & mtl wks	0	17FEB06		0		0	-151	0
7582	AdmBldg-Proc & Manuf. LPG sys	120	24FEB06	22JUL06	0	10	120	-63	-131
INTERFACE DATES									
ADMINISTRATION BUILDING									
1827	Int. MS - Admin.Bldg. - E&M 1/F access (partial)	0		24DEC05	0	100	0	-64	-137
6406	AdmBldg-E&M access to 1/F (partial)	0	28DEC05		0	100	0	-64	-137
1729	Int. MS - Admin.Bldg. - E&M G/F access (partial)	0		25JAN06	0	100	0	-96	-173
4003	Int. MS - Admin.Bldg. - E&M G/F access (full)	0		25JAN06	0	100	0	661	-155
6404	AdmBldg-E&M access to G/F (partial)	0	26JAN06*		0	100	0	-96	-171
1828	Int. MS - Admin.Bldg. - E&M 2/F access (partial)	0		06FEB06	0		0	-87	-140
6402	AdmBldg-E&M access to 2/F (partial)	0	07FEB06		0		0	-87	-140
CONSTRUCTION									
CIVIL & ABWF WORKS									
SUBSTRUCTURE									
1746	Admin bldg - Septic tank construction	24	21NOV05	17DEC05	0	0	24	164	-11
6398	Admin.Bldg. - Earth Mat & Rods - All in ptn D4	36	31DEC05	20FEB06	0	100	36	-40	-308
RC SUPERSTRUCTURE									
NORTH [GL.1-11]									
1557	Admin.Bldg Nth - GF Slab	24	01SEP05A	30NOV05	90	100	9	-130	-188
1647	Admin.Bldg Nth - Columns & walls GF to 1F	24	21SEP05A	03DEC05	50	100	12	-130	-179



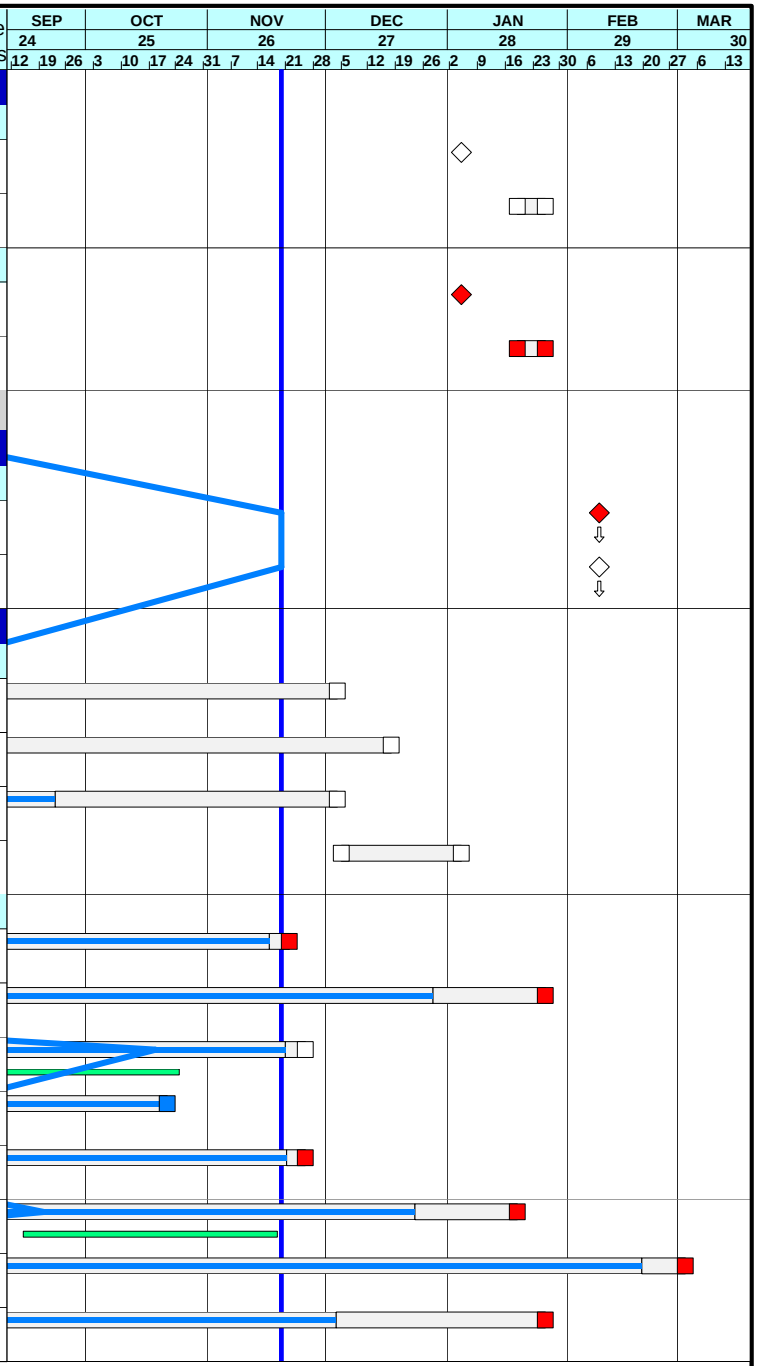
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
NORTH [GL.1-11]									
1648	Admin.Bldg Nth - 1F Slab	24	21OCT05A	03DEC05	50	100	12	-130	-167
1649	Admin.Bldg Nth - Columns & walls 1F to 2F	24	29OCT05A	03DEC05	50	100	12	-130	-155
1661	Admin.Bldg Nth - 2F Slab	24	15NOV05A	03DEC05	50	100	12	-130	-143
1665	Admin.Bldg Nth - Columns & walls 2F to 3F	24	22NOV05	19DEC05	0	100	24	-130	-144
1666	Admin.Bldg Nth - Roof Slab	24	01DEC05	30DEC05	0	100	24	-130	-140
1672	Admin.Bldg Nth - Columns & walls 3F to Upp Roof	24	10DEC05	10JAN06	0	100	24	-96	-136
1673	Admin.Bldg Nth - Upper Roof Slab	24	20DEC05	19JAN06	0		24	-80	-132
SOUTH [GL.11-21]									
1624	Admin.Bldg Sth - GF Slab	24	01SEP05A	30NOV05	90	100	9	-121	-176
1784	Admin.Bldg Sth - Columns & walls GF to 1F	24	27OCT05A	03DEC05	50	100	12	-121	-167
1785	Admin.Bldg Sth - 1F Slab	24	05NOV05A	03DEC05	50	100	12	-121	-155
1786	Admin.Bldg Sth - Columns & walls 1F to 2F	24	11NOV05A	03DEC05	50	100	12	-107	-143
1787	Admin.Bldg Sth - 2F Slab	24	21NOV05	17DEC05	0	100	24	-107	-143
1788	Admin.Bldg Sth - Columns & walls 2F to 3F	24	30NOV05	29DEC05	0	100	24	-107	-139
1789	Admin.Bldg Sth - Roof Slab	24	15DEC05	14JAN06	0	100	24	-112	-140
1791	Admin.Bldg Sth - Columns & walls 3F to Upp Roof	24	24DEC05	24JAN06	0	100	24	-41	-136
1790	Admin.Bldg Sth - Upper Roof Slab	24	11JAN06	15FEB06	0		24	49	-136
ABWF									
CRITICAL ROOMS									
1730	Admin.Bldg Crit Rm - Int. Blockwork GF	12	28NOV05	10DEC05	0	100	12	-121	-137
1731	Admin.Bldg Crit Rm - Int. Blockwork 1F	12	12DEC05	24DEC05	0	100	12	-121	-137
1734	Admin.Bldg Crit Rm - Int. Blockwork 2F	12	16JAN06	06FEB06	0		12	-130	-140
1804	Admin.Bldg Crit Rm - Ext. Doors & Glazing GF	18	26JAN06	23FEB06	0	100	18	-163	-191
1366	Admin.Bldg Crit Rm - Int. Finishes GF	18	17FEB06	09MAR06	0	100	18	-151	-185
1733	Admin.Bldg Crit Rm - Ext. Glazing 1F	18	24FEB06	16MAR06	0	100	18	-163	-179



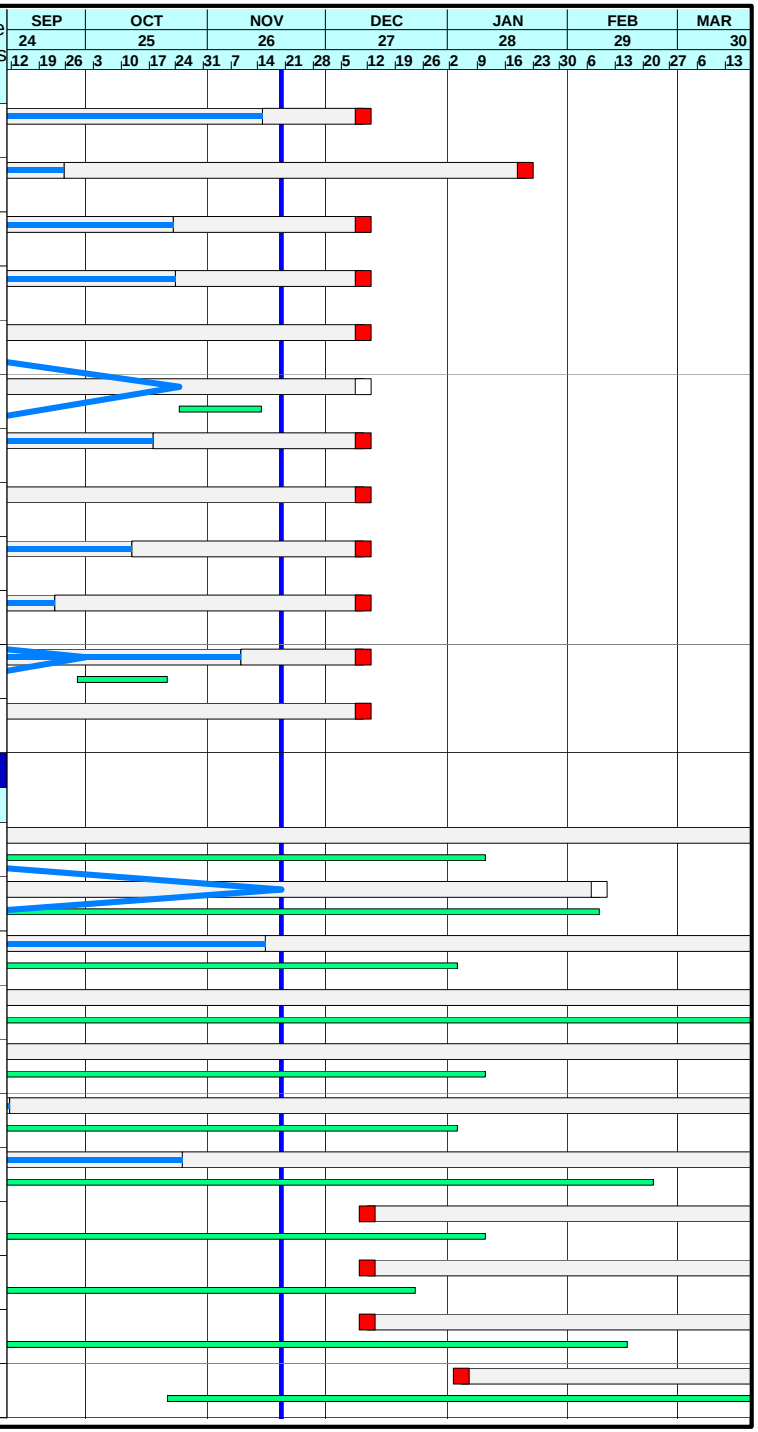
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
	REMAINING ROOMS								
1792	Admin.Bldg Oth Rm - Int. Blockwork GF	24	28DEC05	25JAN06	0	100	24	-108	-155
1793	Admin.Bldg Oth Rm - Int. Blockwork 1F	24	26JAN06	02MAR06	0		24	-108	-155
1805	Admin.Bldg Oth Rm - Ext. Doors & Windows GF	24	26JAN06	02MAR06	0		24	-108	-155
	E&M WORKS - GENERAL								
	FS WORKS								
	FS MAJOR EQUIPMENT								
6411	AdmBldg-Hydrant Pump & Tank set 1st fix	48	26JAN06	30MAR06	0	100	48	42	-171
	ELECTRICAL WORKS								
	HV POWER DISTRIBUTION MAJOR EQPT.								
6408	AdmBldg-HV power dist. sys 1st fix	36	26JAN06	16MAR06	0	100	36	-72	-171
	P&D WORKS								
	P&D MAJOR EQUIPMENT								
6412	AdmBldg-Water Pumps & Tanks 1st fix	24	26JAN06	02MAR06	0	100	24	66	-171
	ADMINISTRATION BLDG. - G/F								
	MVAC WORKS								
	MECH.VENT / AIR CONDITIONING								
6405	AdmBldg G/F -AC(1st Fix) mech.vent.	36	26JAN06	16MAR06	0	100	36	-96	-171
	ADMINISTRATION BLDG. - 1/F								
	MVAC WORKS								
	CHILLED WATER SYSTEM								
6464	AdmBldg 1F-AC(1st Fix) Chilled water sys	48	24FEB06	25APR06	0		48	-64	-137
	MECH.VENT / AIR CONDITIONING								
6407	5AdmBldg 1F-AC(1st Fix) mech.vent.	42	28DEC05	23FEB06	0	100	42	-64	-137
	ELECTRICAL WORKS								
	MAIN & SUBMAIN DISTRIBUTION								
6437	AdmBldg 1F-ES(1st Fix) Main & Sub-main dist.	42	24FEB06	18APR06	0		42	-52	-137
	FINAL CIRCUIT								
6438	AdmBldg 1F-ES(1st Fix) Final Circuit dist.	36	24FEB06	07APR06	0		36	-52	-137
	ADMINISTRATION BLDG. - 2/F								
	MVAC WORKS								
	MECH.VENT / AIR CONDITIONING								
6403	AdmBldg 2F-AC(1st Fix) mech.vent.	48	07FEB06	03APR06	0		48	-87	-140



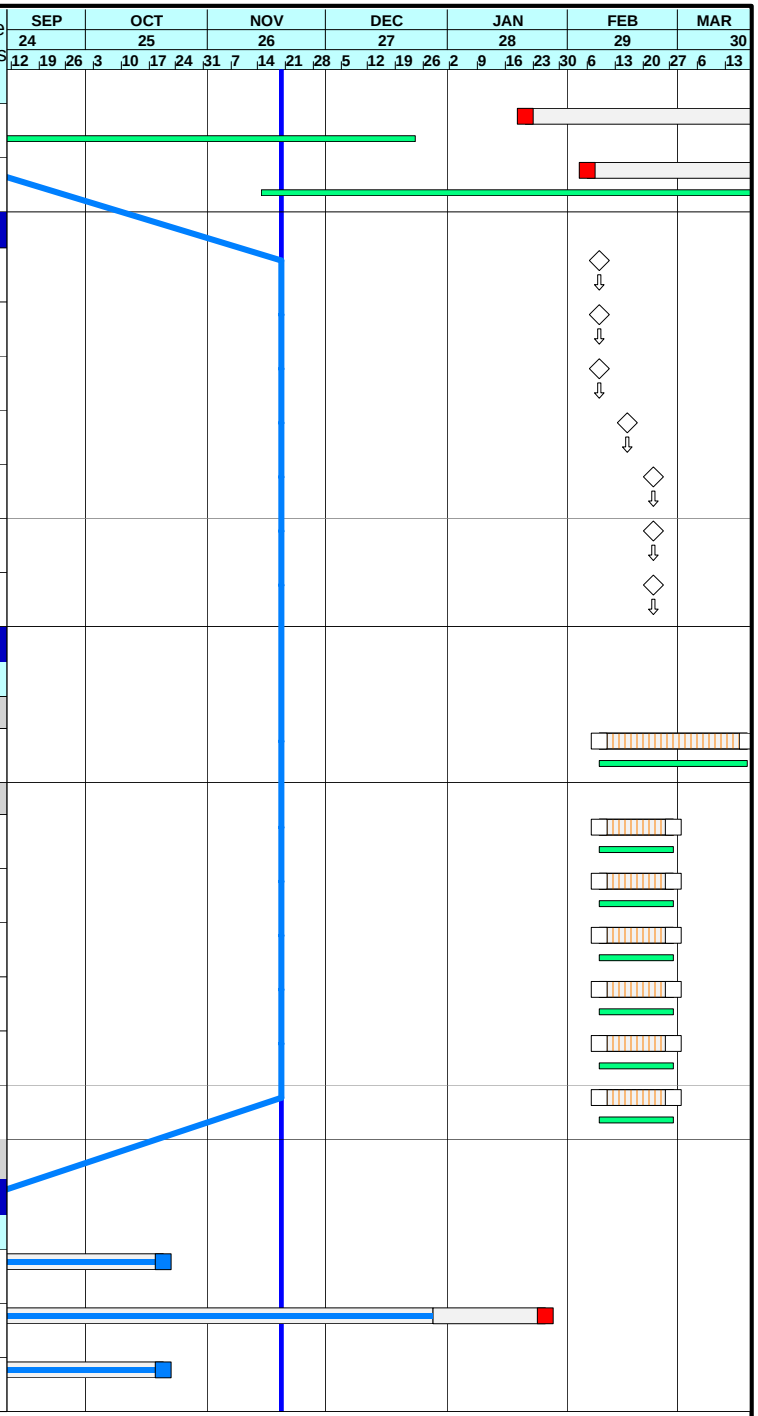
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
STATUTORY INSPECTIONS									
WSD - WATER SUPPLY									
6456	AdmBldg-All plumb. design approved by WSD	0	05JAN06		0	100	0	66	-171
6477	AdmBldg-Sub. WWO 046 part 1 to 3 to WSD	6	19JAN06	25JAN06	0	100	6	66	-171
FSD INSPECTIONS									
6468	AdmBldg-All FS design approved by FSD (MHJV)	0	05JAN06		0	100	0	0	-171
6493	AdmBldg-Issue, endorse & submit FSI 314 to FSD	6	19JAN06	25JAN06	0	100	6	0	-171
SHATIN HEIGHTS SOUTH PORTAL BUILDING									
CONTRACT DEFINED DATES & SECTIONS									
AREA ACCESS & VACATION DATES									
ACS_D8	Access to Portion - D8	0	09FEB06		0		0	5	0
ACS_J2	Access to - J2 (T.Plate & above) SH-S.Vent.Bldg.	0	09FEB06		0		0	22	0
SUBMITTALS & APPROVALS									
ABWF & BUILDER'S WORKS									
1998	SHT SPB - Prep & submit door & window detail	24	13NOV04A	03DEC05	50	100	12	108	-97
2000	SHT SPB - Approve door & window details	24	03JUN05A	17DEC05	0	100	24	96	-85
2006	SHT SPB - Prep & sub balustrade & metal wks	24	13JUL05A	03DEC05	50	100	12	42	-97
2007	SHT SPB - Approve balustrade & metal works	24	05DEC05	04JAN06	0	100	24	42	-97
E&M EQPT. / MTRL. SUBMITTALS									
8266	ShtSpBldg-Sub.TVF, Ductworks & Control sys	78	02JUL04A	21NOV05	99	100	1	-90	-128
8268	ShtSpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	25JAN06	95	100	54	-120	-211
8270	ShtSpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	25NOV05	99	60	5	24	-28
8265	ShtSpBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	21OCT05A	100	100	0		-72
8269	ShtSpBldg-Sub.FS wet sys	54	05AUG04A	25NOV05	99	100	5	-16	-108
8267	ShtSpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	18JAN06	95	10	48	-30	-49
8263	ShtSpBldg-Sub.CMCS & ELV sys	78	26AUG04A	02MAR06	98	100	78	-48	-169
8272	ShtSpBldg-Sub.PD irrig. sys	54	04FEB05A	25JAN06	85	100	54	-16	-163



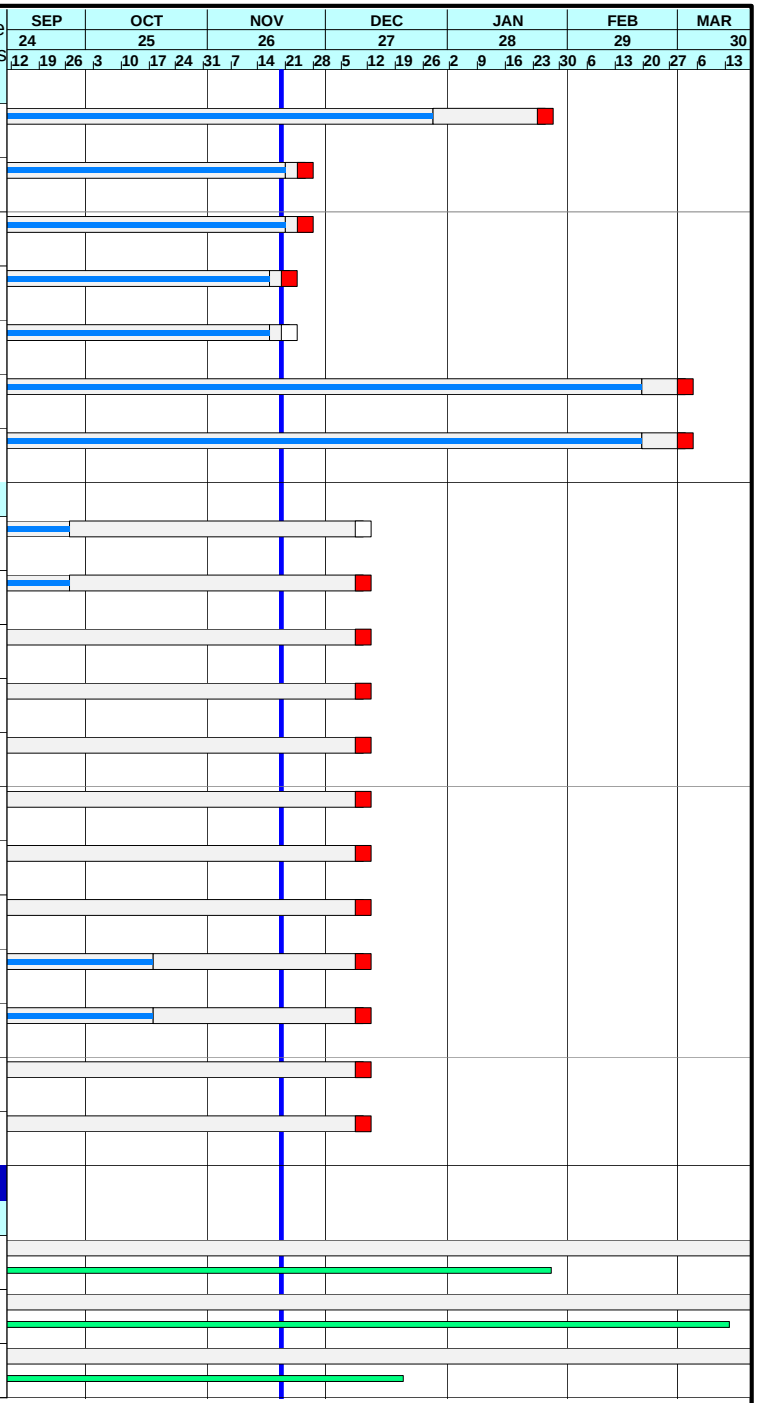
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT. / MTRL. APPROVALS									
7040	ShtSpBldg-App. HV power dist. sys	18	14JUL04A	10DEC05	95	100	18	-84	-163
7209	ShtSpBldg-App. PD cleans. & flush water sys	18	04AUG04A	20JAN06	78	100	50	-54	-141
7046	ShtSpBldg-App. LV power dist. sys	18	13AUG04A	10DEC05	90	100	18	-96	-157
8507	ShtSpBldg-App. building related luminaires	18	18AUG04A	10DEC05	90	100	18	-78	-133
7155	ShtSpBldg-App. FS wet sys	18	04SEP04A	10DEC05	80	100	18	-16	-103
7205	ShtSpBldg-App. FS AFA & FM200 sys	18	14SEP04A	10DEC05	70	0	18	24	-23
7085	ShtSpBldg-App. of CMCS & ELV sys	18	20SEP04A	10DEC05	88	100	18	-48	-91
7116	ShtSpBldg-App. MVAC mech.vent. sys	18	23SEP04A	10DEC05	70	100	18	-76	-97
7133	ShtSpBldg-App. TVF, Ductworks & Control sys	18	12NOV04A	10DEC05	85	100	18	-90	-127
7147	ShtSpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	10DEC05	80	100	18	-120	-157
7101	ShtSpBldg-App. MVAC Package AC Unit sys	18	01FEB05A	10DEC05	90	0	18	0	-43
7229	ShtSpBldg-App. PD irrig. sys	18	05MAY05A	10DEC05	30	100	18	-16	-109
PROCUREMENT - MATERIAL									
E & M WORKS									
7047	ShtSpBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	08JUL06	30	50	180	-96	-139
2024	SHT SPB - Procure balustrade & metal works	120	24MAR05A	08FEB06	50	10	24	19	0
7041	ShtSpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	08JUL06	50	60	180	-84	-145
7086	ShtSpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	08JUL06	20	10	180	-48	-73
7148	ShtSpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	08JUL06	10	50	180	-120	-139
7156	ShtSpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	25APR06	30	30	120	-16	-85
7134	ShtSpBldg-Proc & Manuf. TVF,Ductwks & Cont'l sys	180	09JUN05A	08JUL06	35	40	180	-90	-109
7117	ShtSpBldg-Proc & Manuf. MVAC mech.vent. sys	120	12DEC05	18MAY06	0	30	120	-76	-97
7230	ShtSpBldg-Proc & Manuf. PD irrig. sys	120	12DEC05	18MAY06	0	40	120	-16	-109
8508	ShtSpBldg-Proc & Manf bldg related luminaires	180	12DEC05	29JUL06	0	40	180	-78	-133
7102	ShtSpBldg-Proc & Manuf. MVAC Package AC Units	120	05JAN06	09JUN06	0	0	120	-18	-61



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E & M WORKS									
7210	ShtSpBldg-Proc & Manuf. Cleans & flush water sys	120	21JAN06	26JUN06	0	40	120	-54	-141
7206	ShtSpBldg-Proc & Manuf. FS AFA & FM200 sys	120	06FEB06	04JUL06	0		120	-14	-61
INTERFACE DATES									
1854	Int M/S - SHT S Ptal Bldg - E&M access 3/F	0		08FEB06	0		0	19	0
1855	Int M/S - SHT S Ptal Bldg - E&M access G/F	0		08FEB06	0		0	19	0
1859	Int M/S - SHT S Ptal Bldg - E&M access 2/F	0		08FEB06	0		0	19	0
1856	Int M/S - SHT S Ptal Bldg - E&M access 1/F	0		15FEB06	0		0	25	0
1853	Int M/S - SHT Sth Ptal Bldg-E&M access Ext.Elev	0		22FEB06	0		0	37	0
1857	Int M/S - SHT S Ptal Bldg - E&M access Plenum	0		22FEB06	0		0	19	0
1858	Int M/S - SHT S Ptal Bldg - E&M access Roof	0		22FEB06	0		0	31	0
CONSTRUCTION									
ARCHITECTURAL & BUILDER'S WORKS									
ROOFING & EXTERNAL FACADE									
1811	SHT Sth PBldg - Ext. Doors & Windows	33	09FEB06	18MAR06	0		33	37	0
BUILDER'S WORK									
1808	SHT Sth PBldg - Wet Trades 1FL	16	09FEB06	27FEB06	0		16	25	0
1815	SHT Sth PBldg - Wet Trades GL	16	09FEB06	27FEB06	0		16	19	0
1851	SHT Sth PBldg - Wet Trades 2FL	16	09FEB06	27FEB06	0		16	19	0
1852	SHT Sth PBldg - Wet Trades 4FL	16	09FEB06	27FEB06	0		16	19	0
1860	SHT Sth PBldg - Wet Trades 3FL	16	09FEB06	27FEB06	0		16	19	0
1861	SHT Sth PBldg - Wet Trades 5FL	16	09FEB06	27FEB06	0		16	31	0
SHT TUNNEL									
SUBMITTALS & APPROVALS									
E&M EQPT. / MTRL. SUBMITTALS									
8279	ShtRtNb-Sub.Tunnel Lgt sys	78	02JUL04A	20OCT05A	100	100	0		-104
8281	ShtRtNb-Sub.TVS control sys	54	02JUL04A	25JAN06	95	100	54	-38	-148
8285	ShtRtSb-Sub.Tunnel Lgt sys	78	02JUL04A	20OCT05A	100	100	0		-86



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									
8287	ShtRtSb-Sub.TVS control sys	54	02JUL04A	25JAN06	95	100	54	-38	-148
8282	ShtRtNb-Sub.FS AFA & Linear sys	54	05JUL04A	25NOV05	99	100	5	-104	-177
8288	ShtRtSb-Sub.FS AFA & Linear sys	54	05JUL04A	25NOV05	99	100	5	-104	-177
8283	ShtRtNb-Sub. TVS in Tunnel	54	07JUL04A	21NOV05	99	100	1	-68	-125
8289	ShtRtSb-Sub. TVS in Tunnel	54	07JUL04A	21NOV05	99	100	1	94	-125
8280	ShtRtNb-Sub.CMCS & ELV sys	78	26AUG04A	02MAR06	98	100	78	-74	-189
8286	ShtRtSb-Sub.CMCS & ELV sys	78	26AUG04A	02MAR06	98	100	78	-66	-181
E&M EQPT. / MTRL. APPROVALS									
7624	ShtRtSb-App. TVS in Tunnel	18	29JUL04A	10DEC05	85	100	18	94	-124
7627	ShtRtNb-App. TVS in Tunnel	18	29JUL04A	10DEC05	85	100	18	-68	-124
6938	ShtRtSb-App. Tunnel Lgt sys	18	05AUG04A	10DEC05	80	100	18	-90	-112
6991	ShtRtNb-App. Tunnel Lgt sys	18	05AUG04A	10DEC05	80	100	18	-111	-130
6932	ShtRtSb-App. HV/LV main & submain dist. sys	18	13AUG04A	10DEC05	80	100	18	-96	-142
6985	ShtRtNb-App. HV/LV main & submain dist. sys	18	13AUG04A	10DEC05	80	100	18	-96	-142
6969	ShtRtSb-App. FS AFA & Linear sys	18	14SEP04A	10DEC05	70	100	18	-104	-172
7022	ShtRtNb-App. FS AFA & Linear sys	18	14SEP04A	10DEC05	70	100	18	-104	-172
6945	ShtRtSb-App. CMCS & TCS & ELV sys	18	20SEP04A	10DEC05	88	100	18	-66	-103
6998	ShtRtNb-App. CMCS & ELV sys	18	20SEP04A	10DEC05	88	100	18	-74	-111
6957	ShtRtSb-App. TVS control sys	18	12NOV04A	10DEC05	70	100	18	-38	-94
7010	ShtRtNb-App. TVS control sys	18	12NOV04A	10DEC05	70	100	18	-38	-94
PROCUREMENT - MATERIAL									
SHT TUNNEL NORTHBOUND									
6986	ShtRtNb-Proc & Manuf. ES Main & submain dist.	180	20MAR05A	08JUL06	30	40	180	-96	-124
6999	ShtRtNb-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	08JUL06	20	20	180	-74	-93
7023	ShtRtNb-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	08JUL06	20	70	180	-104	-154



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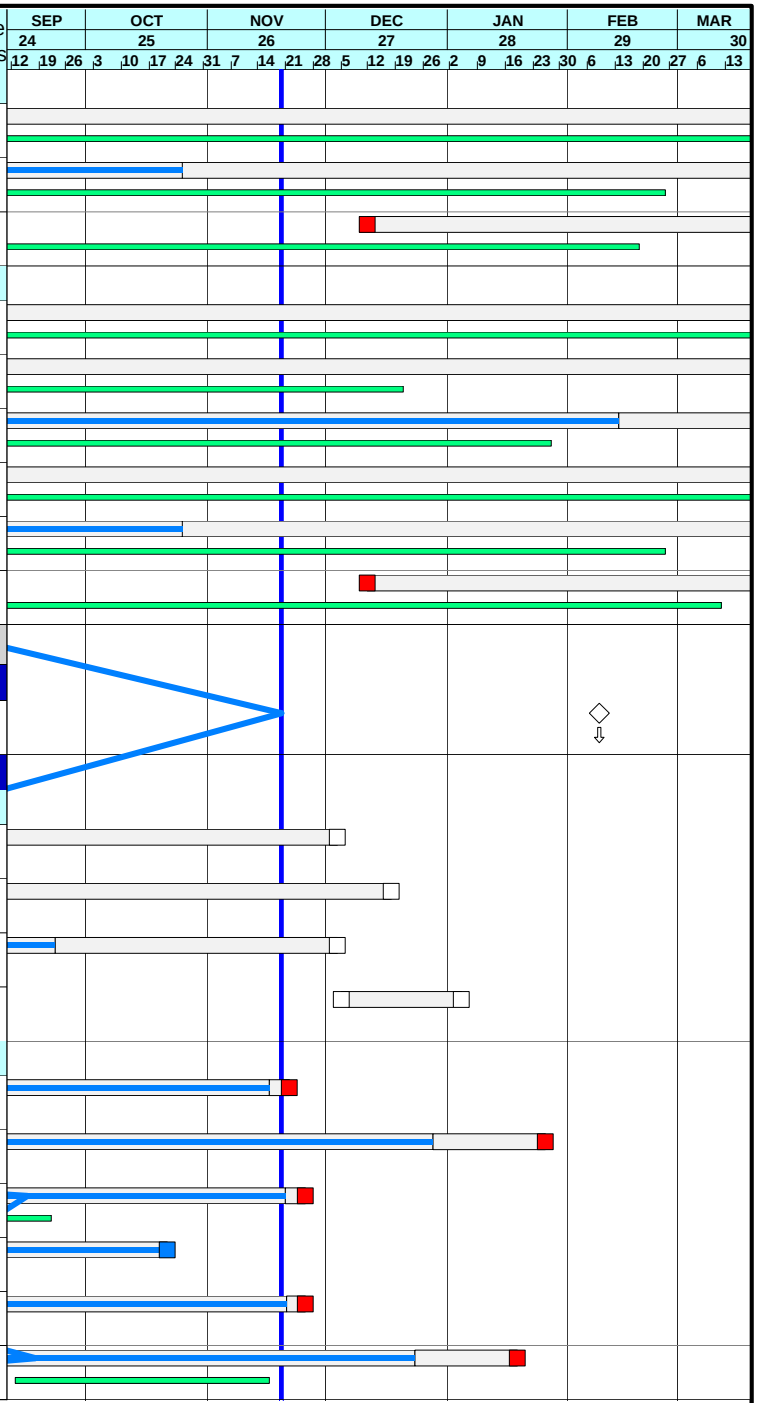
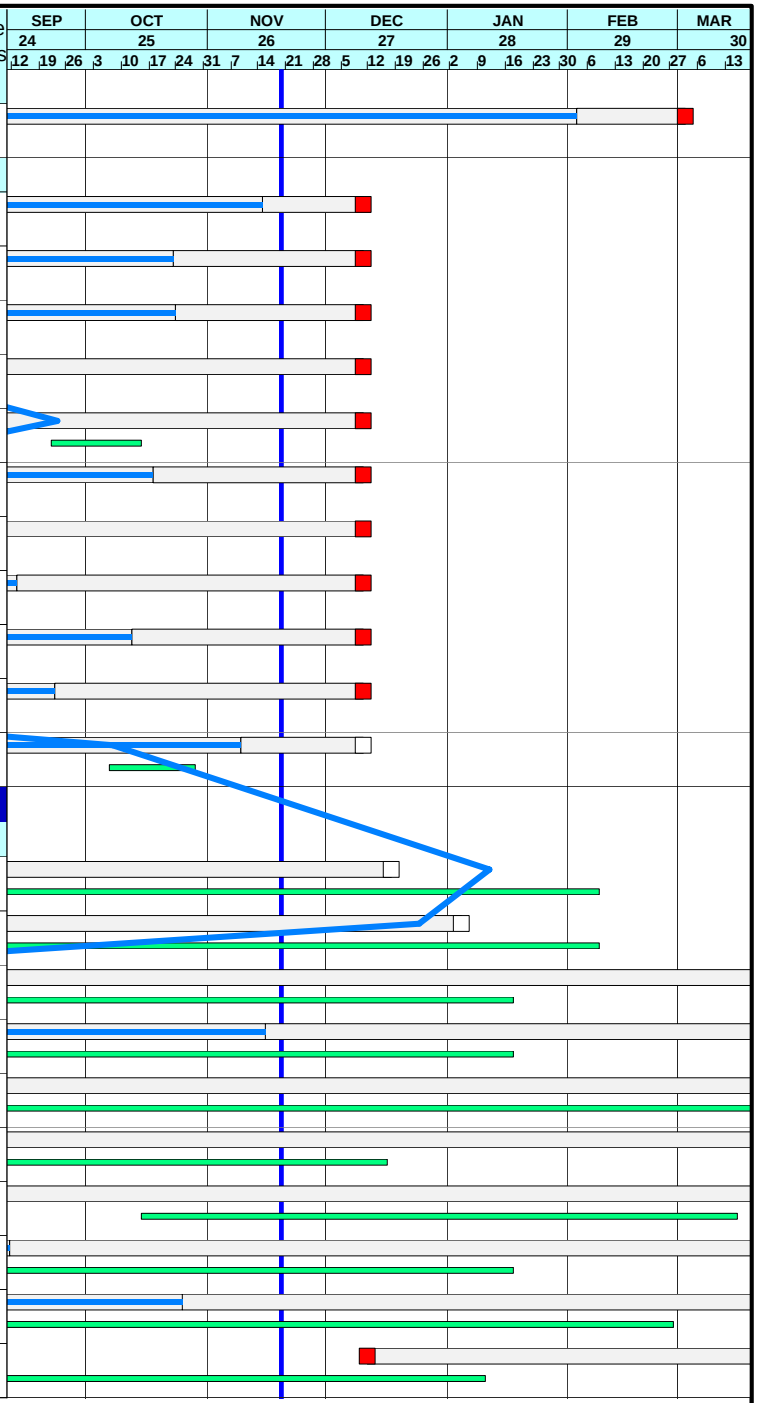
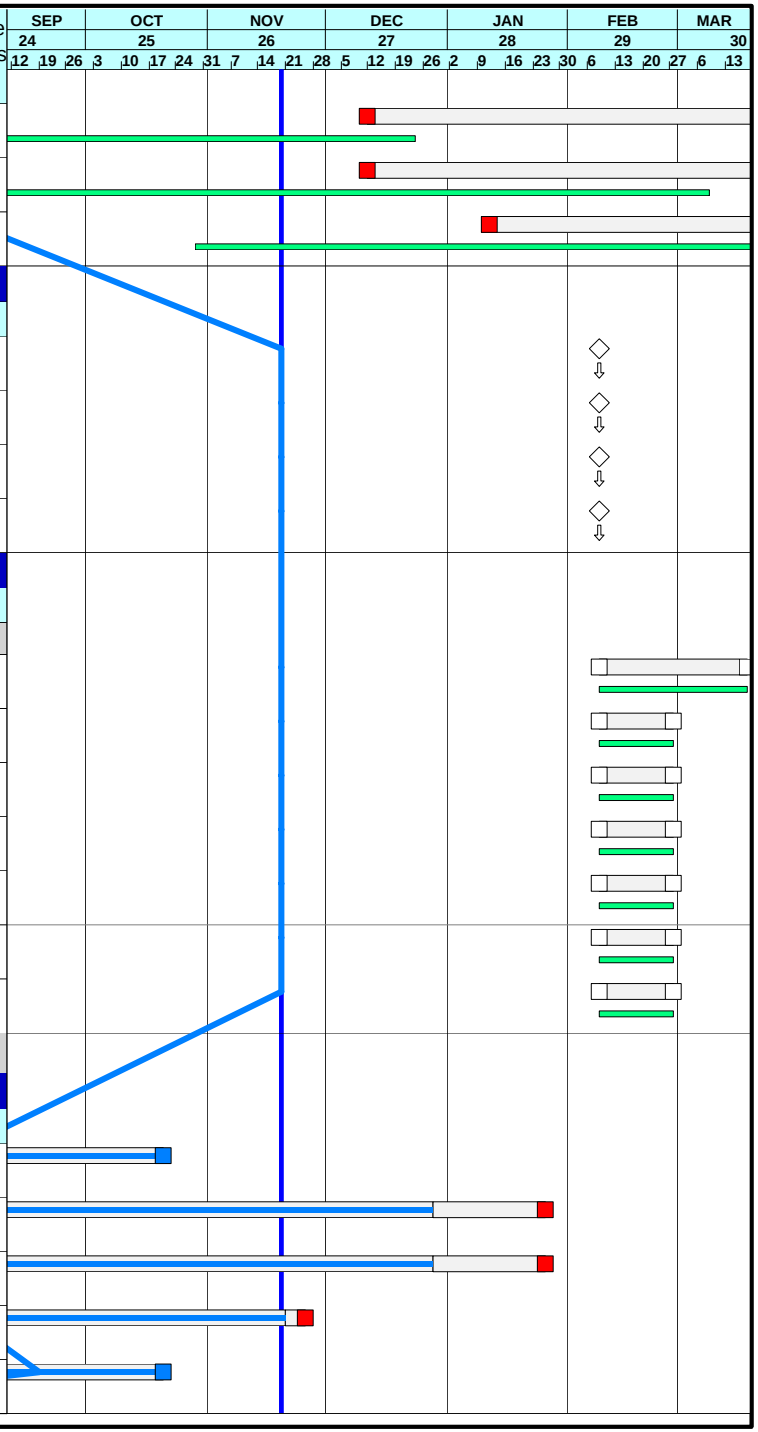
SHT TUNNEL NORTHBOUND									
7011	ShtRtNb-Proc & Manuf. TVS control sys	180	25MAY05A	12AUG06	10	10	180	-68	-106
7628	ShtRtNb-Proc & Manuf. TVS in Tunnel	180	09JUN05A	08JUL06	35	30	180	-68	-106
6992	ShtRtNb-Proc & Manuf. Tunnel Lgt sys	180	12DEC05	29JUL06	0	40	180	-111	-130
SHT TUNNEL SOUTHBOUND									
6946	ShtRtSb-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	08JUL06	20	20	180	-66	-85
6970	ShtRtSb-Proc & Manuf. FS AFA & Linear sys	180	25MAR05A	08JUL06	20	70	180	-104	-154
6933	ShtRtSb-Proc & Manuf. ES Main & submain dist.	180	20MAY05A	08JUL06	65	50	180	-96	-124
6958	ShtRtSb-Proc & Manuf. TVS control sys	180	25MAY05A	12AUG06	10	20	180	-68	-106
7625	ShtRtSb-Proc & Manuf. TVS in Tunnel	180	09JUN05A	08JUL06	35	30	180	-68	-106
6939	ShtRtSb-Proc & Manuf. Tunnel Lgt sys	180	12DEC05	29JUL06	0	20	180	-90	-112
SHT NORTH PORTAL BUILDING									
CONTRACT DEFINED DATES, STAGES & SECTIONS									
ACS_J3	Access to Portion - J3 (T/Plate & above) SH-N.VB	0	09FEB06		0		0	22	0
SUBMITTALS & APPROVALS									
ABWF & BUILDER'S WORKS									
1999	SHT NPB - Prep & submit door & window detail	24	13NOV04A	03DEC05	50	100	12	78	-97
2001	SHT NPB - Approve door & window details	24	03JUN05A	17DEC05	0	100	24	66	-85
2008	SHT NPB - Prep & sub balustrade & metal wks	24	13JUL05A	03DEC05	50	100	12	42	-97
2009	SHT NPB - Approve balustrade & metal works	24	05DEC05	04JAN06	0	0	24	42	-97
E&M EQPT. / MTRL. SUBMITTALS									
8295	ShtNpBldg-Sub.TVF, Ductworks & Control sys	78	02JUL04A	21NOV05	99	100	1	-86	-124
8297	ShtNpBldg-Sub.MVAC MCC, power & control sys	54	02JUL04A	25JAN06	95	100	54	-138	-229
8299	ShtNpBldg-Sub.FS AFA & FM200 sys	54	05JUL04A	25NOV05	99	100	5	12	-54
8294	ShtNpBldg-Sub.MVAC mech.vent. sys	54	03AUG04A	21OCT05A	100	100	0		-72
8298	ShtNpBldg-Sub.FS wet sys	54	05AUG04A	25NOV05	99	100	5	6	-96
8296	ShtNpBldg-Sub.MVAC / TVF pneumatic sys	54	14AUG04A	18JAN06	95	10	48	-32	-51



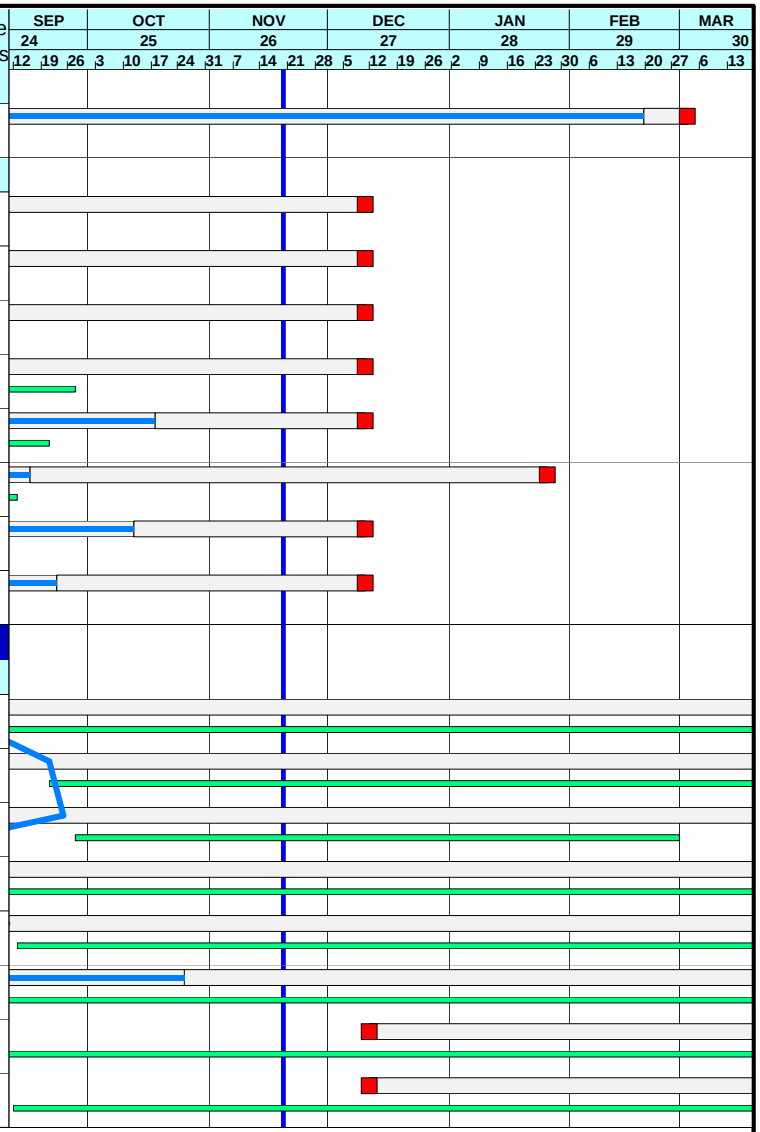
Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
E&M EQPT. / MTRL. SUBMITTALS									
8292	ShtNpBldg-Sub.of CMCS & ELV sys	78	26AUG04A	02MAR06	95	100	78	-62	-181
E&M EQPT. / MTRL. APPROVALS									
7262	ShtNpBldg-App. HV power dist. sys	18	14JUL04A	10DEC05	95	100	18	-110	-151
7268	ShtNpBldg-App. LV power dist. sys	18	13AUG04A	10DEC05	90	100	18	-114	-151
8511	ShtSpBldg-App. building related luminaires	18	18AUG04A	10DEC05	90	100	18	-74	-115
7377	ShtNpBldg-App. FS wet sys	18	02SEP04A	10DEC05	80	100	18	6	-91
7427	ShtNpBldg-App. FS AFA & FM200 sys	18	14SEP04A	10DEC05	70	0	18	12	-49
7307	ShtNpBldg-App. of CMCS & ELV sys	18	20SEP04A	10DEC05	88	100	18	-62	-103
7338	ShtNpBldg-App. MVAC mech.vent. sys	18	23SEP04A	10DEC05	70	100	18	-75	-97
7431	ShtNpBldg-App. PD cleans. & flush water sys	18	04NOV04A	10DEC05	78	100	18	-24	-109
7355	ShtNpBldg-App. TVF, Ductworks & Control sys	18	12NOV04A	10DEC05	85	100	18	-86	-123
7369	ShtNpBldg-App. MVAC MCC, power & control sys	18	12NOV04A	10DEC05	80	100	18	-138	-175
7323	ShtNpBldg-App. MVAC Package AC Unit sys	18	01FEB05A	10DEC05	90	0	18	16	-37
PROCUREMENT - MATERIAL									
ABWF WORKS									
2016	SHT NPB - Procure doors & windows	120	12JAN05A	17DEC05	50	10	24	66	35
2028	SHT NPB - Procure balustrade & metal works	120	09MAR05A	04JAN06	50	10	24	42	23
7269	ShtNpBldg-Proc & Manuf. LV power dist. equip't	180	20MAR05A	08JUL06	30	50	180	-114	-133
7263	ShtNpBldg-Proc. & Manuf. of HV dist. equip't	180	25MAR05A	08JUL06	50	50	180	-110	-133
7308	ShtNpBldg-Proc. & Manuf. of CMCS & ELV sys	180	25MAR05A	08JUL06	20	20	180	-62	-85
7370	ShtNpBldg-Proc & Manuf. MCC, power & control sys	180	25MAR05A	08JUL06	10	70	180	-138	-157
7428	ShtNpBldg-Proc & Manuf. FS AFA & FM200 sys	120	25MAR05A	02JUN06	20	0	120	-18	-61
7378	ShtNpBldg-Proc & Manuf. FS wet sys	120	06JUN05A	25APR06	30	20	120	6	-73
7356	ShtNpBldg-Proc & Manuf. TVF,Ductwks&Cont'l sys	180	09JUN05A	08JUL06	35	30	180	-86	-105
7339	ShtNpBldg-Proc & Manuf. MVAC mech.vent. sys	120	12DEC05	18MAY06	0	20	120	-75	-97



Act. ID	Activity Description	Orig Dur	Early Start	Early Finish	% Compl.	DWP % Compl.	Rem Dur	Total Float	Variance arly Finis
ABWF WORKS									
7432	ShtNpBldg-Proc & Manuf. Cleans & flush water sys	120	12DEC05	18MAY06	0	40	120	-24	-109
8512	ShtSpBldg-Proc & Manf bldg related luminaires	180	12DEC05	29JUL06	0	30	180	-74	-115
7324	ShtNpBldg-Proc & Manuf. MVAC Package AC Units	120	12JAN06	16JUN06	0	0	120	-8	-61
INTERFACE DATES									
SHT NORTH PORTAL BUILDING									
1863	Int M/S - SHT N Ptal Bldg - E&M access 3/F	0		08FEB06	0		0	19	0
1864	Int M/S - SHT N Ptal Bdng - E&M access G/F	0		08FEB06	0		0	25	0
1865	Int M/S - SHT N Ptal Bldg - E&M access 1/F	0		08FEB06	0		0	19	0
1868	Int M/S - SHT N Ptal Bldg - E&M access 2/F	0		08FEB06	0		0	19	0
CONSTRUCTION									
ARCHITECTURAL & BUILDER'S WORKS									
BUILDER'S WORK									
1812	SHT Nth PBldg - Ext. Doors & Windows	33	09FEB06	18MAR06	0		33	31	0
1821	SHT Nth PBldg - Wet Trades GL	16	09FEB06	27FEB06	0		16	25	0
1823	SHT Nth PBldg - Wet Trades 1FL	16	09FEB06	27FEB06	0		16	19	0
1869	SHT Nth PBldg - Wet Trades 2FL	16	09FEB06	27FEB06	0		16	19	0
1870	SHT Nth PBldg - Wet Trades 4FL	16	09FEB06	27FEB06	0		16	19	0
1871	SHT Nth PBldg - Wet Trades 3FL	16	09FEB06	27FEB06	0		16	19	0
1872	SHT Nth PBldg - Wet Trades 5FL	16	09FEB06	27FEB06	0		16	31	0
SHT RC ENCLOSURE & T3 UNDERPASS									
SUBMITTALS & APPROVALS									
E&M EQPT./ MTRL.SUBMITTALS									
8302	Sht-N.R9-Sub.Tunnel Lgt sys	78	02JUL04A	20OCT05A	100	100	0		-71
8304	Sht-N.R9-Sub.TVS control sys	54	02JUL04A	25JAN06	95	100	54	-38	-129
8309	Sht-N.R9-Sub.MCC, power & control sys	54	02JUL04A	25JAN06	95	100	54	-53	-144
8305	Sht-N.R9-Sub.FS AFA & Linear sys	54	05JUL04A	25NOV05	99	100	5	-9	-67
8308	Sht-N.R9-Sub.LCC, power & control sys	54	07JUL04A	20OCT05A	100	100	0		-50



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									
8303	Sht-N.R9-Sub.CMCS & ELV sys	78	26AUG04A	02MAR06	98	100	78	-31	-146
E&M EQP. / MTRL. APPROVALS									
7487	Sht-N.R9-App. Tunnel Lgt sys	18	05AUG04A	10DEC05	80	100	18	-78	-97
7481	Sht-N.R9-App. HV/LV main & submain dist. sys	18	13AUG04A	10DEC05	80	100	18	-51	-88
7604	Sht-N.R9-App. LCC, power & control sys	18	18AUG04A	10DEC05	80	100	18	-57	-76
7517	Sht-N.R9-App. FS AFA & Linear sys	18	14SEP04A	10DEC05	70	80	18	-9	-62
7494	Sht-N.R9-App. CMCS & ELV sys	18	20SEP04A	10DEC05	88	100	18	-31	-68
7505	Sht-N.R9-App. TVS control sys	18	12NOV04A	25JAN06	70	100	54	-38	-111
7529	Sht-N.R9-App. TVF, Ductworks & Control sys	18	12NOV04A	10DEC05	85	100	18	-60	-97
7612	Sht-N.R9-App. MCC, power & control sys	18	12NOV04A	10DEC05	80	100	18	-53	-90
PROCUREMENT - MATERIAL									
SHT RC FULL ENCLOSURE / T3 UNDERPASS									
7482	Sht-N.R9-Proc & Manuf. ES Main & submain dist.	180	20MAR05A	08JUL06	30	20	180	-51	-70
7495	Sht-N.R9-Proc & Manuf. CMCS & ELV sys	180	25MAR05A	08JUL06	20	0	180	-31	-50
7518	Sht-N.R9-Proc & Manuf. FS AFA & Linear sys	120	25MAR05A	25APR06	15	0	120	-9	-44
7613	Sht-N.R9-Proc & Manuf. MCC, power & control sys	180	25MAR05A	05AUG06	10	20	180	-77	-96
7506	Sht-N.R9-Proc & Manuf. TVS control sys	180	25MAY05A	08JUL06	10	5	180	-38	-57
7530	Sht-N.R9-Proc & Manuf. TVF, Ductwks & Cont'l sys	180	09JUN05A	08JUL06	35	20	180	-60	-79
7488	Sht-N.R9-Proc & Manuf. Tunnel Lgt sys	180	12DEC05	29JUL06	0	20	180	-78	-97
7605	Sht-N.R9-Proc & Manuf. LCC, power & control sys	180	12DEC05	29JUL06	0	5	180	-57	-76



APPENDIX M
COMPLAINT LOG

Appendix M - Complaint Log

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

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

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

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

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

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

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

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

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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

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

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

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

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

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

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				Item 4: Noise due to works outside tunnel in the early morning of 2 Nov 05 According to the RSS's site records, there has been no activity outside the tunnel in the early morning of 2 November 2005. Work was undertaken deep inside the tunnel during the concerned period. The mentioned noise nuisance might not be related to R8-ENT Project. An ad-hoc noise measurement was carried out by ET from 8 to 10 November 2005 in order to evaluate the noise at Quarter's residents and no exceedance was recorded. *Conclusion* Based on the information obtained, environmental monitoring results and site observations, this complaint was considered not justifiable, except for the concern of dust nuisance due to crushed rock processing.	