



Territory Development Department

Contract No. ST77/01

**Sha Tin New Town, Stage II
Road D15 Linking Lok Shun Path
and Tai Po Road**

**Quarterly Environmental Monitoring & Audit Report -
October to December, 2003**



Environmental Management Limited
美華環協管理有限公司

**Sha Tin New Town, Stage II Road D15 Linking Lok Shun Path and
Tai Po Road (Contract No. ST 77/01)**

**Quarterly Environmental Monitoring & Audit Report –
October to December 2003**

Checked in accordance with EML QP22
Environmental Team Leader



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EXECUTIVE SUMMARY

This quarterly environmental monitoring report was prepared by Environmental Management Limited (EML) for Environmental Monitoring & Audit (EM&A) Services of Sha Tin New Town, Stage II Road D15 Linking Lok Shun Path and Tai Po Road. This report summaries the EM&A carried out in the period from October to December 2003.

Environmental monitoring for this Project included both air quality and noise measurements. The parameters measured for air quality were 24-hour and 1-hour Total Suspended Particulate (TSP) while for noise monitoring, the A-weighted continuous sound pressure level (L_{eq}) as well as percentile levels (L_{10} and L_{90}) were measured.

Over the reporting period, there were two exceedances in Action Level recorded in measured 24-hour TSP. The 24-hour TSP exceedances occurred separately at Station A1 and A3 on 23 December 2003. An Ad-hoc site inspection was carried out on 30 December 2003 by ET, MCAL and BCCL to investigate the matter. It was noted that at the time of the exceedance, excavation work was carried out near Station A1 and shotcreting works was carried out by CED at a slope adjacent to Station A3. It is believed that the exceedance at Station A3 was caused by the slope works rather than the site works under this contract. Regarding the exceedance at Station A1, BCCL was reminded that proper dust control measures should be implemented, and in particular all exposed excavation face should be properly covered.

The regular site inspections had been conducted in this reporting period and the mitigation measures, as discussed in the relevant documents, were identified and implemented. The mitigation measures implemented in this quarter included aspects of noise, air, water, wastewater and land contamination.

In regard to the last quarter environmental issues, it was observed that the site runoffs on the public road near Lok Lo Ha Village House No.3B (near Noise Monitoring Station N1) were cleaned up and proper mitigation measures were provided.

However, it was noted from site inspection in this reporting period that some exposed soil faces and the excavation trench near Lok Lo Ha roundabout were not properly covered with tarpaulic sheeting for dust control. The Contractor was reminded to provide adequate dust control measures on site. In addition, it was noted that the Wetsep pump sump was not properly maintained and some sand bags holding back site drainage were missing. The Contractor was reminded to carry out regular checks on the performance of the Wetsep unit.

1. INTRODUCTION

1.1 Background

Environmental Management Limited (EML) was appointed by Maunsell Consultants Asia Ltd. as the Environmental Specialist for the project *Sha Tin New Town, Stage II Road Linking Lok Shun Path and Tai Po road* (Agreement No. ST77/01).

The responsibilities of the Environmental Team included:

- Monitor the noise and air quality data as required in the Environmental Monitoring and Audit (EM&A) Manual;
- Analyse the monitoring data and review the success of EM&A program to cost effectively confirm the adequacy of mitigatory measures implemented and validity of the Environmental Impact Assessment Study predictions and to identify any adverse environmental impacts arising;
- Carry out site inspection to investigate and audit the Contractor's site practice, equipment and work methodologies with respect to pollution control and environmental mitigation, and anticipate environmental issues for proactive action before problems arise;
- Review the proposal for mitigation measures submitted by Contractor in accordance with Event and Action Plans.
- Propose any improvement or other alternative mitigation measures should Contractor's proposal be found to be inadequate;
- Adhere to the procedures for carrying out complaint investigation;
- Audit and prepare EM&A reports on environmental monitoring data and site environmental conditions;
- Report on EM&A results to Engineer, the ER and EPD;

This is the quarterly EM&A report for the period from October to December 2003. The report summarises the results of the impact air quality and noise monitoring in the reporting quarter as well as the environmental status and issues of the construction site for the Project. The remedial actions undertaken as a result of non-compliance with relevant environmental criteria or complaints related to the Project's construction works will also be discussed in the report.

The project area of the construction site for this Project is shown in **Figure 1.1** while the project organisation, contacts of key management for the project and EPD complaint hotline are shown in **Appendix D**.

1.2 Project Description

Road D15 Linking Lok Shun Path and Tai Po Road (hereinafter referred to as 'Road D15') is part of the development of Sha Tin New Town, Stage II by NT East Development Office/Territory Development Department. The project will provide a link between Lok Lo Ha Area (Planning Area 43 and 44) and Tai Po Road so as to relieve traffic congestion at the present access via Fo Tan Road. The construction of Road D15 includes the major components listed hereunder:

- (a) Construction of approximately 0.4km a single 2-lane carriageway forming part of Road D15 at Fo Tan. About 0.2km of road is on elevated structure.
- (b) Construction of vehicular bridge A, B and C with footpaths.

- (c) Construction of noise barriers.
- (d) Construction of associated footpaths, cycle tracks, drainage and workworks.
- (e) Construction of sewerage improvement works via Lok Lo Ha Village.
- (f) Slope works and landscaping works associated with the above roadworks.

1.3 Construction Activities During the Reporting Quarter

The major activities performed during the reporting period include the following:

- Bridge A, B and C construction;
- Retaining walls construction;
- Noise barrier construction;
- Box culvert extension;
- Underground drainage and water pipes; and
- Staircases construction.

The work program for the current and next quarter is attached in **Appendix F**.

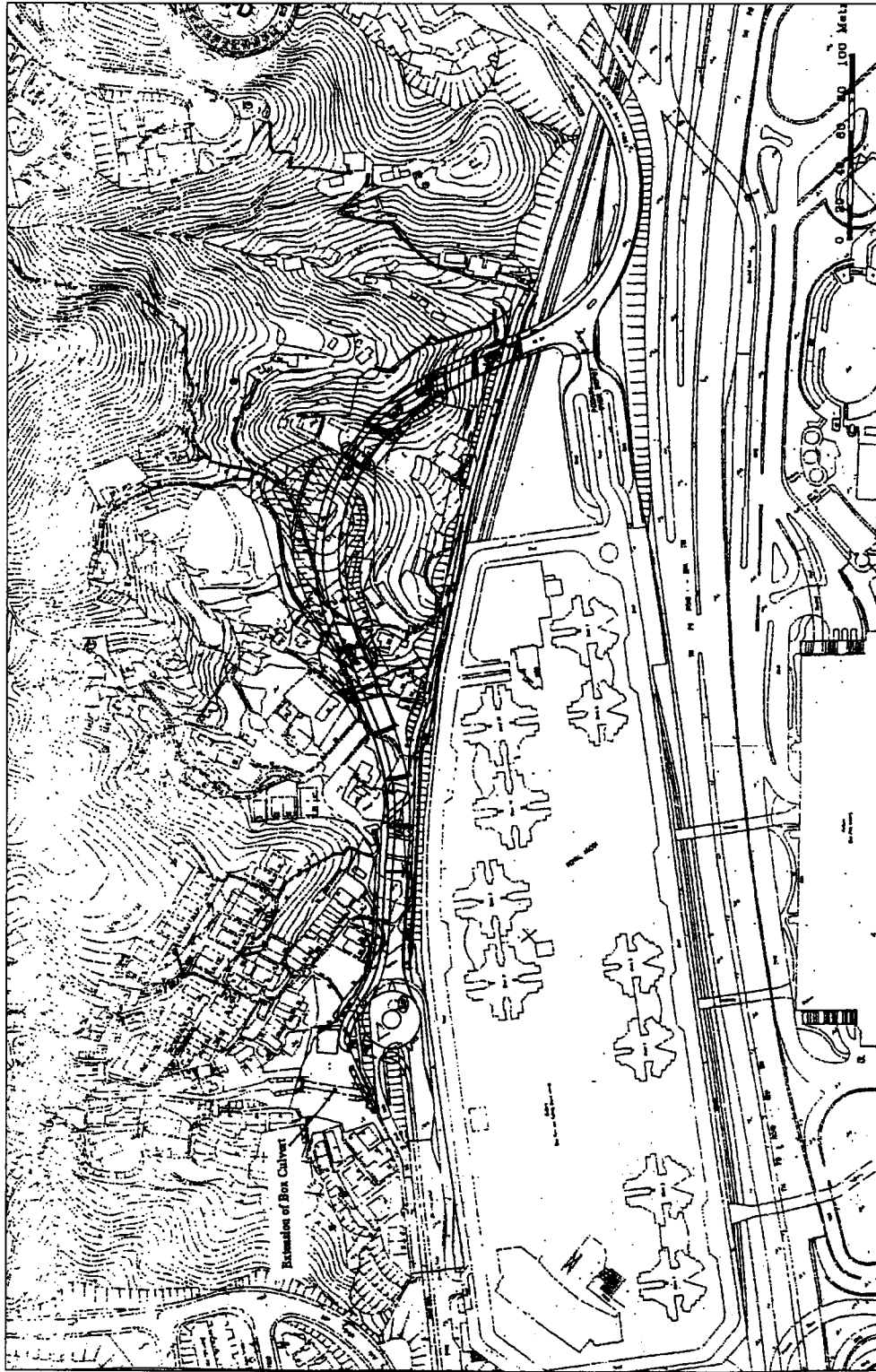


Figure 1.1 Project Area

2. ENVIRONMENTAL MONITORING & AUDIT REQUIREMENTS

2.1 Monitoring Parameters

Impact monitoring on the Road D15 Project involved both air quality and noise. For air impact monitoring, continuous 24-hour and 1-hour TSP levels were sampled. For 24-hour TSP, monitoring are performed once in every six days while for 1-hour TSP, monitoring are performed three times in every six days.

Meanwhile, for noise monitoring, the A-weighted equivalent continuous sound pressure level (L_{eq}) was measured with a duration of 30 minutes. The measured L_{eq} was used to compare with the relevant noise criteria and the monitoring will be conducted once in every six days. As supplementary information for data auditing, statistical results, namely L_{10} and L_{90} , were also recorded for reference.

The monitoring parameters are summarised in **Table 2.1** below.

Table 2.1 Parameter, Frequency and Duration of Monitoring

Monitoring Type	Parameter	Duration
Air Quality	24-hour TSP	24 hours
	1-hour TSP	1 hour within 0700-1900 on working days
Noise	L_{eq} , L_{10} , L_{90}	30 minutes

2.2 Environmental Quality Performance Limits (Action & Limit Levels)

The Action and Limit (AL) Levels set the air quality and noise criteria for construction works. For air quality, the AL levels for the parameters 24 and 1-hour TSP are shown in **Table 2.2** below.

Table 2.2 Action / Limit Levels for Air Quality

Parameters	Action	Limit
24 Hour TSP Level in $\mu\text{g}/\text{m}^3$	For baseline level < $108 \mu\text{g}/\text{m}^3$, Action Level = average of baseline level plus 30% and Limit level; For baseline level > $108 \mu\text{g}/\text{m}^3$, and baseline level < $154 \mu\text{g}/\text{m}^3$, Action Level = $200 \mu\text{g}/\text{m}^3$; For baseline level > $154 \mu\text{g}/\text{m}^3$, Action Level = 130% of baseline level.	260
1 Hour TSP Level in $\mu\text{g}/\text{m}^3$	For baseline level < $154 \mu\text{g}/\text{m}^3$, Action Level = average of baseline level plus 30% and Limit Level; For baseline level > $154 \mu\text{g}/\text{m}^3$, and baseline level < $269 \mu\text{g}/\text{m}^3$, Action Level = $350 \mu\text{g}/\text{m}^3$; For baseline level > $269 \mu\text{g}/\text{m}^3$, Action Level = 130% of baseline level.	500

Meanwhile, for noise, the AL levels for the parameters L_{eq} are shown in **Table 2.3** below:

Table 2.3 Action / Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
0700-1900 hours on normal weekdays	When one documented complaint is received	75* dB(A)
0700-2300 hours on holidays; and 1900-2300 hours on all other days		60/65/70** dB(A)
2300- 0700 hours of next day		45/50/55** dB(A)

** to be selected based on Area Sensitivity Rating

Note: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

From the baseline study carried out in the period from 9 to 27 August 2001, the AL levels for air quality as specified in **Table 2.2** were determined and are shown again in **Table 2.4** and **2.5** below. Details of the baseline study were provided in the 'Baseline Environmental Monitoring Report' by Maunsell Environmental Management Consultants Ltd., carried out prior to this EM&A report.

Table 2.4 Action and Limit Levels for 24-hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
A1	156	260
A2	155	
A3	153	

Table 2.5 Action and Limit Levels for 1-hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
A1	371	500
A2	378	
A3	368	

2.3 Environmental Mitigation Measures During Construction Phase

In order to minimise adverse environmental impacts to the surrounding area, the environmental impact assessment report and environmental review had recommended a number of mitigation measures on the Road D15 Project. These mitigation measures cover aspect in air, water and noise and the some of the mitigation measures are listed below:

Air

- Effective dust suppression equipment and other measures should be installed to ensure the concentration of air borne dust at the site boundary and any nearby sensitive receiver are within the established standard
- Wheel washing facilities should be installed and used by all vehicles leaving the construction site.
- All motorised vehicles should be restricted to a maximum speed of 8 km/h. Haulage and delivery vehicles should be confined to designated roadway inside the site
- In the process of material handling, any material which has the potential to create dust should be treated with water or sprayed with wetting agent.

Noise

- Temporary purposed-built barrier must be installed around heavy noise generated equipment. The design of the temporary barrier must meet the requirements specified in the *Technical*

Memorandum on Noise from Construction Works' and provide reduction of noise level to at least 10 dB(A).

- The arrangement of the number of equipment, procedure and sequence of construction should be arranged such that the noise levels generated from the plants are kept to the minimum.
- Quietened equipment shall be used for the construction works
- A noise mitigation proposal describing the above measures must be submitted to the EPD with prior verification from the Environmental Team (ET)

Water

- Temporary barrier shall be provided in order to protect the water quality of the stream course located in the site. The barrier shall be installed at the stream bank to prevent accidental dumping or spillage of materials into the stream course during construction.
- Proper mitigation measures as described in **Annex A** of the Environmental Permit will need to be implemented to mitigate environmental impacts due to site runoff and other potential water pollution caused by construction activities. A copy of **Annex A** are attached in **Appendix A** of this report.

3. ENVIRONMENTAL STATUS

3.1 Air Quality

3.1.1 *Monitoring Requirements*

In accordance with the EM&A Manual, air quality impact monitoring was conducted in terms of 1-hour and 24-hour TSP at the designated monitoring locations.

Continuous 24-hour TSP monitoring was performed once in every six days while 1-hour TSP monitoring was performed 3 times in every 6 days. The Action and Limit levels for air quality are discussed in **Section 2** of this report.

3.1.2 *Monitoring Locations*

The designated impact air quality monitoring stations are listed in **Table 3.1** and are shown in **Figure 3.1**.

Table 3.1 Air Quality Monitoring Locations

Monitoring Station	Location
A1	Village house at Lok Lo Ha Village
A2	Lok Lo Ha Village House No. 104
A3	Village House near Tsun King Road

3.1.3 *Summary of Monitoring Results*

The monitoring results obtained in this quarter are summarised in **Table 3.2** below. The graphical plots of the trends of 24-hour and 1-hour TSP in the quarter are presented in **Figure 3.2** and **3.3** respectively. Meanwhile, **Appendix B** shows the meteorological conditions during the monitoring days.

Table 3.2 Summary of 24 and 1-hour TSP Monitoring Results

Parameter	Monitoring Location	Mean TSP Levels ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	No. of Exceedance	
				Action Level	Limit Level
24 – hour TSP	A1	103.9	64 – 159	1	0
	A2	105.2	45 – 149	0	0
	A3	99.9	50 – 171	1	0
1 – hour TSP	A1	206.0	102 – 312	0	0
	A2	188.3	119 – 299	0	0
	A3	199.4	92 – 319	0	0



Figure 3.1 Air Quality Monitoring Locations

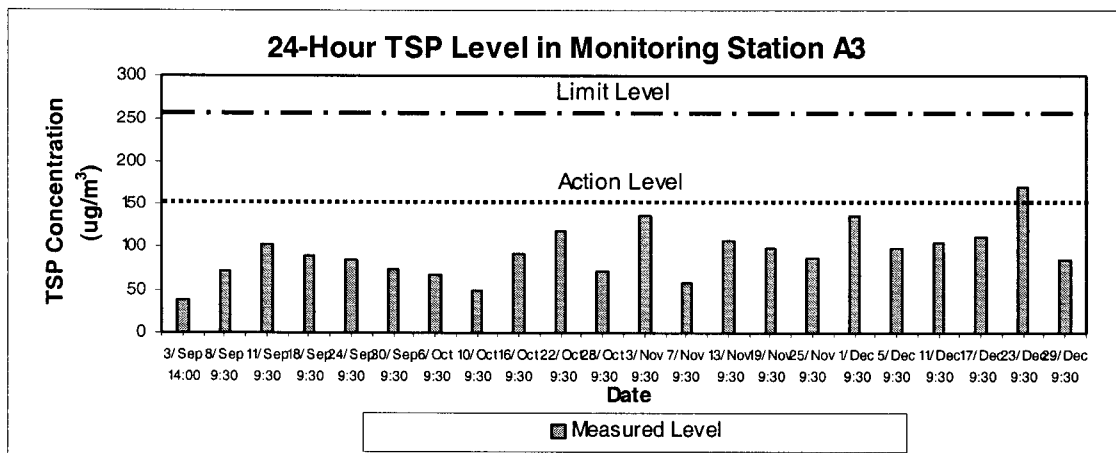
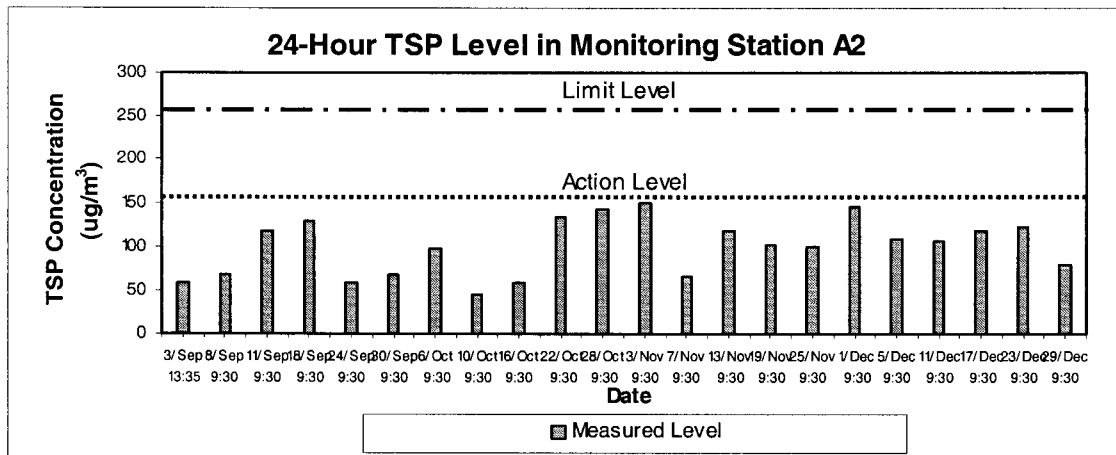
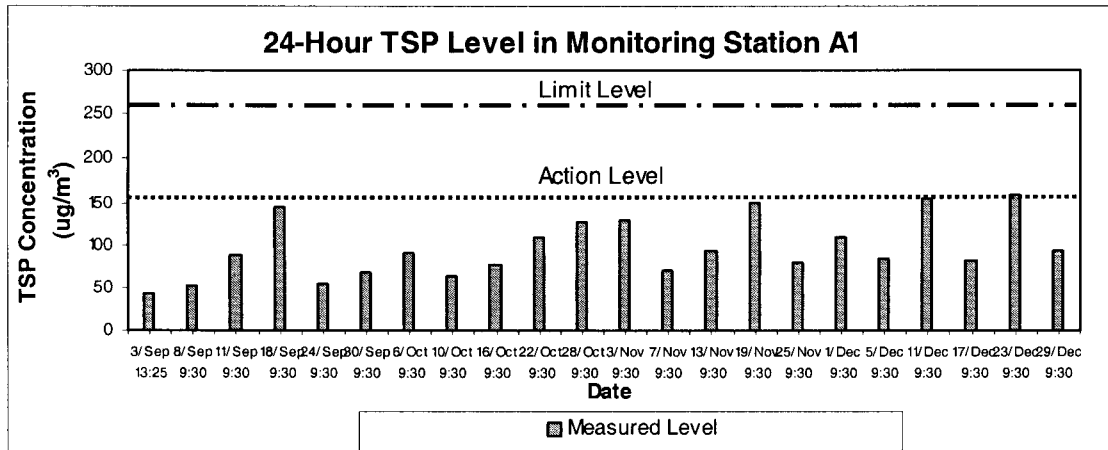


Figure 3.2 Plots of 24-hour TSP Concentration

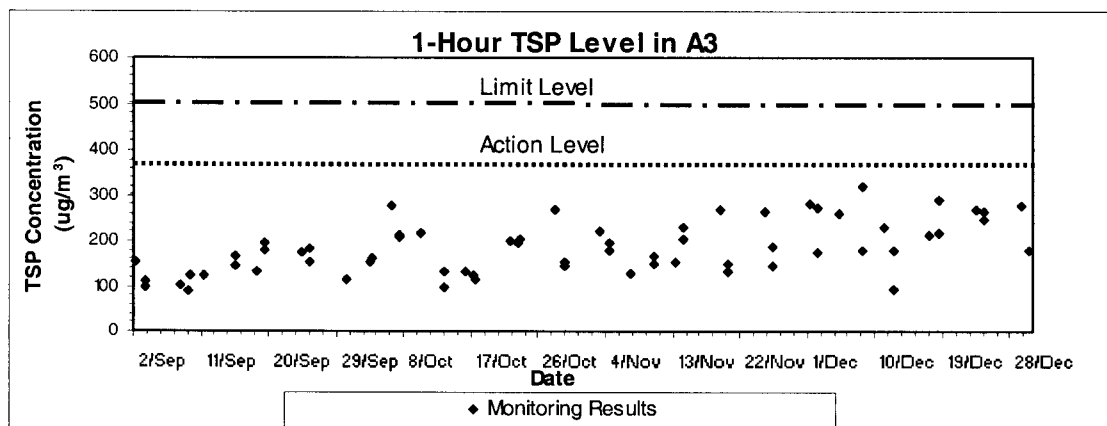
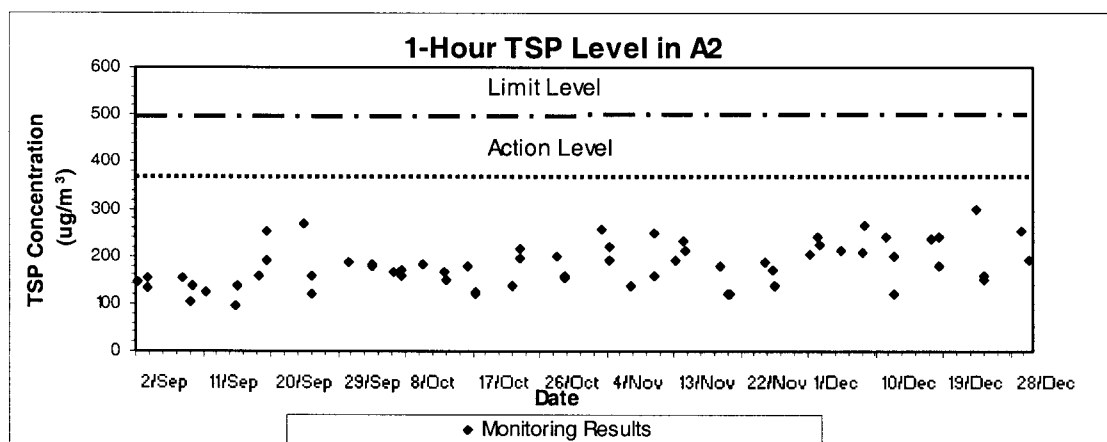
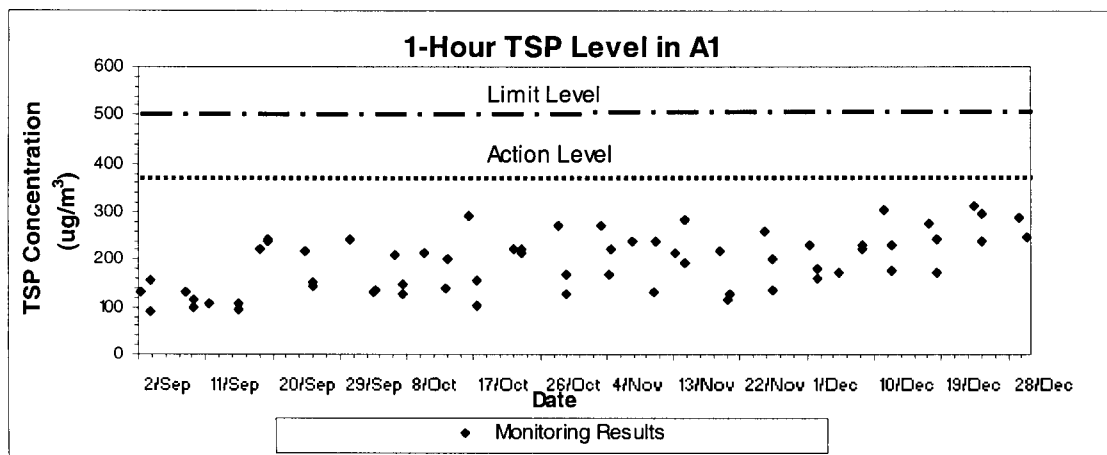


Figure 3.3 Plots of 1-hour TSP Concentrations

3.2 Noise

3.2.1 Monitoring Requirements

Impact noise monitoring was conducted once in every six days at the five designated monitoring locations in accordance with specifications in the EM&A Manual. The duration of sampling was 30 minutes in the reporting period. The Action and Limit levels for noise are discussed in **Section 2** of this report.

3.2.2 Monitoring Locations

The impact noise monitoring locations are presented in **Table 3.3** and shown in **Figure 3.4**.

Table 3.3 Noise Monitoring Locations

Monitoring Location	Measurement	Location
N1	Façade	Lok Lo Ha Village House No. 3B
N2	Façade	Lok Lo Ha Village House No. 32A
N3	Façade	Royal Ascot Block 9, Flat C
N4	Façade	Lok Lo Ha Village House No. 97
N5	Façade	Village near Royal Ascot

3.2.3 Summary of Monitoring Results

The monitoring results obtained in this quarter are summarised in **Table 3.4** below. Graphical plots of the noise level trends in the quarter are presented in **Figure 3.5** below. Meanwhile, **Appendix B** shows the meteorological conditions during the monitoring days.

Table 3.4 Summary of Noise Monitoring Results

Parameter	Monitoring Location	Range of Results dB(A)	No. of Exceedance	
			Action Levels	Limit Levels
30-minute Noise Measurement (L_{eq})	N1	61.5 – 72.7	0	0
	N2	64.8 – 74.4	0	0
	N3	57.3 – 62.8	0	0
	N4	58.3 – 68.8	0	0
	N5	58.3 – 63.0	0	0

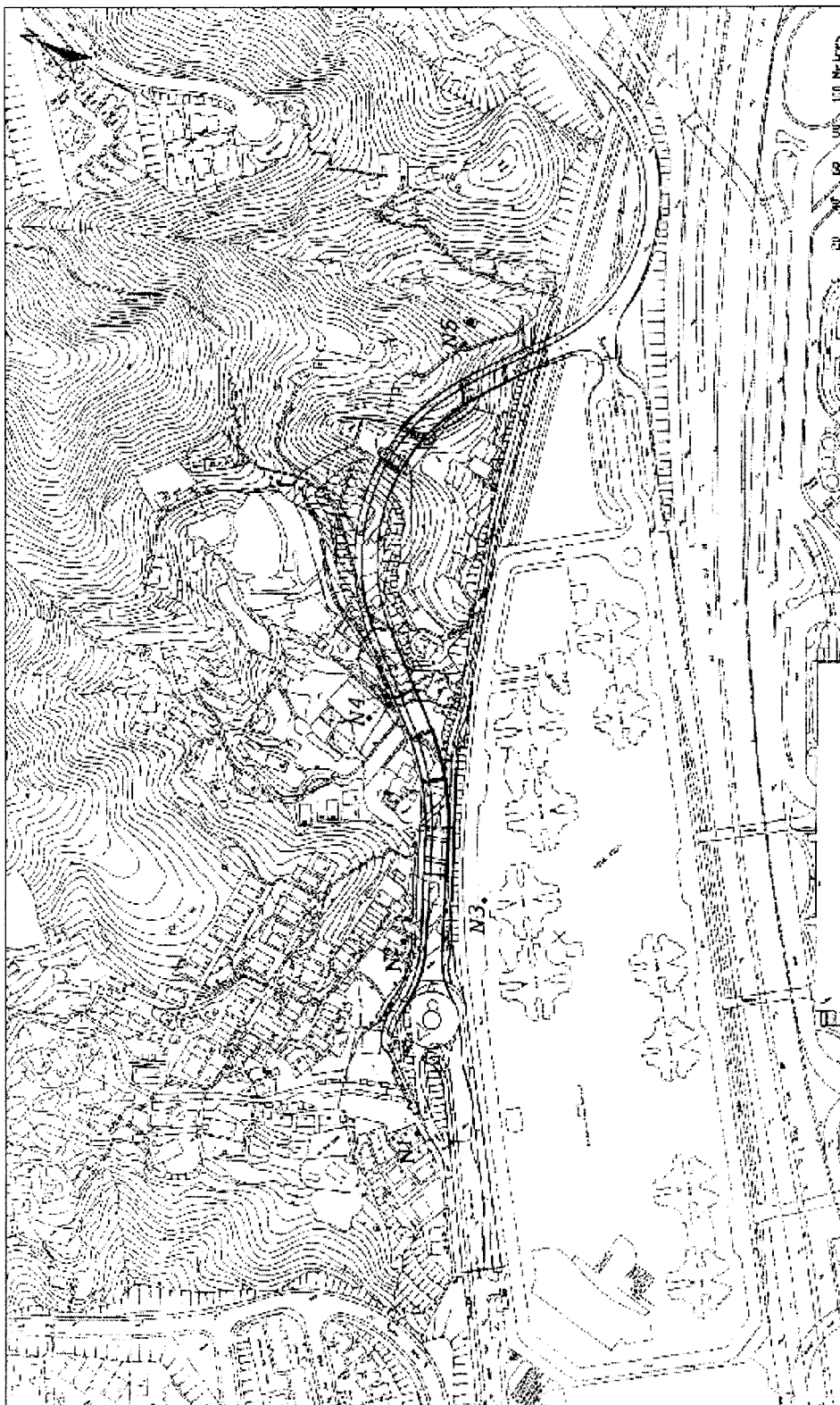


Figure 3.4 Noise Monitoring Locations

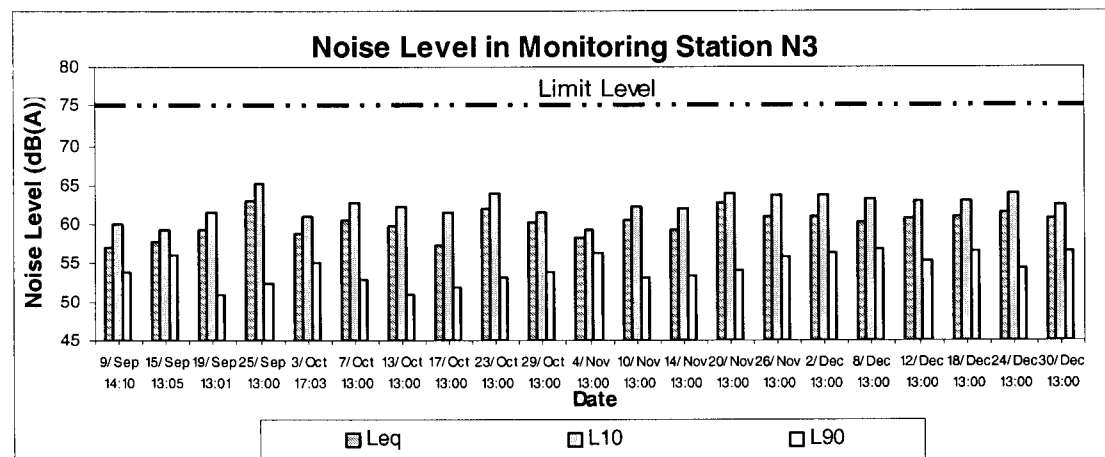
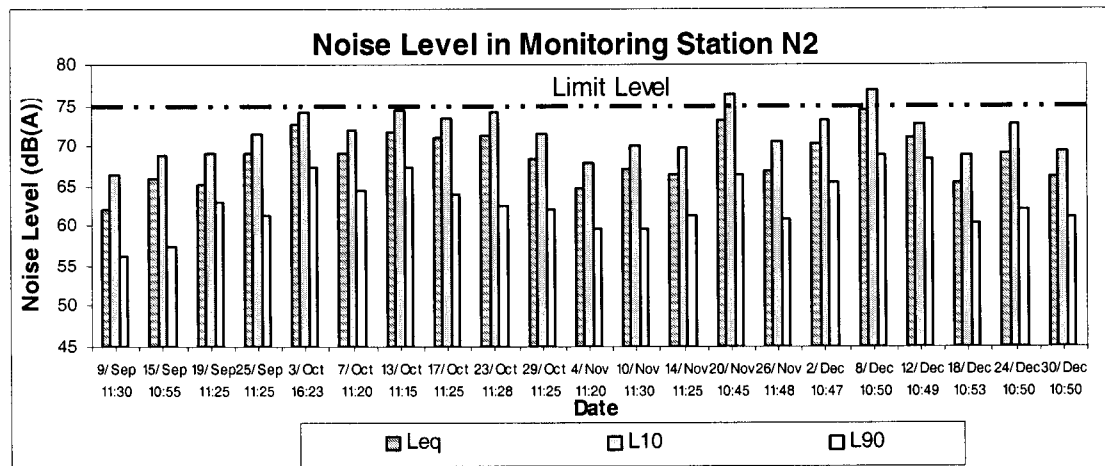
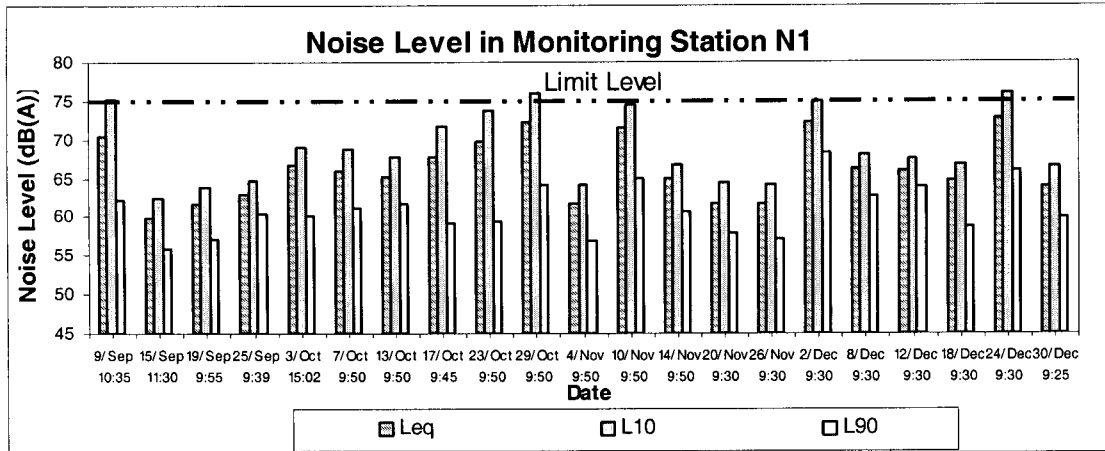


Figure 3.5 Plots of Noise Levels

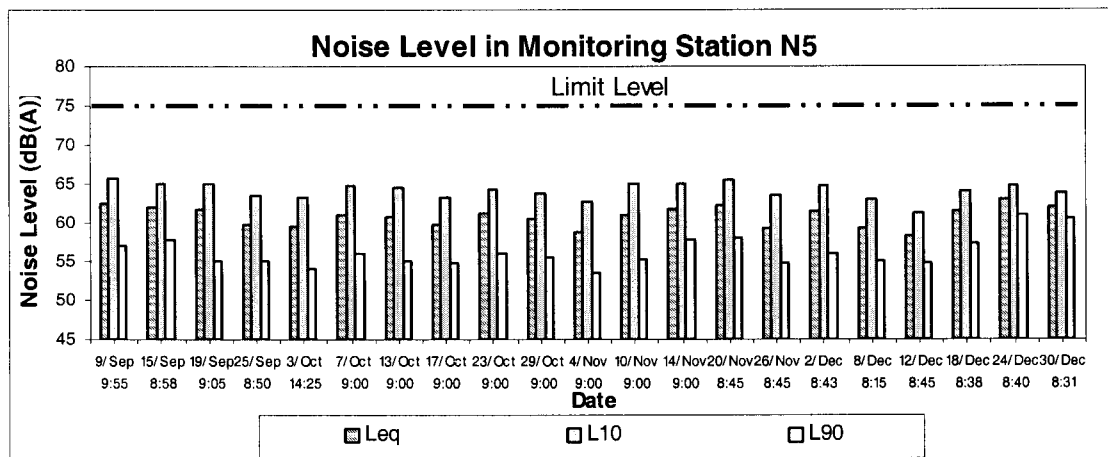
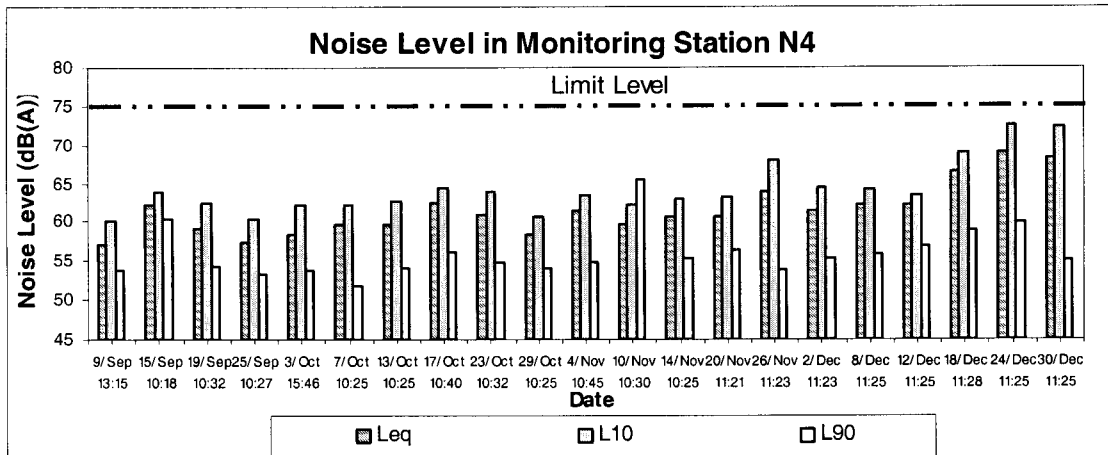


Figure 3.5 Plots of Noise Levels (con't)

4. ENVIRONMENTAL AUDIT

4.1 Summary of Environmental Monitoring Results

The monitoring work undertaken in this reporting quarter is summarised in the following table.

Table 4.1 Summary of Environmental Monitoring

Item	Parameter	Monitoring Period	Total No. of Samples Taken (on all stations)	No. of Exceedance	
				Action Levels	Limit Levels
1	24 – hour TSP	01/10/03 to 31/12/03	48	2	0
2	1 – hour TSP	01/10/03 to 31/12/03	162	0	0
3	30-minute Noise Measurement (Leq)	01/10/03 to 31/12/03	90	0	0

In this reporting quarter, there were in total two incidents of Action Level exceedance for 24-hour TSP while no exceedance was recorded for noise and 1-hour TSP monitoring. The exceedances recorded in this reporting period are summarized in **Table 4.2**.

Table 4.2 Summary of Non-Compliance with Relevant Criteria

Location	Parameter	Data & Time of Exceedance	Measured Level ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Type of Exceedance
Lok Lo Ha Village (Station A1)	24 – hour TSP Measurement ($\mu\text{g}/\text{m}^3$)	23 December (09:30 to 09:30 of next day)	159.0	156.0	Action Level (by 3 $\mu\text{g}/\text{m}^3$)
Village House near Tsun King Road (Station A3)	24 – hour TSP Measurement ($\mu\text{g}/\text{m}^3$)	23 December (09:30 to 09:30 of next day)	171.0	153.0	Action Level (by 18 $\mu\text{g}/\text{m}^3$)

Since exceedances in Action Levels had occurred, the Event and Action Plan for Air Quality attached in **Appendix G** was triggered. An Ad-hoc site inspection was carried out on 30 December 2003 by ET, MCAL and BCCL to investigate the matter. It was noted that at the time of the exceedance, excavation work was carried out near Station A1 and shotcreting works was carried out by CED at a slope adjacent to Station A3. It is believed that the exceedance at Station A3 was caused by the slope works rather than the site works under this contract. Regarding the exceedance at Station A1, BCCL was reminded that proper dust control measures should be implemented, and in particular all exposed excavation face should be properly covered.

4.2 Environmental Complaints

No environmental complaints had been received against the construction site in this reporting quarter. **Table 4.3** shows the complaint summary record for this reporting quarter while **Table 4.4** summarises the complaint statistics from the commencement of the project to date.

Table 4.3 Environmental Complaints / Enquiry Received in the Reporting Quarter

Complaint No.	Received date & Time	Description (inc. location/ nature of complaint)	Follow-up Taken	Action	Recommended Mitigation Measures	Status/ Remarks
N/a	N/a	N/a	N/a		N/a	N/a

Table 4.4 Summary of Total Number of Complaints Received to date

Total No. of Complaints to date	No. of Complaints in this reporting period	No. of Active Complaints	No. of Inactive/Closed Complaints
2	N/a	N/a	2

4.3 Assessment of Mitigation Measures

The mitigation measures listed in **Table 4.5** below had been implemented in this reporting period.

Table 4.5 Summary of Major Mitigation Measures at the Site

Type	Mitigation Measure	Comments
Noise	Temporary purposed-built Noise Barrier	Constructed based on the design in the Construction Noise Mitigation Proposal.
Water	Wheel Washing Facility	Installed and in operation.
	Sand/Silt Removal Facilities	A larger wastewater treatment system had been installed to treat site-runoffs and water from piling works north-east of Lok Shun Path Roundabout. Another treatment system was installed to treat wastewater from piling works near Bridge C.
	Measures along stream-banks north-east of Lok Shun Path Roundabout	Concrete, sandbags, sump pits and pumps were placed/installed along the banks to prevent construction debris and site run-off from entering the stream untreated.
	Diversion of Stream Course via drainage pipe	Installed at the existing concrete channel.
Wastewater	Water Reuse at wheel washing facility and site investigation drilling works.	Implemented
Land Contamination	Metal trays are placed underneath stationary machines where there are potential of oil leakage	Implemented
Air	Provide plastic sheeting covers on exposed soils	Satisfactory
	Regular water spraying on areas where there is likely generation of dust	Satisfactory
	Additional impervious sheeting placed around working area near monitoring stations.	Satisfactory

In regard to the last quarter environmental issues, it was observed that the site runoffs on the public road near Lok Lo Ha Village House No.3B (near Noise Monitoring Station N1) were cleaned up and proper mitigation measures were provided.

However, it was noted from site inspection in this reporting period that some exposed soil faces and the excavation trench near Lok Lo Ha roundabout were not properly covered with tarpaulic sheeting for dust control. The Contractor was reminded to provide adequate dust control measures on site. In addition, it was noted that the Wetsep pump sump was not properly maintained and some sand bags holding back site drainage were missing. The Contractor was reminded to carry out regular checks on the performance of the Wetsep unit.

5. COMMENTS & CONCLUSION

Weekly site inspection has been carried out in this quarter in order to investigate the implementation and effectiveness of the mitigation measures. The major mitigation measures were identified and are implemented as indicated in **Table 4.5**.

In respect to environmental monitoring for both air quality and noise, there were two exceedances in Action Level on 24-hour TSP in this reporting period. Therefore the Event and Action Plan for Air Quality as set out in **Appendix C** was triggered.

No environmental complaints on the construction site were received in this reporting period.

The updated work program for the current and next quarters are attached in **Appendix F**.

APPENDIX A:

**Water Mitigation Measures –
Extract from Annex A of the
Environmental Permit**

EIAO V.L.
EPD

Annex A (as referred to in Condition 3.3)

Measures to Mitigate Environmental Impacts due to Site Run-off and Other Potential Water Pollution During Construction

(a) Surface Runoff

- (i) Surface run-off from the construction site shall be directed into adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins before discharge into storm drains. Channels, earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities.
- (ii) Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.
- (iii) 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.
- (iv) 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.
- (v) Open stockpiles of construction materials (e.g. aggregates and sand) on site shall be covered with tarpaulin or similar fabric during rainstorms. Measures such as providing sand bag barriers shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.
- (vi) 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.

(b) General Construction Activities

At all parts of all works areas and construction sites, and throughout the full duration of the construction contract(s), debris and rubbish on site shall be handled and disposed of to avoid entering the water column and causing water quality impacts. Temporary on-site storage of excavated materials from construction works shall be covered with tarpaulin or similar fabric during rainstorms. Any washout of construction or excavated materials should be diverted to the drainage system via sediment traps. Stockpiling of the excavated material shall be minimised by scheduling the construction programme in a way that one section of the alignment can be constructed and completed before the excavation works of the next section commence.

To mitigate environmental impacts from wastewater due to construction activities, water used for water testing, boring, drilling works, concrete batching and precast concrete casting shall be

EIAO V.L.
EPD

Environmental Permit No. EP-092/2001/A

環境許可證編號 EP-092/2001/A

recirculated and reused; wastewater from concrete batching and precast concrete casting shall be treated for pH adjustment and silt removed prior to discharge into stormwater drains and washwater from wheel washing facilities shall have sand, silt or other materials removed before discharge into stormwater drains; the access road sections between site exits and the public roads shall be paved with backfall to prevent site run-off from entering the public roads.

APPENDIX B:

**Weather Conditions During
Monitoring Periods**

**Weather Condition During Monitoring Period
(From 1 October to 31 December 2003)**

Date	Weather	Mean Air Temperature (°C)	Wind Speed (m/s)	Mean Relative Humidity (%)
3-Oct-03	Sunny	27.9	1.2-1.3	73
6-Oct-03	Sunny	26.5	1.3	64
7-Oct-03	Sunny	25.9	1.3	67
10-Oct-03	Cloudy	26.8	1.3-1.4	84
13-Oct-03	Cloudy	27.2	0.9-1.3	79
16-Oct-03	Cloudy	23.7	1.0-1.3	64
17-Oct-03	Sunny	24.1	1.0-1.3	68
22-Oct-03	Sunny	24.7	1.2	72
23-Oct-03	Sunny	24.4	1.2-1.3	71
28-Oct-03	Sunny	25.0	1.2	68
29-Oct-03	Sunny	24.7	1.1-1.5	65
3-Nov-03	Sunny	26.7	1.1-1.2	56
4-Nov-03	Sunny	24.9	1.2	71
7-Nov-03	Sunny	25.2	1.2	82
10-Nov-03	Cloudy	20.8	1.2	79
13-Nov-03	Sunny	19.9	1.2-1.3	71
14-Nov-03	Haze	22.0	1.2	75
19-Nov-03	Cloudy	23.1	1.0	92
20-Nov-03	Cloudy	24.2	1.0	92
25-Nov-03	Fine	22.2	1.0	74
26-Nov-03	Fine	22.1	1.0	72
1-Dec-03	Fine	18.1	1.0	72
2-Dec-03	Fine	18.3	1.0	68
5-Dec-03	Fine	20.6	1.0	77
8-Dec-03	Fine - Cloudy	19.1	1.0-1.3	73
11-Dec-03	Fine	17.8	1.7	65
12-Dec-03	Fine	16.1	1.0-1.8	56
17-Dec-03	Fine	17.3	1.6-1.7	70
18-Dec-03	Fine	18.0	1.0-1.8	64
23-Dec-03	Fine	17.2	1.0	78
24-Dec-03	Fine	18.2	1.0	72
29-Dec-03	Fine	17.9	1.0	73
30-Dec-03	Fine	18.7	1.0	72

APPENDIX C:

**Event and Action Plan for Air
Quality and Noise**

Event / Action Plan for Air Quality

EVENT	ACTION		
	ET	Engineer	CONTRACTOR
ACTION LEVEL			
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source; 2. Inform the Engineer and Contractor; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> 1. Notify Contractor; and 2. Check monitoring data and Contractor's working methods. 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practice, if any; and 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source; 2. Inform the Engineer and Contractor; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily. 5. Discuss with Engineer for remedial actions required; 6. If exceedance continues, arrange meeting with the engineer; and 7. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Check monitoring data and Contractor's working methods; 4. Discuss with ET and Contractor on potential remedial actions; and 5. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Submit proposals for mitigation measures to the Engineer within 3 working days of notification; 2. Implement the agreed proposals; and 3. Amend proposal if appropriate.
LIMIT LEVEL			
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source; 2. Inform the Engineer and Contractor; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep EPD and the Engineer informed of results. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Check monitoring data and Contractor's working methods; 4. Discuss with ET and Contractor on potential remedial actions; and 5. Ensure remedial action properly implemented. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to the Engineer within 3 working days of notification; 3. Implement the agreed proposals; and 4. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source; 2. Inform the Engineer and Contractor; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily. 5. Investigate the causes of exceedance; 6. Arrange meeting with EPD and the Engineer to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep EPD and the Engineer informed of the results; and 8. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 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 among ET and Contractor on potential remedial actions; 5. Review Contractor's remedial action whenever necessary to assure their effectiveness; and 6. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to the Engineer 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 Engineer until the exceedance is abated.

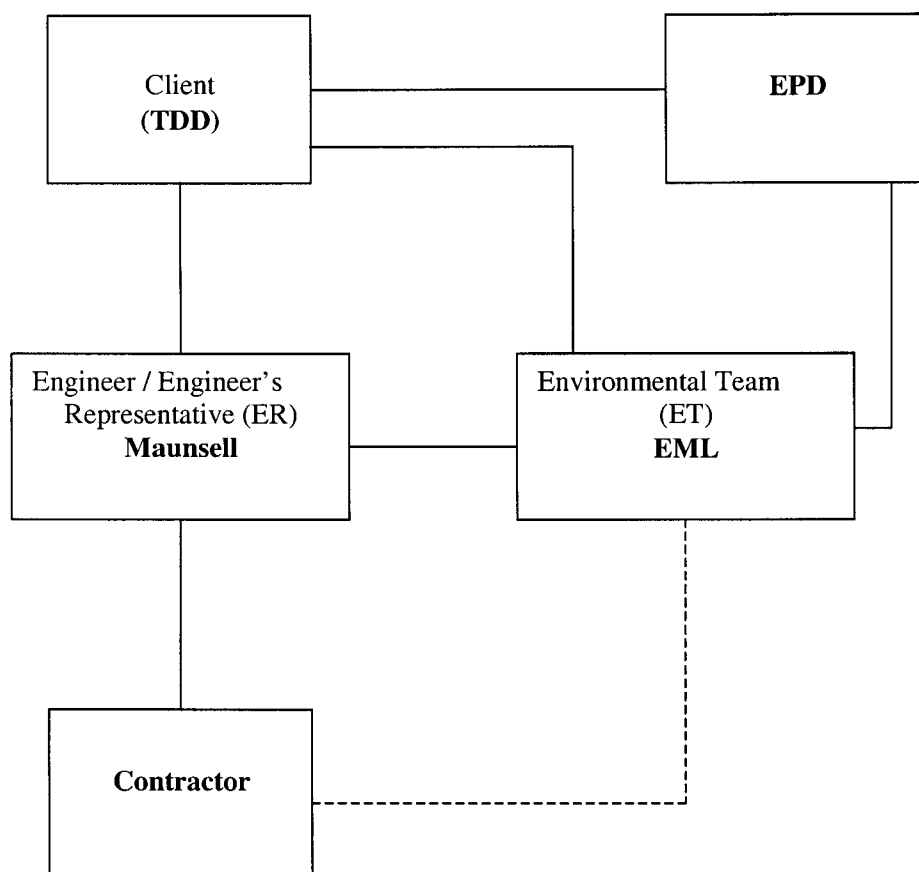
Event / Action Plan for Construction Noise

EVENT	ACTION	
	ET	Contractor
Action Level	<ol style="list-style-type: none"> 1. Notify the Engineer and Contractor; 2. Analyze investigation; 3. Require Contractor to propose measures for the analyzed noise problem; and 4. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to Environmental Team and the Engineer; and 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Notify the Engineer and Contractor; 2. Notify EPD; and 3. Require Contractor to implement mitigation measures; and increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Implement mitigation measures; and 2. Prove to Environmental Team and the Engineer effectiveness of measures applied.

APPENDIX D:

**Project Organisation and
Contacts of Key Personnel**

Figure D.1: Project Management Structure



Contacts of Key Personnel:

Organisation	Nature of Duty	Contact Personnel	Contact Number	
			Telephone	Fax
Territory Development Department (TDD)	Client	Mr. Stephen Wong	2301-1376	2721-8630
Maunsell Consultants Asia Ltd. (MCAL)	Engineer	Mr. Alan Kwong	2602-3433	2691-2649
Environmental Management Ltd. (EML)	Environmental Team	Mr. Lawrence Tso	2890-1090	2890-6901
EPD Complaint Hotline	24-hour Complaint Hotline	-	1823	

APPENDIX E:

**Summary Record of
Complaints Received**

Complaint No.	Received date & Time	Description (inc. location/ nature of complaint)	Follow-up Action Taken	Recommended Measures	Mitigation	Status/ Remarks
C02-N1	Morning, 29/7/2002	Around 9:30am on 29/7/02, police came on site to investigate a complaint of noise pollution emitted during rock breaking which carried out by the Contractor near the Site Office (near the box culvert and north Lok Shun Path Roundabout). The Contractor immediately halted the activity in response to police's advice	<ul style="list-style-type: none"> Ad hoc site inspection was carried out on 31/7/02, jointly with the Engineer and Contractor The complaint log sheet, the investigation findings and recommendations on mitigation measures were submitted to the Engineer and Contractor. A letter, addressing to the complainant, will be sent to the police. 	<p>Mitigation actions:</p> <ul style="list-style-type: none"> Excavator-mounted breaker shall not be carried out within 125m from any nearby noise sensitive receivers and; Temporary purposed built barrier should be installed whenever there are high noise level construction activities. 	The complaint was considered as ad hoc rather than continuous. It is therefore considered not necessary to increase the noise monitoring frequency File Closed.	
C02-N2	Night-time, 7 August, 2002	<ul style="list-style-type: none"> Nearby residents complained to police that a generator in Road D15 Site was operating in night-time near Lok Lo Ha Village. Police came to the site to investigate the complaint and inform watchmen to turn off the operating generator at around 8:30pm. The complaint was valid as it concerned with construction noise during the restricted hours. 	<ul style="list-style-type: none"> Ad hoc site inspection was carried out on 8 August 02, jointly with the Engineer and Contractor and ET. The complaint log sheet, the investigation findings and recommendations on mitigation measures were submitted to the Engineer and Contractor. A letter in both English and Chinese, addressing to the complainant, has been sent to the police. 	<p>Mitigation actions:</p> <ul style="list-style-type: none"> Under the Noise Control Ordinance, the carrying out of general construction work using powered mechanical equipment (including generators) during the restricted hours (between 7 p.m. and 7 a.m. or at any time on a general holiday (including Sunday) is prohibited unless a valid Construction Noise Permit is in force; A watchmen or site staff should be employed to check daily that all generators and plants are switched off after the permissible working hours. 	File Closed.	

APPENDIX F:

**Construction Program for
Current and Next Quarter**

Sha Tin New Town Stage II Contract No. ST7701 - Road D15 Linking Lok Shun Path and Tai Po Road

MASTER PROGRAMME (ST7701/MP/13B)

ID	Task Name	Duration	Start	End	Notes
0	Road D15 Acceleration Programme	1077 days	Wed 12/01/2001		
1	1.0 Original Contract Period	1187 days	Wed 12/01/2001		
2	1.1 Works in Section I (345 days)	345 days	Wed 12/01/2001		
3	1.2 Works in Section IA (475 days)	475 days	Wed 12/01/2001		
4	1.3 Works in Section II (822 days)	822 days	Wed 12/01/2001		
5	1.4 Landscape Work in Section III (1187 days)	1187 days	Wed 12/01/2001		
6	2.0 Anticipated Dates	963 days	Fri 22/01/02		
7	2.1 Anticipated EOT for Section I	249.5 days	Fri 22/01/02		
8	2.2 Anticipated Completion Date for Section IA	0 days	Mon 31/03/03		
9	2.3 Anticipated Completion Date for Section II	141 days	Sat 13/03/04		
10	2.4 Anticipated Completion Date for Section III	365 days	Sun 01/08/04		
11	3 Preliminary & Site Establishment	626 days	Wed 12/01/2001	19 January 2004	
29	4 Earthworks	445 days	Thu 15/06/02	05 December 2003	
35	5 Earthment Works (Section I & IA)	453 days	Tue 15/07/02		
45	6 Bridge A & General	761 days	Wed 12/01/2001		
46	6.1 Design Submission of Alternative Design (I Rem)	180 days	Wed 12/01/2001		
47	6.2 Procurement, manufacturing and testing of bridge bearing	63.2 days	Tue 14/05/02		
48	6.3 Engineer's Approval of Off Site Casting Yard	180 days	Mon 04/02/02		
49	6.4 Fabrication of precast beams	150 days	Wed 13/01/02		
50	6.5 Fabrication PC pated permanent formwork	200 days	Fri 24/01/03		
51	6.6 Ground Investigation	62 days	Fri 17/05/02		
52	6.7 Piling Works at A1 to A5	76 days	Fri 10/08/02		
53	6.8 Pile Caps Construction A1 to A5	368 days	Sat 19/02/02	13 January 2004	
59	6.8.1 A1 Pile Cap	30 days	Thu 17/02/03		
60	6.8.2 A2 Pile Cap	24 days	Thu 12/01/02		
61	6.8.3 A3 Pile Cap	22 days	Sat 19/01/02		
62	6.8.4 A4 Pile Cap	24 days	Fri 25/01/02		
63	6.8.5 A5 Pile Cap	247 days	Mon 17/03/03	13 January 2004	
64	6.8.5.1 A5 Pile Cap (1st Portion)	110 days	Mon 17/03/03		
65	6.8.5.2 A5 Pile Cap (2nd Portion)	22 days	Tue 16/01/03	13 January 2004	
66	6.9 Abutment Wall A1 to A5	359 days	Fri 20/11/02		
67	6.9.1 A1 Abutment Wall	162 days	Mon 14/02/03	14 February 2004	
68	6.9.1.2 A1 (1st portion to allow site access to C2)	30 days	Mon 14/02/03		
69	6.9.1.2 A1 (upper Portion)	35 days	Mon 25/02/03		
70	6.9.2 A2 Pier & Cross Head	197 days	Wed 29/01/03	29 October 2003	
71	6.9.2.1 Pier only to allow access to C2	22 days	Wed 29/01/03		
72	6.9.2.2 A2 Crosshead	29 days	Mon 25/02/03		
73	6.9.3 A3 Pier & Cross Head	30 days	Fri 29/11/02		
74	6.9.4 A4 Pier & Cross Head	12 days	Thu 02/01/03		
75	6.9.5 A5 Abutment Wall	148 days	Mon 18/02/03	16 October 2003	
76	6.9.5.1 A5 Abutment wall (Portion 1 to allow site access)	50 days	Mon 18/02/03		
77	6.9.5.2 A5 Abutment wall (Portion 2)	25 days	Wed 14/01/03	6.9.5.2 A5 Abutment wall (Portion 2)	
78	6.10 A1 to A5	326 days	Thu 23/01/03		
79	6.10.1 A1 - A2 Bridge Bearings	6 days	Wed 05/11/03	12 November 2003	
80	6.10.2 A2 - A3 Bridge Bearings	6 days	Wed 05/11/03	12 November 2003	
81	6.10.3 A3 - A4 Bridge Bearings	6 days	Thu 23/01/03	6.10.3 A3 - A4 Bridge Bearings	
82	6.10.4 A4 - A5 Bridge Bearings	6 days	Fri 30/01/04	6.10.4 A4 - A5 Bridge Bearings	
83	6.11 Install Precast Beams A1 to A5	549 days	Fri 14/02/03	27 November 2003	
84	6.11.1 A1 to A2 PC Beams	6 days	Thu 20/11/03	6.11.1 A1 to A2 PC Beams	

Date: 18/10/2003

Task Progress: Task Progress Task Progress Task Progress

Critical Task Progress: Critical Task Progress Critical Task Progress Critical Task Progress

Milestone Summary: Milestone Summary Milestone Summary Milestone Summary

Roll Up Milestone: Roll Up Milestone Roll Up Milestone Roll Up Milestone

Roll Up Critical Task: Roll Up Critical Task Roll Up Critical Task Roll Up Critical Task

Roll Up Progress: Roll Up Progress Roll Up Progress Roll Up Progress

Split External Tasks: Split External Tasks Split External Tasks Split External Tasks

Project Summary: Project Summary Project Summary Project Summary

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MASTER PROGRAMME (S17701/MP/13B)

Sha Tin New Town Stage II Contract No. S17701 - Road/D15 Linking Lok Shun Path and Tai Po Road

ID	Task Name	Duration	Start	Oct	Nov	Dec	Jan	Feb
85	6.11.2 A1 to A3 PC Beams	3 days	Tue 13/01/04					
86	6.11.3 A3 to A4 PC Beams	3 days	Fri 14/02/04					
87	6.11.4 A4 to A5 PC Beams (Storage on Span A3 to A4)	6 days	Mon 29/12/03					
88	6.11.4 A4 to A5 PC Beams	6 days	Tue 02/01/04					
89	6.12 Bridge Deck Construction A1 to A5	375 days	Mon 24/02/04					
90	6.12.1 A1 to A2 Bridge Deck	50 days	Fri 28/11/03					
91	6.12.2 A2 to A3 Bridge Deck	32 days	Fri 16/01/04					
92	6.12.3 A3 to A4 Bridge Deck	95 days	Mon 24/02/04					
93	6.12.4 A4 to A5 Bridge Deck	50 days	Wed 10/03/04					
94	6.13 Bridge Deck Drainage	104 days	Fri 20/02/04					
95	6.13.1 A1 to A3 Drainage Pipe, MH cover & Gully	18 days	Fri 20/02/04					
96	6.13.2 A3 to A4 Drainage Pipe, MH cover & Gully	18 days	Fri 14/05/04					
97	6.13.3 A4 to A5 Drainage Pipe, MH cover & Gully	18 days	Wed 03/07/04					
98	6.13.4 A4 to A5 Drainage Pipe, MH cover & Gully	18 days	Thu 03/06/04					
99	6.14 Bridge deck Parapet & Curb	240 days	Mon 15/09/03					
100	6.14.1 A1 to A2 Parapet & Curb	30 days	Fri 06/02/04					
101	6.14.2 A2 to A3 Parapet & Curb	27 days	Tue 01/06/04					
102	6.14.3 A3 to A4 Parapet & Curb	60 days	Mon 15/09/03					
103	6.14.4 A4 to A5 Parapet & Curb	30 days	Wed 19/05/04					
104	7 Bridge B	827 days	Wed 11/09/02					
105	7.1 Ground Investigation	26 days	Wed 11/09/02					
106	7.2 Pre Bore H-Piles	230 days	Fri 13/07/02					
107	7.2.1 B1 H Piles	29 days	Fri 13/12/02					
108	7.2.2 B2 H Piles	27 days	Mon 11/08/03					
109	7.2.3 Loading test on Pile	12 days	Tue 09/07/03					
110	7.3 Pile Cap & Abutment Wall B1 & B2	51 days	Wed 24/09/03					
111	7.3.1 Temp. works for B1 Pile Cap	35 days	Wed 24/09/03					
112	7.3.2 Construct B1 Pile Cap	16 days	Wed 05/11/03					
113								
114	7.3.3 B1 Abutment	19 days	Mon 24/11/03					
115	Remove temp work and backfilling at B1 Abutment	10 days	Tue 16/12/03					
116								
117	7.3.4 Temp. works for B2 Pile Cap	94 days	Wed 15/10/03					
118								
119								
120	7.4 Install Bridge Bearings	8 days	Fri 06/02/04					
121	7.4.1 B1 bridge Bearings	6 days	Fri 06/02/04					
122	7.4.2 B2 bridge Bearings	6 days	Mon 09/02/04					
123	7.5 Install Precast Beams B1 to B2	6 days	Wed 18/02/04					
124	7.6 Bridge Deck Construction B1 to B2	50 days	Wed 25/02/04					
125	7.7 Bridge deck Drainage B1 to B2	25 days	Wed 28/04/04					
126	7.8 Bridge Deck Parapet & Curb B1 to B2	20 days	Sat 29/05/04					
127	7.9 Remove Temp Platform (Underneath Bridge Deck)	30 days	Wed 28/04/04					
128	7.10 Reinstat E&E Valley	60 days	Sat 27/03/04					
129	8 Bridge C	582 days	Thu 01/08/02					
130	8.1 Ground Investigation	62 days	Thu 01/08/02					
131	8.2 Pre Bore H-Piles	224 days	Mon 18/11/02					
132	8.2.1 C1 H Piles	35 days	Fri 11/07/03					
133	8.2.2 C2 H Piles	52 days	Mon 18/11/02					
134	8.3 Pile Cap & Abutment Wall C1 & C2	260 days	Tue 25/02/03					
135	8.3.1 Temp. works and Construct C1 Pile Cap	39 days	Mon 29/09/03					

Date: 16/10/2003

Task Progress: [Progress bar]

Task Progress Summary: [Summary bar]

Task Progress Summary: [Summary bar]

Milestone Summary: [Summary bar]

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Rolled Up Milestone: [Summary bar]

External Tasks: [Summary bar]

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Project Summary: [Summary bar]

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MASTER PROGRAMME (ST7701/MP/13B)
 Sha Tin New Town Stage II Contract No. ST7701 - Road D15 Linking Lok Shun Path and Tai Po Road

ID	Task Name	Duration	Start	End	Notes
205	8.3.2 C1 Abutment Wall	25 days	Fr 14/11/03	Fr 09/12/03	
212	Remove temp work and backfilling at Abutment C1	20 days	Sat 13/11/03	Thu 19/12/03	
213	8.3.3 C2 Tie Cap & Pier	50 days	Tue 25/01/04	Tue 23/03/04	
214	8.4 Install Bridge Bearings	415.8 days	Fr 02/08/02	Fr 19/12/03	
215	8.4.1 C1 Bridge Bearings	6 days	Sat 13/11/03	Sat 13/11/03	
216	8.4.2 C2 Bridge Bearings	6 days	Sat 03/05/03	Sat 03/05/03	
217	8.4.3 C3 Bridge Bearings	23.8 days	Fr 02/08/02	Fr 02/08/02	
218	8.5 Install Precast Beams C1 to C2	181 days	Thu 22/05/03	Thu 22/05/03	
219	8.5.1 C1 to C2 PC Beams	3 days	Sat 20/12/03	Sat 20/12/03	
220	8.5.2 C2 to C1 PC Beams	3 days	Thu 22/05/03	Thu 22/05/03	
221	8.6 Bridge Deck Construction C1 to C3	275 days	Mon 28/08/03	Mon 28/08/03	
222	8.6.1 C1 to C2 Bridge Deck (1st portion)	32 days	Wed 24/11/03	Wed 24/11/03	
229	8.6.2 C1 to C2 Bridge Deck (2nd portion)	65 days	Fr 06/01/04	Fr 06/01/04	
238	8.6.3 C2 to C3 Bridge Deck (1st portion)	66 days	Mon 26/05/04	Mon 26/05/04	
239	8.6.3 C2 to C3 Bridge Deck (2nd portion)	40 days	Wed 13/08/04	Wed 13/08/04	
240	8.7 Bridge deck Drainage C1 to C3	36 days	Fr 06/09/04	Fr 06/09/04	
241	8.7.1 C1 to C2 Drainage Pipe, MHI cover & Gully	18 days	Fr 06/09/04	Fr 06/09/04	
242	8.7.2 C2 to C3 Drainage Pipe, MHI cover & Gully	18 days	Fr 27/07/04	Fr 27/07/04	
243	8.8 Bridge Deck Parapet & Curb C1 to C3	193 days	Tue 30/09/03	Tue 30/09/03	
244	8.8.1 C1 to C2 Parapet & Curb	24 days	Tue 27/09/04	Tue 27/09/04	
245	8.8.2 C2 to C3 Parapet & Curb	24 days	Tue 30/09/03	Tue 30/09/03	
246	8.9 Bridge A, B & C Movement Joints Installation (10 nos)	13 days	Wed 30/09/04	Wed 30/09/04	
247	9 Road works, Pavement & Cycle Track	107 days	Sat 20/08/04	Sat 20/08/04	
248	9.1 Drainage to on Grade Road	40 days	Sat 20/08/04	Sat 20/08/04	
249	9.2 Utilities at on Grade Road	40 days	Fr 02/09/04	Fr 02/09/04	
250	9.3 Carriageway Flexible Pavement	69 days	Mon 24/05/04	Mon 24/05/04	
251	9.3.1 Sub base & DBM Course	30 days	Mon 24/05/04	Mon 24/05/04	
252	9.3.2 Bituminous Base Course	30 days	Sat 05/09/04	Sat 05/09/04	
253	9.3.4 Base Course & Wearing Course to Bridge A, B & C	20 days	Sat 12/06/04	Sat 12/06/04	
254	9.3.4 Base Course & Wearing Course to Bridge A, B & C	6 days	Fr 16/07/04	Fr 16/07/04	
255	9.4 Road Marking & road furniture	3 days	Fr 23/07/04	Fr 23/07/04	
256	9.5 Foot path	30 days	Mon 07/06/04	Mon 07/06/04	
257	9.6 Cycle Track	60 days	Fr 02/09/04	Fr 02/09/04	
258	9.7 Light Poles	40 days	Wed 02/06/04	Wed 02/06/04	
259	9.8 Road Work Finishings	21 days	Thu 06/07/04	Thu 06/07/04	
260	10 Retaining Walls	755 days	Wed 12/12/01	Wed 12/12/01	
261	10.1 RW1	175 days	Fr 01/08/03	Fr 01/08/03	
262	10.1 Temp. diversion of 150mm dia water main	30 days	Fr 01/08/03	Fr 01/08/03	
263	10.1.1 RW1 Bay 1	48 days	Sat 27/09/03	Sat 27/09/03	
274	10.1.2 RW1 Bay 2	36 days	Wed 26/11/03	Wed 26/11/03	
285	10.1.3 RW1 Bay 3	21 days	Tue 18/11/03	Tue 18/11/03	
296	10.1.4 RW1 Bay 4	33 days	Fr 07/11/03	Fr 07/11/03	
308	10.1.5 RW1 Bay 5	50 days	Sat 27/11/03	Sat 27/11/03	
309	10.1.6 RW1 Bay 6	19 days	Thu 05/02/04	Thu 05/02/04	
320	10.2 RW2	174 days	Fr 22/08/03	Fr 22/08/03	
331	10.2.1 RW2 Bay 1	60 days	Wed 10/09/03	Wed 10/09/03	
333	10.2.2 RW2 Bay 2	25 days	Wed 26/11/03	Wed 26/11/03	
344	10.2.3 RW2 Bay 3	17 days	Tue 18/11/03	Tue 18/11/03	
355	10.2.4 RW2 Bay 4	23 days	Thu 20/11/03	Thu 20/11/03	
366	10.2.5 RW2 Bay 5	30 days	Fr 22/08/03	Fr 22/08/03	

Date: 18/10/2003

Task Progress: Task: Milestone: Summary:

Roll Up Task: Roll Up Milestone: Split:

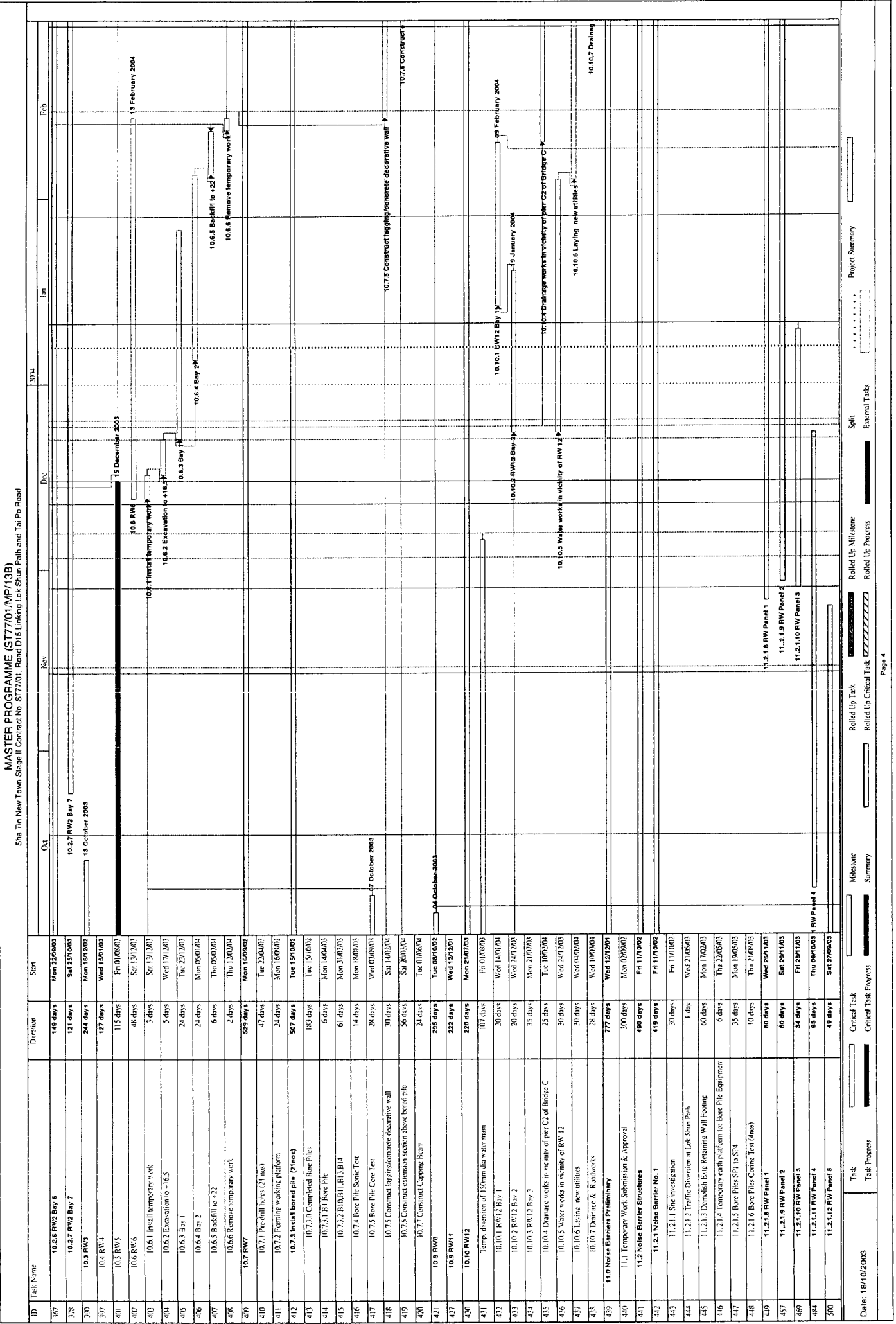
Roll Up Critical Task: Roll Up Progress: External Tasks:

Project Summary:

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Sha Tin New Town Stage II Contract No. ST7701, Road D15 Linking Lok Shun Path and Tai Po Road

MASTER PROGRAMME (ST7701/MP/13B)



Date: 18/10/2003

Task Progress: [Progress bar] Task: [Task name] Milestone: [Milestone name] Summary: [Summary text] Critical Task Progress: [Progress bar] Critical Task: [Task name] Rolled Up Critical Task: [Progress bar] Rolled Up Milestone: [Milestone name] External Tasks: [External tasks] Project Summary: [Project summary]

MASTER PROGRAMME (ST7701/MP/13B)

Sha Tin New Town Stage II Contract No. S17701, Road Dis Linking Lok Shun Path and Tai Po Road

ID	Task Name	Duration	Start	End	Notes	2003	2004
515	11.2.1.13 RW Panel 6	49 days	Mon 27/10/03	Thu 27/11/03			
530	11.2.1.14 RW Panel 7	46 days	Thu 27/11/03	Thu 10/07/04			
545	11.2.2 Additional Bore Piles	69 days	Thu 10/07/03	Thu 10/07/03			
546	11.2.2.1 Mobilisation of BCD	9 days	Thu 10/07/03	Thu 10/07/03			
547	11.2.2.1 ABPI	11 days	Mon 21/07/03	Mon 21/07/03			
559	11.2.2.2 ADP2	16.5 days	Sat 02/08/03	Sat 02/08/03			
571	11.2.2.3 Bore Piles Tests	12 days	Tue 16/08/03	Tue 16/08/03			
572	11.2.2.3.1 Sonic Test	1 day	Tue 16/08/03	Tue 16/08/03			
573	11.2.2.3.2 Cve Test (2hrs)	7 days	Fri 19/08/03	Fri 19/08/03			
574	11.2.2.3.3 Gearing Sonic Tests and core holes	2 days	Sat 27/08/03	Sat 27/08/03			
575	11.2.3 Noise Barrier No. 4B	120 days	Thu 08/07/04	Thu 08/07/04			
581	11.2.3a Concrete Footing for Noise Barrier 4C	45 days	Thu 29/05/03	Thu 29/05/03			
582	11.2.4 Noise Barrier No. 5	69 days	Mon 06/10/03	Mon 06/10/03			
583	11.2.4.1 Excavation	12 days	Mon 06/10/03	Mon 06/10/03			
584	11.2.4.2 Concrete Footing and Walls	45 days	Mon 30/10/03	Mon 30/10/03			
585	11.2.4.3 Backfill to Foundation of Noise Barrier No.5	12 days	Thu 11/11/03	Thu 11/11/03			
586	11.5 Noise Barrier Steel Post & Panels	777 days	Wed 12/12/01	Wed 12/12/01			
587	11.3.1 Procurement and Fabrication of Noise barrier	150 days	Wed 12/12/01	Wed 12/12/01			
588	11.4.1 Design, Submission for approval	250 days	Wed 19/06/02	Wed 19/06/02			
589	11.4.2 Fabrication and Delivery	200 days	Thu 17/04/02	Thu 17/04/02			
591	11.4.3 Noise Barrier Installation	112 days	Tue 09/08/04	Tue 09/08/04			
591	11.4.3.1 Noise Barrier No.1	60 days	Tue 09/08/04	Tue 09/08/04			
592	11.4.3.2 Noise Barrier No.2	40 days	Fri 30/04/04	Fri 30/04/04			
593	11.4.3.3 Noise Barrier No.3	40 days	Mon 07/06/04	Mon 07/06/04			
594	11.4.3.4 Noise Barrier No.4A	18 days	Wed 23/06/04	Wed 23/06/04			
595	11.4.3.5 Noise Barrier No.4B	30 days	Mon 07/06/04	Mon 07/06/04			
596	11.4.3.6 Noise Barrier No.4B at Bridge A, A2 to A3	10 days	Thu 08/07/04	Thu 08/07/04			
597	11.4.3.6 Noise Barrier No.4C	30 days	Mon 03/05/04	Mon 03/05/04			
598	11.4.3.7 Noise Barrier No.5	40 days	Tue 08/06/04	Tue 08/06/04			
599	12 Bore Culvert Extension	474 days	Thu 27/06/02	Thu 27/06/02			
600	12.1 Remove existing inlet, water diversion	135 days	Thu 27/06/02	Thu 27/06/02			
601	12.2 Box culvert	156 days	Sat 19/10/02	Sat 19/10/02			
602	12.3 Flood Wall	29 days	Mon 21/10/02	Mon 21/10/02			
603	12.4 Construct 1400 box culvert (5 bays)	166 days	Thu 10/04/03	Thu 10/04/03			
604	12.5 Construct 1500 pipe	228 days	Thu 24/04/03	Thu 24/04/03			
605	12.5.1 Construct 1500 pipe CH 10 to CH 30 (MILAH to MH31)	100 days	Thu 24/04/03	Thu 24/04/03			
606	12.5.2 Construct 1500 pipe CH 30 to CH 60	44 days	Sat 11/10/03	Sat 11/10/03			
607	12.5.3 Construct 1500 pipe CH 60 to CH 82	44 days	Tue 02/11/03	Tue 02/11/03			
608	12.6 Construct CP15 (Dipheth)	0 days	Fri 21/03/03	Fri 21/03/03			
609	12.7 Construct MH15	60 days	Sat 15/03/03	Sat 15/03/03			
610	12.8 Construct 1400 Box Culvert Extension (bay A, B & manhole 1)	90 days	Mon 02/06/03	Mon 02/06/03			
611							
612	13.0 Underground Drainage & Utilities	456 days	Wed 15/07/03	Wed 15/07/03			
613	13.1 Drainage & Roadworks at Lok He Lo roundabout	458 days	Wed 15/07/03	Wed 15/07/03			
614	13.1.1 Drainage & roadworks at stage 2 & 2A of TTM	263 days	Wed 15/07/03	Wed 15/07/03			
615	13.1.2 Drainage and roadworks at stage 3b of TTM	95 days	Tue 02/11/03	Tue 02/11/03			
616	13.1.3 Drainage and roadworks at stage 4 of TTM (Delayed)	0 days	Mon 29/03/04	Mon 29/03/04			
617	13.1.3 Drainage and roadworks at stage 5 of TTM	54 days	Tue 30/03/04	Tue 30/03/04			
618	13.1.4 Drainage and roadworks at stage 6 of TTM	46 days	Mon 07/06/04	Mon 07/06/04			
619	13.2 New Utilities and Drainage Near Noise Barrier NO.1	50 days	Tue 27/01/04	Tue 27/01/04			

Date: 18/10/2003

Task Progress: Task Progress Summary:

Critical Task Progress: Critical Task Progress Summary:

Roll Up Milestone: Roll Up Milestone Summary:

Roll Up Critical Task: Roll Up Critical Task Summary:

Split External Tasks: Split External Tasks Summary:

Project Summary:

MASTER PROGRAMME (S17701/MP/136)

Sha Tin New Town Stage II Contract No. S17701, Road D15 Linking Lok Shun Path and Tai Po Road

ID	Task Name	Duration	Start	Oct	Nov	Dec	Jan	Feb
620	13.2.1 Construct MH124 pipe 225 dia and MH110 at stage 2b T	19 days	Tue 27/01/04					
621	13.2.2 Construct MH112 & 2nd portion pipe 450 dia at stage 2b	19 days	Tue 27/01/04					
622	13.2.1 PCGW - At Stage 2b TTM Lay cable duct near Noise Bar	7 days	Wed 18/02/04					
623	13.2.2 CABLE TV - At Stage 2b TTM Lay cable duct near Noise	7 days	Thu 26/02/04					
624	13.2.3 CABLE TV - After Completion of Noise Barrier No. 1	14 days	Tue 09/03/04					
625	13.3 Water pipes and associated works	229 days	Sat 16/08/03					
626	13.3.1 Water Mains for irrigation system	120 days	Fri 14/01/04					
627	13.3.2 Fire Service Pipe & Hydrant	50 days	Mon 22/02/04					
628	13.3.3 Water Main Diversion (400 Box Culvert)	45 days	Wed 17/02/03					
629	13.3.4 Along stage 8	25 days	Sat 16/08/03					
630	13.4 Telephone Ducts	40 days	Fri 21/01/04					
631	13.5 Existing Utilities Diversion	175 days	Sat 06/09/03					
632	13.5.1 RW1, RW2 and 1470 Box Culvert	90 days	Wed 17/01/04					
633	13.5.2 Abutment A1 to RW11	130 days	Sat 06/09/03					
634	13.5.3 RW11 to C2	100 days	Wed 10/09/03					
635	13.5.4 At Lok King Street	100 days	Wed 03/01/04					
636	14 Sitecases	447 days	Tue 20/01/03					
637	14.1 Stair (NSB d/c)	12 days	Fri 09/02/04					
638	14.2 Stair 2 (RW8)	50 days	Sun 20/06/03					
639	14.3 Stair 3 (RW3)	90 days	Thu 15/05/03					
640	14.4 Stair 4 (RW4)	117 days	Thu 04/09/03					
641	14.4.1 Stair 4 Bay 1 (to allow access bridge C/C beams)	24 days	Thu 04/09/03					
642	14.4.2 Stair 4 Bay 2	24 days	Wed 24/12/03					
643	14.5 Stair 5 (RW5)	69 days	Fri 05/09/03					
644	14.6 Stair 6 (Abutment B1)	34 days	Wed 28/04/04					
645	14.7 Stair 7 (RW7)	24 days	Mon 05/07/04					
646	14.8 Stair 8 (Level ± 39)	50 days	Tue 16/09/03					
647	14.9 Stair 9 (CH300 (deduct))	12 days	Sat 10/01/04					
648	14.10 Stair 10 (RW12)	20 days	Tue 10/02/04					
649	14.11 Stair 11 (Abutment A5)	20 days	Fri 20/02/04					
650	14.12 Stair 12 (House 102)	24 days	Tue 13/04/04					
651	14.13 Stair 13 (Steps CH350 - 400)	18 days	Tue 28/01/03					
652	15 Standard Refuse Collection Point	45 days	Wed 12/05/04					
653	16 Rain Shelter no. 1&2	60 days	Mon 01/02/04					
654	17 Landscaping	68 days	Tue 13/04/04					
655	17.1 Tree Planting	42 days	Thu 03/06/04					
656	17.2 Turfing	42 days	Fri 11/06/04					
657	17.3 Tree Planting in the vicinity of RW 12	25 days	Tue 13/04/04					
658	17.4 Turfing in the vicinity of RW12	15 days	Mon 17/05/04					
659	17.5 Hard Landscaping	50 days	Tue 13/04/04					
660	18 Project completion & Handover	963 days	Wed 12/12/03					
661	18.1 Section I Completion	0 days	Fri 25/07/03					
662	18.2 Section II Completion	0 days	Thu 26/06/03					
663	18.3 Section III Completion	0 days	Sat 31/07/04					
664	18.4 Section III Completion	0 days	Wed 12/12/03					

Date: 18/10/2003

Task: Critical Task Milestone Summary Project Summary

Task Progress: Critical Task Progress Summary External Tasks

Roll Up Milestone: Rolled Up Milestone External Tasks

Roll Up Critical Task: Rolled Up Critical Task External Tasks

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