

東業德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong  
Tel : 2695 8318      E-mail : etl@ets-testconsult.com  
Fax : 2695 3944      Web site : www.ets-testconsult.com

**TEST REPORT**

**LEADER - WAI KEE (C&T) JOINT VENTURE**

**REMAINING ENGINEERING  
INFRASTRUCTURE WORKS FOR  
PAK SHEK KOK DEVELOPMENT  
PACKAGE 2A  
(CONTRACT NO.: TP 37/03)**

**MONTHLY EM&A REPORT  
(OCTOBER 2005)**

Prepared by: Linda Law  
Linda Law  
Environmental Officer

Checked by: C. L. Lau  
C. L. Lau  
Environmental Team Leader

Approved by: Tony Wong  
Tony Wong  
Operations Manager



## TABLE OF CONTENTS

	Page
<b>EXECUTIVE SUMMARY</b>	
<b>1.0 INTRODUCTION</b>	1
<b>2.0 PROJECT INFORMATION</b>	
2.1 Background	1
2.2 Site Description	1
2.3 Construction Programme	1
2.4 Project Organization and Management Structure	1
2.5 Contact Details of Key Personnel	1 – 2
<b>3.0 CONSTRUCTION PROGRESS IN THIS REPORTING MONTH</b>	2
<b>4.0 AIR QUALITY MONITORING</b>	
4.1 Monitoring Requirement	2
4.2 Monitoring Equipment	3
4.3 Monitoring Parameters, Frequency and duration	3
4.4 Monitoring Locations and Period	3 – 4
4.5 Monitoring Methodology	4 – 5
4.6 Action and Limit levels	5 – 6
4.7 Event-Action Plans	6
4.8 Results	6
<b>5.0 NOISE MONITORING</b>	
5.1 Monitoring Requirement	6
5.2 Monitoring Equipment	6 – 7
5.3 Monitoring Parameters, Frequency and duration	7
5.4 Monitoring Locations and Period	7 – 8
5.5 Monitoring Methodology	8
5.6 Action and Limit levels	8
5.7 Event-Action Plans	8
5.8 Results	9
<b>6.0 WASTEWATER MONITORING</b>	9
<b>7.0 ENVIRONMENTAL NON-COMFORMANCE</b>	
7.1 Summary of air quality, noise and wastewater monitoring	9
7.2 Summary of environmental complaints	9
7.3 Summary of notification of summons and prosecutions	9
<b>8.0 SITE INSPECTION</b>	
8.1 Summary of site inspection findings and Action(s) taken by LWKJV and ET	10
8.2 Status of Environmental Licensing and Permitting	11
8.3 Recommendation on Site Inspection findings	11
<b>9.0 WASTE MANAGEMENT</b>	
9.1 Waste Management Audit	12
9.2 Records of waste quantities	12
<b>10.0 Implementation Status</b>	
10.1 Implementation Status of Environmental Mitigation Measures	12
10.2 Implementation Status of Event and Action Plan	13
10.3 Implementation Status of Environmental Complaint Handling	13
<b>11.0 CONCLUSION</b>	13
<b>12.0 FUTURE KEY ISSUE</b>	
12.1 Upcoming EM&A Schedule in coming two months	14
12.2 Upcoming Construction Works Schedule in coming month	14

## APPENDIX

- A Organization Chart and Lines of Communication
- B1 Calibration Certificates for Impact Air Quality Monitoring Equipment
- B2 Impact Air Quality Monitoring Results
- B3 Graphical Plots of Impact Air Quality Monitoring Data
- C1 Calibration Certificates for Impact Noise Monitoring Equipment
- C2 Impact Noise Monitoring Results
- C3 Graphical Plots of Impact Noise Monitoring Data
- D Weather Condition
- E Event-Action Plans
- F Construction Programme
- G Construction Site Area
- H Implementation Status of Mitigation Measures and Follow-up Actions during weekly site inspections
- I IEC and RE Comments on Monthly EM&A Report – September 2005
- J Wastewater Monitoring – Test Reports of Wastewater Samples from Discharge Points

## Figure

- Figure 1 Location of Noise Monitoring Locations
- Figure 2 Location of Air Monitoring Locations
- Figure 3 Location of Air and Noise Monitoring Stations at HKIB Staff Accommodation
- Figure 4 Location of Noise Monitoring Station at CUHK Residence No. 10
- Figure 5 Location of Air and Noise Monitoring Stations at Cheung Shue Tan Village

## Tables

- 2.1 Contact Details of Key Personnel
- 3.1 Major Construction Activities in this reporting month
- 3.2 Implementation of Environmental Mitigation Measures
- 4.1 Air Quality Monitoring Equipment
- 4.2 Monitoring parameters, duration and frequency of air quality monitoring
- 4.3 Air Quality Monitoring Locations
- 4.4 Monitoring Schedule for air quality monitoring stations
- 4.5 Action and Limit levels for 24-hr TSP and 1-hr TSP
- 5.1 Noise Monitoring Equipment
- 5.2 Duration, Frequency and Parameters of noise monitoring
- 5.3 Noise Monitoring Locations
- 5.4 Monitoring Schedule for noise monitoring stations
- 5.5 Action and Limit levels for noise monitoring
- 7.1 A Cumulative Log of Notification of Summons and Prosecution
- 8.1 The summary of the IEC and ET site inspection findings and Action(s) taken by LWKJV and ET
- 8.2 Summary of environmental licensing and permit status
- 9.1 Summary of Quantities of waste for disposal
- 12.1 Upcoming EM&A Schedule in coming two months
- 12.2 Upcoming Construction Works Schedule in coming month

## EXECUTIVE SUMMARY

This monthly EM&A report (No.6) has been prepared to document the impact monitoring works conducted for the Contract of the Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A (Contract No: TP 37/03) during the reporting period from 01 to 31 October 2005.

### Construction Progress

The major construction works in this reporting month were as below:

- Drainage works (Excavation, pipe laying and breaking) at Section 5, 6 7 and 8
- Road works at Section 5 and 6
- Construction of vertical seawall at Landscape Node P2
- Piling works at Voided Abutment of Ma Liu Shui Bridge
- Waterworks at Section 5, 6 and 7
- Utilities works at Section 5, 6 and 7
- Cycle track diversion at Landscape Node P3

### Environmental Monitoring Progress

The summary of the monitoring activities in this monitoring month is listed below:

- Noise Monitoring (Day-time): 4 Occasion at 4 designated locations
- 24-hour TSP Monitoring: 5 Occasions at 3 designated locations
- 1-hour TSP Monitoring: 12 Occasions at 3 designated locations
- Weekly-site inspection: 4 Occasions

### Noise Monitoring

No exceedances of Action and Limit levels for noise monitoring were recorded in the reporting month.

### Air Monitoring

- No exceedances of Action and Limit levels were recorded for 24-hr and 1-hr TSP monitoring in the reporting month.

### Wastewater Monitoring

Water quality monitoring was carried out at Road L4 and Ma Liu Shui Voided Abutment at 30 August and 15 September 2005 respectively. Two wastewater samples were collected from the discharge point at the construction site during these two monitoring. The results of suspended solids content of the wastewater samples were complied the discharge limit of the Discharge Licence. The test reports were attached at Appendix I. The test reports had been submitted to the EPD at 13 and 21 September 2005 (Ref No.: J0402/03.09/05/5382L and J0402/03.09/05/5464L).

### Site Inspection

Environmental site inspections conducted in this reporting month are presented as follows:

<u>Concerned Parties</u>	<u>Dates of Audit / Inspection</u>
Weekly site inspection (ET)	06, 13, 20, 26
Monthly site inspection (IEC/LWKJV/RE)	26

The observations were raised during this reporting month. The site inspection findings are presented as follows:

<u>Item</u>	<u>Aspects</u>	<u>Findings</u>	<u>Action(s) taken by LWKJV</u>	<u>ET Verification</u>
1	Water	Follow up action to previous finding of previous month, silt and mud accumulated on the U-channel at Ma Liu Shui Voided Abutment were cleaned up during weekly site inspection (06/10/05).	Since the finding had been improved, no further action was required.	Since the finding was improved, no further action was required.
2	Site Practice	The rubbish skip was found full during the weekly site inspection (06/10/05).	The Construction team was reminded to arrange more manpower to clean up the rubbish skips.	During the subsequent weekly site inspection (13/10/05), the finding was found improved and hence no further action was required.
3	Water	Oily water was accumulated in the drip tray of generator during the weekly site inspection (06/10/05).	The Construction team was reminded to drain the oily water and treat the oily water as chemical waste.	During the subsequent weekly site inspection (13/10/05), no water was observed in the drip tray. Hence, the finding was improved and no further action was required.

Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
4	Site Practice	No drip tray was provided for the diesel tank and oil pump during the weekly site inspection (06/10/05).	The Construction team was reminded to provide drip tray for all fuel tank and oil pump.	During the subsequent weekly site inspection (13/10/05), drip tray was found provided for the fuel tank and oil pump. Hence, the finding was improved and no further action was required.
5	Air	The haul road at Node 1 was dry and dusty during the weekly site inspection (13/10/05).	The Construction team was reminded to water the haul road and unpaved area more frequent to avoid dust generation.	During the subsequent weekly site inspection (20/10/05), haul road at Node 1 was watered and no dust was observed. Hence, the finding was improved and no further action was required.
6	Chemical	Fuel containers at Workshop area and SA 14 were found not covered but also without drip tray during the weekly site inspection (13/10/05).	The Construction team was reminded to remove the fuel containers to the appropriate storage area to avoid direct exposure to sunlight.	During the subsequent weekly site inspection (20/10/05), the fuel containers were removed and storage in chemical storage area. Hence, the finding was improved and no further action was required.
7	Air	Stockpile at Node 3 was found without covered during the weekly site inspection (20/10/05).	The Construction team was reminded to cover the exposed stockpile with tarpaulin sheets or provide watering to avoid the generation of dust.	During the subsequent weekly site inspection (26/10/05), the exposed stockpile was covered. Hence, the finding was improved and no further action was required.
8	Air	Black smoke was found emitted from the excavator "F2" at SA 14 during the weekly site inspection (20/10/05).	The Construction team was reminded to stop to use the excavator until repaired. Besides, the Construction team was also advised to maintain all site machines properly to avoid black smoke emission.	During the subsequent weekly site inspection (26/10/05), no black smoke was noted emitting from the site machines. Hence, the finding was improved and no further action was required.
9	Water	Standing water was accumulated in planter wall at Node 3 during the weekly site inspection (20/10/05).	The Construction team was reminded to drain the standing water though temporary watercourse to appropriate sedimentation facilities.	Since the finding was still observed during the last weekly site inspection of this reporting month, it will be verified at the first weekly site inspection of the coming month.
10	Water	Muddy water was found accumulated in the drainage channel at Ma Liu Shui during weekly site inspection (26/10/05).	The Construction team was reminded to drain the muddy water to the sedimentation facilities before discharged.	Since the finding was observed during the last weekly site inspection of this reporting month, it will be verified at the first weekly site inspection of the coming month.

### Waste Management

According to weekly site inspection, ET found that the Contractor followed the recommended procedures stipulated in the Waste Management Plan (WMP) on handling and disposal of wastes. 8040m<sup>3</sup> inert C&D materials and 3000 kg general refuse were generated. All inert C&D materials were reused in the Contract and other wastes were handling under the instruction and procedure stated in the WMP in this reporting month.

### Environmental Complaints

No environmental complaints were received in this monitoring month.

### Notification of summons and successful prosecutions

No notification of summons and prosecutions with respect to environmental issues were registered in this reporting month.

### Future Key Issues

Base on the site inspections and forecast of engineering works in the coming month, key issues to be considered are as follows:

- Noise and air quality impact due to construction works;
- Maintain wheel washing facilities properly;
- Cleanup the access road regularly;
- Watering, hydro-seeding or covering all stockpiles with tarpaulin to avoid wind and water erosion;
- Diverting the silty runoff to sedimentation trap or sedimentation tanks;
- Use and maintenance of silt curtain properly during marine works;
- Maintain good site practice and waste management to minimize environmental impacts at the site;
- Follow-up improvements on waste management issues.

## 1.0 INTRODUCTION

Leader – Wai Kee (C&T) Joint Venture (LWKJV) appointed Environmental Team (ET) of ETS-Testconsult Limited (ETL) to undertake the Environmental Monitoring and Audit (EM&A) for Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A (Contract No.: TP 37/03).

In accordance with the Section 10 of Environmental Permit to Construct and Operate a Designate Project (EP-108/2001/AEP-108/2001), EM&A programme as set out in the EM&A Manual is required to be implemented. In accordance with the EM&A manual, environmental monitoring of air quality and noise is required for the Project. The EM&A requirement for each parameter are described in details in subsequent 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 report;
- Environmental requirements in contract documents.

This monthly EM&A report summarizes the impact monitoring results and audit findings of the EM&A program during the reporting period from 01 to 31 October 2005.

## 2.0 PROJECT INFORMATION

### 2.1 Background

Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A (Contract No.: TP 37/03) was planned and designed by the Civil Engineering and Development Department (CEDD).

As the main Contractor of the captioned project: contracted by, LWKJV will follow the environmental monitoring recommendation stated at the EM&A Manual that was prepared with reference to the EIA Study for Feasibility Study on the Pak Shek Kok Development Area (PSKDA) Environmental Monitoring and Audit Manual under Agreement No. CE 90/96.

### 2.2 Site Description

Generally, the construction site is located at Pak Shek Kok development area. Surrounding the construction site, there are two air sensitive receivers: HKIB Staff Accommodation and Cheung Shue Tan Village and three noise sensitive receivers: HKIB Staff Accommodation, CUHK Residence No.10 and Cheung Shue Tan Village.

Figure 1and 2 show the noise and air monitoring locations of this project.

### 2.3 Construction Programme

Details of construction programme are shown in Appendix F.

### 2.4 Project Organization and Management Structure

The organization chart and lines of communication with respect to the on-site environmental management and monitoring program are shown in Appendix A.

### 2.5 Contact Details of Key Personnel

The key personnel contact names and telephone numbers, and construction programme are shown in table 2.1.

Table 2.1 Contact Details of Key Personnel

Organization	Project Role	Name of Key Staff	Tel. No.	Fax No.
CEDD	Mr. M. S. Lam	Employer	2158 5630	2693 2918
Hyder	Mr. Herman Fong	Engineer	2603 6638	2603 7883
LWJV	Mr. T. T. Wong	Project Manager	2442 1123	2442 9733
Hyder	Ir. Coleman Ng	Independent Environmental Checker	2911 2233	2805 5028
ETL	Mr. C.L. Lau	Environmental Team Leader	2946 7791	2695 3944

### 3.0 CONSTRUCTION PROGRESS IN THIS REPORTING MONTH

The site area of this project is shown in Appendix G.

A summary of the major construction activities undertaken in this monitoring month is shown in Table 3.1. The implementation of corresponding mitigation measures is summarized in Table 3.2.

Table 3.1 Major Construction Activities in this reporting month

Major Construction Activity	Location
Drainage Works (Excavation, pipe laying and breaking)	Section 5, 6, 7, 8
Road Works	Section 5 & 6
Construction of vertical seawall	Landscape Node P2
Piling Works	Voided Abutment of Ma Liu Shui Bridge
Utilities Works	Section 5, 6, 7 & 8
Waterworks	Section 5 & 6
Cycle track diversion	Landscape Node P3

Table 3.2 Implementation of Environmental Mitigation Measures

General construction works	<ul style="list-style-type: none"> <li>• Effective water sprays used on the site at potential dust emission sources such as haul roads and unpaved areas;</li> <li>• The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading;</li> <li>• Minimize of exposed soil areas to reduce the potential for increased siltation and contamination of run-off;</li> <li>• Water, hydro-seed or cover the open stockpile and exposed loose soil areas by using clean tarpaulin sheets;</li> <li>• Provide proper and efficient drainage facilities (e.g. wheel washing facilities) and sedimentation system to ensure that site runoff should be treated before discharged to drains;</li> <li>• Remove the sand/rubbish accumulated in the drain/channel regularly;</li> <li>• Use and maintenance of silt curtain properly during marine works;</li> <li>• Provide good site practice (e.g. selection of quieter plant and working methods and reduction in number of plant operating in critical areas close to NSRs) to limit noise emissions at source;</li> <li>• Remove the construction waste accumulated inside or outside the site regularly.</li> </ul>
----------------------------	--

### 4.0 AIR QUALITY MONITORING

#### 4.1 Monitoring Requirement

1-hour and 24-hour TSP monitoring were required to be conducted to monitor the air quality, at designated monitoring locations:

- HKIB Staff Accommodation (on ground floor near the entrance facing south-east);
- Cheung Shue Tan Village (near the outer building, temple) for 1-hr TSP monitoring;
- Cheung Shue Tan Village (in front of Man Kee Store) for 24-hr TSP monitoring;
- Near Wen Chih Tang at the CUHK.



#### 4.2 Monitoring Equipment

Continuous 24-hour TSP air quality monitoring was performed using a GMWS2310 High Volume Air Sampler (HVS) located at each of the designated monitoring station. One portable dust meter was used to carry out the 1-hour TSP monitoring. Table 4.1 summarizes the equipment used in the air quality monitoring programme. A copy of the calibration certificates for the HVS and portable dust meter are attached in Appendix B1.

Table 4.1 Air Quality Monitoring Equipment

Equipment	Model and Make
HVS	Greasby GMWS2310
Calibrator	Tisch TE-5025A
1-hour TSP Dust Meter	TSI Model 8520 Dust Trak™ Aerosol Monitor

#### 4.3 Monitoring Parameters, Frequency and Duration

Table 4.2 summarizes the monitoring parameters, monitoring duration and frequencies of air quality monitoring.

Table 4.2 Monitoring parameters, duration, frequencies of impact air quality monitoring

Parameter	Duration	Frequency
24-hr TSP	24 hr (0000-2400)	Once every six days
1-hr TSP	1 hr (0700-1900)	Three times every six days

#### 4.4 Monitoring Locations and Schedule

Table 4.3 tabulates the air quality monitoring locations of this project.

Table 4.3 Air quality monitoring locations

Monitoring stations	Locations
AM1	HKIB Staff Accommodation (on ground floor near the entrance facing south-east) for 1-hr TSP monitoring
AM3	Cheung Shue Tan Village (near the outer building, temple) for 1-hr TSP monitoring
AM3A	Cheung Shue Tan (in front of Man Kee Store) for 24-hr TSP monitoring
AM5	Near Wen Chih Tang at the CUHK

The air quality monitoring schedule for 24-hr and 1-hr TSP monitoring at designated monitoring locations is summarized in table 4.4.

Table 4.4 Monitoring Schedule for the air quality monitoring stations

Air quality monitoring stations	Location	Monitoring Period						
		24-hr TSP				1-hr TSP		
		Start		Finish		Date	Start	Finish
		Date	Time	Date	Time			
AM1	HKIB Staff Accommodation					04/10/05	09:15	10:15
						06/10/05	10:36	11:36
						08/10/05	08:45	09:45
						10/10/05	13:00	14:00
						13/10/05	09:40	10:40
						15/10/05	08:16	09:16
						18/10/05	08:05	09:05
						20/10/05	13:00	14:00
						22/10/05	08:45	09:45
						25/10/05	15:39	16:39
						27/10/05	13:00	14:00
						29/10/05	08:39	09:39

Air quality monitoring stations	Location	Monitoring Period						
		24-hr TSP				1-hr TSP		
		Start		Finish		Date	Start	Finish
		Date	Time	Date	Time			
AM3	Cheung Shue Tan Village (Near the outer building, temple)					04/10/05	11:00	12:00
						06/10/05	17:30	18:30
						08/10/05	13:00	14:00
						10/10/05	09:36	10:36
						13/10/05	11:00	12:00
						15/10/05	13:30	14:30
						18/10/05	14:43	15:43
						20/10/05	15:35	16:35
						22/10/05	13:15	14:15
						25/10/05	13:00	14:00
						27/10/05	15:10	16:10
						29/10/05	13:00	14:00
AM5	Near Wen Chih Tang at the CUHK					04/10/05	14:40	15:40
						06/10/05	16:10	17:10
						08/10/05	16:00	17:00
						10/10/05	10:55	11:55
						13/10/05	13:00	14:00
						15/10/05	16:00	17:00
						18/10/05	16:10	17:10
						20/10/05	16:55	17:55
						22/10/05	11:00	12:00
						25/10/05	14:20	15:20
						27/10/05	17:30	18:30
						29/10/05	14:16	15:16
AM1	HKIB Staff Accommodation	05/10/05	16:10	06/10/05	15:59			
		10/10/05	13:05	11/10/05	12:38			
		15/10/05	08:24	16/10/05	07:43			
		21/10/05	11:05	22/10/05	10:58			
		27/10/05	13:02	28/10/05	13:06			
AM3A	Cheung Shue Tan (in front of Man Kee Store)	05/10/05	15:30	06/10/05	15:30			
		10/10/05	09:46	11/10/05	09:34			
		15/10/05	13:33	16/10/05	13:38			
		21/10/05	10:40	22/10/05	10:51			
		27/10/05	15:05	28/10/05	15:30			
AM5	Near Wen Chih Tang at the CUHK	05/10/05	15:50	06/10/05	15:41			
		10/10/05	10:59	11/10/05	10:32			
		15/10/05	16:06	16/10/05	15:58			
		21/10/05	10:55	22/10/05	11:04			
		27/10/05	17:32	28/10/05	17:36			

#### 4.5 Monitoring Methodology

##### 4.5.1 24-hour TSP Monitoring

###### Instrumentation

High volume sampler, as HVS, (Greasby GMWS2310) complete with appropriate sampling inlets are employed for 24-hour TSP. The sampler is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

###### Installation

The installation of HVS refers to the requirement stated in EM&A Manual.

###### Operation/Analytical Procedures

Operating/analytical procedures for the operation of HVS are as below:

Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6m<sup>3</sup>/min and 1.7m<sup>3</sup>/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 (GA-55) were used.
- The power supply was checked to ensure the sampler worked properly.
- On sampling, the sampler was operated 5 minutes to establish thermal equilibrium before placing any filter media at designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holder frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The programmable timer will be set for a sampling period of 24 hours. 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 transferred from the filter holder of the HVS to a sealed plastic bag and sent to the laboratory for weighting. The elapsed time was also recorded.
- Before weighting, all filters were equilibrated in a desiccator for 24 hour with the temperature of  $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$  and the relative humidity (RH)  $<50\% \pm 5\%$ .

#### Maintenance & Calibration

- The HVS and their accessories should be maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- HVS should be calibrated at bi-monthly intervals.

#### **4.5.2 1-hour TSP Monitoring**

##### Measuring Procedures

The measuring procedures of the 1-hr dust meter are in accordance with the Manufacturer's instruction Manual as follows:

- Set POWER to ON, check the battery indicator to ensure whether the power supply is enough to conduct the TSP monitoring;
- Calibrate the dust meter by zero check;
- Set the TIME CONSTANT of the dust meter;
- Press SAMPLE to start the TSP monitoring;
- Record the maximum, minimum and average reading directly from the dust meter by press STATISTICS when monitoring complete.

##### Maintenance & Calibration

- 1-hr dust meter should be checked at 3-month intervals and calibrated at 1-year intervals throughout all stages of impact air quality monitoring.

#### **4.5.3 Wind Data Monitoring**

Wind data (wind speed and wind direction) were directly extracted from Sha Tin Station (located at Sha Tin Race Course) of Hong Kong Observatory. All wind data during this reporting month are shown in Appendix D.

#### **4.6 Action and Limit Levels**

Action and Limit levels for 24-hr TSP and 1-hr TSP derived as illustrated in Table 4.5.

Table 4.5 Action and Limit Levels for 24-hr TSP and 1-hr TSP

Monitoring Location	24-hr TSP ( $\mu\text{g}/\text{m}^3$ )		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )	
	Action Level	Limit Level	Action Level	Limit Level
AM1	164 *	260 *	325 *	500 *
AM3	---	---	306 **	500 **
AM3A	183 **	260 **	---	---
AM5	174	260	329	500

\* = Reference to the information contained in the Baseline Monitoring Report submitted under the "Advance Engineering Infrastructure Works for Pak Shek Kok Development – Southern Access Road and Sewage Pumping Station No.3.

\*\* = Reference to the information contained in the Baseline Monitoring Report submitted under the "Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1 – Contract No. TP 35/02.

#### 4.7 Event-Action Plans

Please refer to Appendix E for details.

#### 4.8 Results

##### 4.8.1 24-hour TSP Monitoring

All monitoring data of 24-hour TSP monitoring is provided in Appendix B2. Graphical presentation of 24-hour TSP monitoring results for the reporting month is shown in Appendix B3.

No exceedances of Action and Limit Level of 24-hour TSP monitoring results were recorded during the reporting month.

##### 4.8.2 1-hour TSP Monitoring

1-hour TSP monitoring was carried out at monitoring stations, AM1 and AM3 in the reporting month. All monitoring data of 1-hour TSP monitoring is provided in Appendix B2. Graphical presentation of 1-hour TSP monitoring results for the reporting month is shown in Appendix B3.

No exceedances of Action and Limit Level of 1-hour TSP monitoring results were recorded during the reporting month.

#### 5.0 Noise Monitoring

##### 5.1 Monitoring Requirements

As the requirement in EM&A Manual, noise monitoring was conducted at designated monitoring locations:

- HKIB Staff Accommodation (on ground floor near the entrance facing south-east);
- Cheung Shue Tan Village (near the outer building, temple);
- CUHK Residence No.10;
- Near Wen Chih Tang at the CUHK.

##### 5.2 Monitoring Equipment

Integrating Sound Level Meters were used for noise monitoring. They were Type 1 sound level meters capable of giving a continuous readout of the noise level reading including equivalent continuous sound pressure level ( $L_{\text{eq}}$ ) and percentile sound pressure level ( $L_x$ ). They comply with International Electro technical Commission Publications 651:1979 (Type1) and 804:1985 (Type1), and speed in m/s was used to monitor the wind speed.

Table 5.1 summarized noise monitoring equipment model being used. A copy of the calibration certificates for noise meters and calibrator are attached in Appendix C1.

Table 5.1 Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	Rion NL-31 Sound Level Meter
Calibrator	Rion NL-73 Sound Level Calibrator
Portable Wind Speed Indicator	TSI Model 8340-M Air Velocity Meter

### 5.3 Monitoring Parameters, duration and Frequency

Noise monitoring for the A-weighted levels  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  were recorded. The following guide on the regular monitoring frequency for each monitoring station on a per week basis when noise generating activities are underway:

- One set of measurements between 0700-1900 hours on normal weekdays (6 consecutive  $L_{eq(5-min)}$ );
- One set of measurements between 1900-2300 hours (3 consecutive  $L_{eq(5-min)}$ )\*;
- One set of measurements between 2300-0700 hours of next day (3 consecutive  $L_{eq(5-min)}$ )\*;
- One set of measurements between 0700-1900 hours on holidays (3 consecutive  $L_{eq(5-min)}$ )\*.

(\*): Noise monitoring to be conducted only when there is construction work.

Duration, frequencies and parameters of noise measurement are presented in Table 5.2.

Table 5.2 Duration, Frequencies and Parameters of Noise Monitoring

Time period	Duration/min	Parameters	Frequency
Day-time: 0700-1900 hrs on normal weekday	30	$L_{eq}$ , $L_{10}$ , $L_{90}$	Once per week
Evening-time: 1900-2300 hrs	15	$L_{eq}$ , $L_{10}$ , $L_{90}$	Once per week
Night-time: 2300-0700 hrs of next day	15	$L_{eq}$ , $L_{10}$ , $L_{90}$	Once per week
Holiday: 0700-1900 hrs	15	$L_{eq}$ , $L_{10}$ , $L_{90}$	Once per week

### 5.4 Monitoring Locations and Period

In this reporting month, there were four noise monitoring locations: HKIB Staff Accommodation, Cheung Shue Tan Village, CUHK Residence No.10 and Near Wen Chih Tang at the CUHK. The location of the monitoring stations are described in Table 5.3 and depicted in Figure 1.

Table 5.3 Noise Monitoring Locations

Noise Monitoring station	Location
NM1	HKIB Staff Accommodation (on ground floor near the entrance facing south-east)
NM2	CUHK Residence No.10
NM3	Cheung Shue Tan Village (near the outer building, a temple)
NM8	Near Wen Chih Tang at the CUHK

The noise-monitoring programme of monitoring locations (Day-time, Evening-time, Holiday and Night-time) is summarized in Table 5.4.

Table 5.4 Monitoring Periods for noise monitoring stations

Monitoring stations	Monitoring Period						
	Day-time		Evening-time		Holiday		Night-time
NM1	04/10/05	09:17	---	---	---	---	---
	13/10/05	09:42	---	---	---	---	---
	18/10/05	08:07	---	---	---	---	---
	25/10/05	15:45	---	---	---	---	---
NM2	04/10/05	16:00	---	---	---	---	---
	13/10/05	10:00	---	---	---	---	---
	18/10/05	11:25	---	---	---	---	---
	25/10/05	17:00	---	---	---	---	---

Monitoring stations	Monitoring Period						
	Day-time		Evening-time		Holiday		Night-time
NM3	04/10/05	11:02	---	---	---	---	---
	13/10/05	11:03	---	---	---	---	---
	18/10/05	14:45	---	---	---	---	---
	25/10/05	13:05	---	---	---	---	---
NM8	04/10/05	14:42	---	---	---	---	---
	13/10/05	13:02	---	---	---	---	---
	18/10/05	16:12	---	---	---	---	---
	25/10/05	14:27	---	---	---	---	---

## 5.5 Monitoring Procedures and Calibration Details

### Operation/Analysis Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces.
- 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 : 5 mins
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1000HZ. If the difference in the calibration level before and after measurement was more than 1dB(A), the measurement would be considered invalid and repeat measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with a portable wind meter.
- During the monitoring period, the Leq, L10 and L90 were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Free Field correction to the measurements should be made. Correction factor of +3dB(A) should be made to the free Field measurements.
- Noise monitoring would be cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind gusts exceeding 10m/s.

### Maintenance and Calibration

- The microphone head of the sound level meter and calibrator is cleaned with soft cloth at quarterly intervals.
- The meter is sent to be supplier or HOKLAS laboratory to check and calibrated at yearly intervals.

## 5.6 Action and Limit Levels

The Action and Limit levels for noise levels derived as illustrated in Table 5.5.

Table 5.5 Action and Limit Levels for noise monitoring

Time Period	Time Period	Action	Limit
Normal hours	0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) *
Holiday	0700-1900 hrs on holidays		70 dB(A) **
Evening-time	1900-2300 hrs on all other days		
Night-time	2300-0700 hrs of next day		55 dB(A) **

\* = Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

\*\* = Area Sensitivity Rating (ASR) C is selected from the "Technical Memorandum on Noise from Construction Work Other Than Percussive Piling".

## 5.7 Event-Action Plans

Please refer to the Appendix E for details.

## 5.8 Results

Only Day-time noise monitoring were carried out at monitoring stations in this reporting month. No Evening-time, Night-time and Holiday noise monitoring were required since no construction works were processed during the night-time period. All noise levels are provided in Appendix C2. Graphical presentation of the monitoring results for the reporting month is shown in Appendix C3.

No Day-time noise monitoring results at all monitoring stations exceeded the Action Level since no documented complaints on noise issue were received in this reporting month. Besides, no exceedances in Limit Level were recorded according to the results from Day-time noise monitoring.

## 6.0 WASTEWATER MONITORING

Effluent Discharge License of this Project is valid from 06 December 2004 (Discharge Licence No.: 3246-Part A and Part B).

Water quality monitoring was carried out at Road L4 and Ma Liu Shui Voided Abutment at 30 August and 15 September 2005 respectively. Two wastewater samples were collected from the discharge points at Road L4 and Ma Liu Shui Voided Abutment during these two monitoring. The results of suspended solids content of the wastewater samples were complied the discharge limit of the Discharge Licence. The test reports were attached at Appendix I. The test reports had been submitted to the EPD at 13 and 21 September 2005 (Ref No.: J0402/03.09/05/5382L and J0402/03.09/05/5464L).

Since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly, no wastewater monitoring was carried out in this reporting month. The next wastewater monitoring should be at November 2005.

## 7.0 ENVIRONMENTAL NON-CONFORMANCE

### 7.1 Summary of environmental monitoring

No exceedances of Action and Limit Level of 24-hour and 1-hour TSP monitoring results were recorded during the reporting month.

No day-time noise level measured at all monitoring stations exceeded the Action and Limit Level in the reporting month. No evening-time, night-time and holiday noise monitoring were required since no construction works were processed during these periods.

During this reporting month, no wastewater monitoring was carried out since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and water quality monitoring was carried out by ET at Road L4 and Ma Liu Shui Voided Abutment at 30 August and 15 September 2005 respectively. The next wastewater monitoring should be at November 2005.

### 7.2 Summary of Environmental Complaints

No environmental complaints were received in this monitoring month.

### 7.3 Summary of Notification of Summons and Prosecution

There was no notification of summons respect to environmental issues registered in this month.

## 8.0 SITE INSPECTION

Weekly site inspections were carried out by the ET in this reporting month (06, 13, 20 and 26 October 2005). Monthly joint site inspection at 26 October 2005 was carried out by Engineer's Representative, IEC and LWKJV. The implementation status of the mitigation measures on site inspections in this reporting month is presented in Appendix H.

### 8.1 Summary of the site inspection findings and Action(s) taken by LWKJV and ET

Summaries of the site inspection findings in this reporting month are shown in Table 8.1.

Table 8.1 The summary of the site inspection findings and Action(s) taken by LWKJV and ET

Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
1	Water	Follow up action to previous finding of previous month, silt and mud accumulated on the U-channel at Ma Liu Shui Voided Abutment were cleaned up during weekly site inspection (06/10/05).	Since the finding had been improved, no further action was required.	Since the finding was improved, no further action was required.
2	Site Practice	The rubbish skip was found full during the weekly site inspection (06/10/05).	The Construction team was reminded to arrange more manpower to clean up the rubbish skips.	During the subsequent weekly site inspection (13/10/05), the finding was found improved and hence no further action was required.
3	Water	Oily water was accumulated in the drip tray of generator during the weekly site inspection (06/10/05).	The Construction team was reminded to drain the oily water and treat the oily water as chemical waste.	During the subsequent weekly site inspection (13/10/05), no water was observed in the drip tray. Hence, the finding was improved and no further action was required.
4	Site Practice	No drip tray was provided for the diesel tank and oil pump during the weekly site inspection (06/10/05).	The Construction team was reminded to provide drip tray for all fuel tank and oil pump.	During the subsequent weekly site inspection (13/10/05), drip tray was found provided for the fuel tank and oil pump. Hence, the finding was improved and no further action was required.
5	Air	The haul road at Node 1 was dry and dusty during the weekly site inspection (13/10/05).	The Construction team was reminded to water the haul road and unpaved area more frequent to avoid dust generation.	During the subsequent weekly site inspection (20/10/05), haul road at Node 1 was watered and no dust was observed. Hence, the finding was improved and no further action was required.
6	Chemical	Fuel containers at Workshop area and SA 14 were found not covered but also without drip tray during the weekly site inspection (13/10/05).	The Construction team was reminded to remove the fuel containers to the appropriate storage area to avoid direct exposure to sunlight.	During the subsequent weekly site inspection (20/10/05), the fuel containers were removed and storage in chemical storage area. Hence, the finding was improved and no further action was required.
7	Air	Stockpile at Node 3 was found without covered during the weekly site inspection (20/10/05).	The Construction team was reminded to cover the exposed stockpile with tarpaulin sheets or provide watering to avoid the generation of dust.	During the subsequent weekly site inspection (26/10/05), the exposed stockpile was covered. Hence, the finding was improved and no further action was required.
8	Air	Black smoke was found emitted from the excavator "F2" at SA 14 during the weekly site inspection (20/10/05).	The Construction team was reminded to stop to use the excavator until repaired. Besides, the Construction team was also advised to maintain all site machines properly to avoid black smoke emission.	During the subsequent weekly site inspection (26/10/05), no black smoke was noted emitting from the site machines. Hence, the finding was improved and no further action was required.
9	Water	Standing water was accumulated in planter wall at Node 3 during the weekly site inspection (20/10/05).	The Construction team was reminded to drain the standing water through temporary watercourse to appropriate sedimentation facilities.	Since the finding was still observed during the last weekly site inspection of this reporting month, it will be verified at the first weekly site inspection of the coming month.
10	Water	Muddy water was found accumulated in the drainage channel at Ma Liu Shui during weekly site inspection (26/10/05).	The Construction team was reminded to drain the muddy water to the sedimentation facilities before discharged.	Since the finding was observed during the last weekly site inspection of this reporting month, it will be verified at the first weekly site inspection of the coming month.

## 8.2 Status of Environmental Licensing and Permitting

All permits/licenses valid in this reporting month are summarized in Table 8.2.

Table 8.2 Summary of environmental licensing and permit status

Description	Permit No.	Valid Period		Section
		From	To	
Construction Noise Permit for Marine Work at Reclamation area of Science Park Phase 2 & 3, Pak Shek Kok	GW-RN0248-05	14/06/05	13/12/05	<u>Group A</u> <u>One Tug Boat (CNP221)</u> <u>Group B</u> <u>One Derrick Barge (CNP061)</u>
Construction Noise Permit for the Construction Works of the Project at Seafront in Vicinity of Existing Ma Liu Shui Pier, N.T.	GW-RN0379-05	23/08/05	22/02/06	<u>Group A</u> <u>One Poker, vibrator, hand-held (CNP170)</u> <u>One Concrete pump, lorry mounted (CNP047)</u> <u>One Concrete lorry mixer (CNP044)</u> <u>Group B</u> <u>One Dump Truck (CNP067)</u> <u>One Excavator, tracked (CNP081)</u> <u>Group C</u> <u>One Grout Pump</u> <u>One Grout Mixer</u>
Construction Noise Permit for the Construction Works of the Project at Pak Shek Kok Development Package 2A, Tai Po	GW-RN0265-05	14/06/05	13/12/05	<u>Group A</u> <u>One Poker, vibrator, hand-held (CNP170)</u> <u>One Concrete lorry mixer (CNP044)</u> <u>One Excavator, tracked (CNP081)</u> <u>Group B</u> <u>One Dump Truck (CNP067)</u> <u>One Excavator, tracked (CNP081)</u> <u>Group C</u> <u>One Asphalt Paver (CNP004)</u> <u>One Roller, Vibratory (CNP186)</u> <u>One Road Roller (CNP185)</u>
Wastewater Discharge License	3246 – Part A	06/12/04	05/12/09	Discharge of trade Effluent, surface run-off and all other wastewater arising from the construction site and sedimentation tank to Coastal water or communal drain for the carriage of surface drainage water.
Wastewater Discharge License	3246 – Part B	06/12/04	05/12/09	Discharge of trade Effluent, surface run-off and all other wastewater arising from the construction site and on-site aerobic waste water treatment system to soak-away pit.

## 8.3 Recommendations on site inspection findings in Site Inspections of this month

Based on the site inspection findings, the recommendations are as below:

- All stockpiles should be covered with clean tarpaulin sheets, spraying with water or hydro-seeding to avoid wind and water erosion;
- The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading;
- Minimize of exposed soil areas to reduce the potential for increased siltation and contamination of run-off;
- Checking and maintaining all the site machines to prevent dust emission;
- Providing briefing to the concerned site staff on remedial actions, such as handling method of chemicals and chemical waste;
- Use and maintenance of silt curtain properly during marine works;
- Provide good site practice (e.g. selection of quieter plant and working methods and reduction in number of plant operating in critical areas close to NSRs) to limit noise emissions at source;
- Maintain good waste management at the site.

## 9.0 WASTE MANAGEMENT

### 9.1 Waste Management Audit

Waste management audit was carried out by the ET on a weekly basis. The implementation status of the mitigation measures on waste management in this reporting month is presented in Appendix H.

### 9.2 Records of Waste Quantities

All type of wastes arising from the construction work are classified into the following:

- General refuse;
- Chemical waste;
- Construction & demolition (C&D) material.

The quantities of waste for disposal in this month are summarized in Table 9.1.

Table 9.1 Summary of Quantities of Waste for Disposal in this reporting month

Type of Waste		Quantity	Disposal Location	Cumulative Quantity
<i>Inert C&amp;D Materials</i>	Total Quantity Generated (m <sup>3</sup> )	8040	Reused in the Contract	71555
	Broken Concrete (m <sup>3</sup> )	40	N/A	625
	Reused in the Contract (m <sup>3</sup> )	8000	N/A	71000
	Reused in other Projects (m <sup>3</sup> )	0	N/A	0
	Disposal as Public Fill (m <sup>3</sup> )	0	N/A	0
<i>C&amp;D Waste</i>	Metals (1000kg)	0	N/A	37.375
	Paper/Cardboard Packaging (1000kg)	0	N/A	0.062
	Plastics (1000kg)	0	N/A	0.014
	Chemical Waste (1000kg)	0	N/A	1
	Other, e.g. General Refuse (1000kg)	3	SENT	71.29

## 10.0 IMPLEMENTATION STATUS

### 10.1 Implementation Status of Environmental Mitigation Measures

LWKJV has been implementing the required environmental mitigation measures according to the Mitigation Protection Measures stated in Implementation Schedule of the EM&A Manual. The implementation status of the environmental mitigation measures in this reporting month is presented in Appendix H.

#### Air Quality

The Contractor was reminded to water or cover all the stockpiles by using clean tarpaulin sheets. The Contractor was also reminded to cleanup the access road regularly to avoid dust emission and provide effective wheel washing facilities.

#### Noise

All mitigation measures stated in Appendix H were implemented properly in this reporting month.

#### Water Quality

The Contractor was reminded to provide more effort to implement mitigation measures, such as diverting site runoff to suitable treatment processes before discharge, sedimentation system and drainage facilities.

#### Waste Management

LWKJV has been implementing most mitigation measures on waste management.

### 10.2 Implementation Status of Event and Action Plan

There were no exceedances in air quality and noise monitoring parameters recorded in this monitoring month. No further mitigation measures were required.

### 10.3 Implementation Status of Environmental Complaint Handling

No complaints had been received during this monitoring month.

## 11.0 CONCLUSION

Impact monitoring of air quality and noise were carried out at designated locations in accordance with the EM&A Manual in this reporting month.

According to the summary of air and noise monitoring results, no exceedances of Action and Limit Level of 24-hour and 1-hour TSP monitoring results were recorded during the reporting month. Besides, No Day-time noise level measured at all monitoring stations exceeded the Action and Limit Level in the reporting month. No Evening-time, Night-time and Holiday noise monitoring were required since no construction works were processed during these periods.

During this reporting month, no wastewater monitoring was carried out since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and water quality monitoring was carried out by ET at Road L4 and Ma Liu Shui Voided Abutment at 30 August and 15 September 2005 respectively. The next wastewater monitoring should be at November 2005.

According to the ET weekly site inspection and IEC monthly site audit carried out this month, it indicated that site practices of the LWKJV were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was satisfactory.

## 12.0 FUTURE KEY ISSUES

### 12.1 Upcoming EM&A Schedule in coming two months

The Proposed EM&A program in coming two months are presented as following table:

Table 12.1 – Upcoming EM&A Schedule in coming two months

Type of Monitoring	November 2005	December 2005
Noise Monitoring (Day-time)	01, 08, 15, 22, 29	06, 13, 20, 27
1-hour TSP	01, 03, 05, 08, 10, 12, 15, 17, 19, 22, 24, 26, 29	01, 03, 06, 08, 10, 13, 15, 17, 20, 22, 24, 27, 29, 31
24-hour TSP	02, 08, 14, 19, 25	01, 07, 13, 19, 24, 30
Site Inspection	03, 10, 17, 24	01, 08, 15, 22, 29

### 12.2 Upcoming construction works schedule in the coming month

The major construction works planned to be carried out in next two months and their possible impact is tabulated (Table 12.2) for reference.

Table 12.2 – Construction Plan in the coming month

Month	Works Planned to be Carried Out
Between November and December 2005	<ul style="list-style-type: none"> <li>▪ Drainage Works (excavation, pipe laying and breaking) at Section 5, 6, 7, 8;</li> <li>▪ Road Works at Section 5 &amp; 6;</li> <li>▪ Piling works at Ma Liu Shui Bridge;</li> <li>▪ Taking up existing seawall at Landscape Node P3;</li> <li>▪ Reinstate existing box culvert &amp; drain pipes at Landscape Node P1 &amp; P2;</li> <li>▪ Waterworks at Section 5, 6 &amp; 7;</li> <li>▪ Utilities works at Section 5, 6 &amp; 7.</li> </ul>

## Appendix A

### Organization Chart and Lines of Communication



WEI KEI  
聯合有限公司

Board of Directors

Director  
（Mr. Tony Chan）

Contract Manager  
（Thomas Wong）  
Engineering Support  
Brett Miller  
(Mr. Brett Miller)

Quality Assurance  
Engineering Quality  
Staffing  
Janet Lam  
(Miss Janet Lam)

Safety Manager  
David Lai  
(Mr. David Lai)

Project Manager  
Edmund Wong  
(Mr. Edmund Wong)

Site Name

Head Office Support

Name Work

Supervisor(s)

Land Surveyor  
(Mr. Alan Li)

Sit Adm.

K. K. Tang  
(Mr. K. K. Tang)

Arch &  
Weldman

Q. S. Assistant

Wing Wong  
(Mr. Wing Wong)

Clerk

Ron Chant  
(Mr. Ron Chant)

Site-Sec.

Fran Valito  
(Miss Fran Valito)

Marketing Q.S.

K. K. Poon  
(Mr. K. K. Poon)

Quality Surveyor

Brian Lin  
(Mr. Brian Lin)

Project Manager  
Thomas Wong  
(Mr. Thomas Wong)

Safety Officer

K. Peat  
(Miss K. Peat)

Safety Supervisor  
Yan Yiu Lam  
(Miss Yan Yiu Lam)

ETTS-Tektronik Ltd.  
C. L. Lin

ETTS-Tektronik Ltd.  
C. L. Lin

Safety Officer  
Sam Yiu  
(Mr. Sam Yiu)

Site-Sec.  
Henry Wong  
(Mr. Henry Wong)

P.O. Box

Graduate Engineer(s)

Brian Tang  
(Mr. Brian Tang)

Apprentice(s)

Chui Chung  
(Mr. Chui Chung)

Site Engineer

Thomas Wong  
(Mr. Thomas Wong)

Assistant Engineer(s)

Brian To  
(Mr. Brian To)

Foreman(s)

Eric Chan  
(Mr. Eric Chan)

Foreman(s)

Wing Yiu Lam  
(Mr. Wing Yiu Lam)

Assistant Engineer(s)

Brian To  
(Mr. Brian To)

Foreman(s)

Kwok Chin To  
(Mr. Kwok Chin To)

Apprentice(s)

Kwok Chin To  
(Mr. Kwok Chin To)

P.O. Box

Sub-contractors  
Tarmac Klu, Farco,  
Koak HK, HK Landscape

Chairman  
Wing Yiu Lam  
(Mr. Wing Yiu Lam)

Engineering TTAA/Union  
Chairman  
(Mr. Andrew Yiu)

Chairman  
Lau Chi Keung  
(Mr. Lau Chi Keung)

Chairman  
Li Chi Keung  
(Mr. Li Chi Keung)

Assistant Engineer(s)

Wong Nee Chan  
(Miss Wong Nee Chan)

Apprentice(s)

Chui Chung  
(Mr. Chui Chung)

Assistant Engineer(s)

Henry Wong  
(Mr. Henry Wong)

Foreman(s)

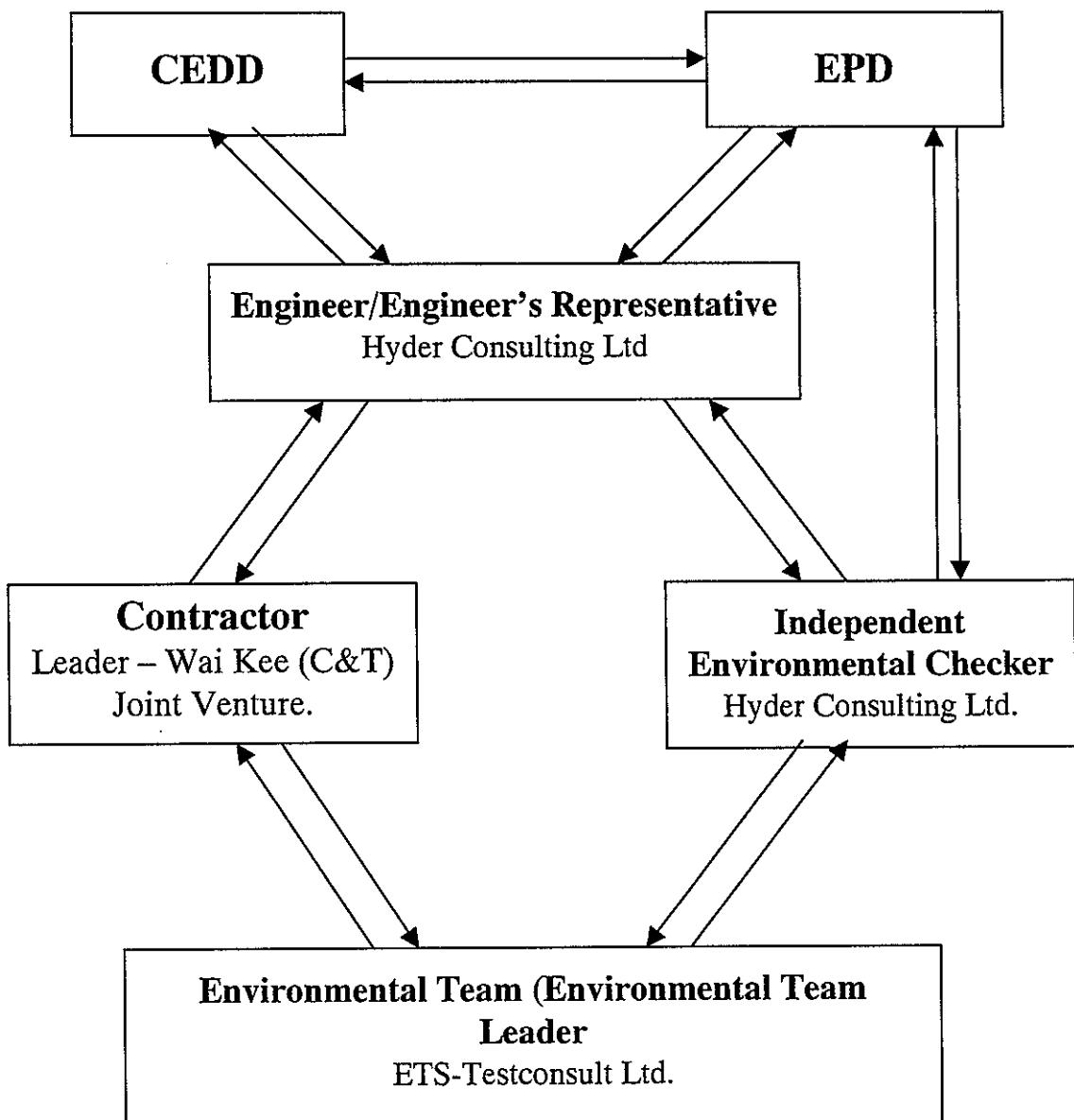
Henry Wong  
(Mr. Henry Wong)

Apprentice(s)

Henry Wong  
(Mr. Henry Wong)

Chairman  
Chui Chung  
(Mr. Chui Chung)

# Lines of Communication



## Appendix B1

### Calibration Certificates for Air Quality Monitoring Equipments



東業德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

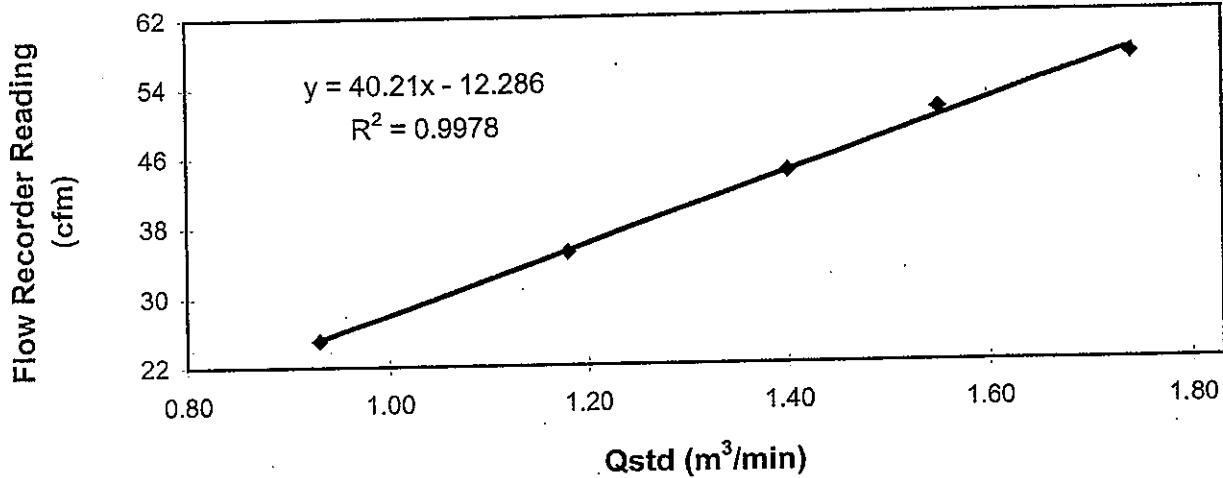
8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong  
Tel : 2695 8318      E-mail : etl@ets-testconsult.com  
Fax : 2695 3944      Web site : www.ets-testconsult.com

**TEST REPORT**

Calibration Report  
of  
High Volume Air Sampler

Manufacturer	:	Greasby GMW	Date of Calibration	:	13 September 2005
Serial No.	:	1178 (ET / EA / 003 / 01)	Calibration Due Date	:	12 November 2005
Method	:	Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A			
Results	:	Flow recorder reading (cfm) Qstd (Actual flow rate, m <sup>3</sup> /min) Pressure :	57 1.74 751.56 mm Hg	51 1.55 Temp.:	44 1.40 304 K 35 1.18 0.93 25

**Sampler 1178 Calibration Curve**  
Site: Pak Shek Kok Monitoring Station AM1 (24hr.)  
Date of Calibration: 13 September 2005



Acceptance Criteria : Correlation coefficient (*r*) of the calibration curve greater than 0.990 after a 5 point calibration

The high volume sampler complies \* / ~~does not comply~~\* with the specified requirements and is deemed acceptable \* / ~~unacceptable~~\* for use.

Calibrated by : Mak Yei Yiu  
K W Mak  
(Technician)

Approved by : Linda Law  
Linda Law  
(Environmental Officer)



東業德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

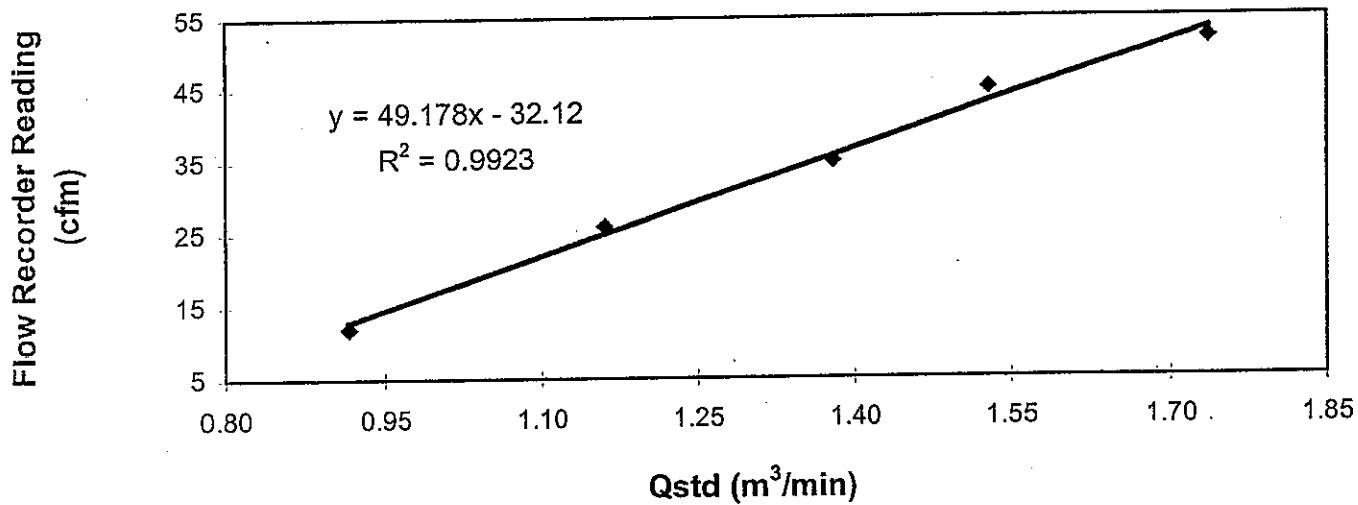
8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong  
Tel : 2695 8318      E-mail : eti@ets-testconsult.com  
Fax : 2695 3944      Web site : www.ets-testconsult.com

**TEST REPORT**

Calibration Report  
of  
High Volume Air Sampler

Manufacturer	:	Greasby GMW	Date of Calibration	:	13 September 2005
Serial No.	:	7179 ( ET / EA / 003 / 16 )	Calibration Due Date	:	12 November 2005
Method	:	Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A			
Results	:	Flow recorder reading (cfm)	52	45	35
		Qstd (Actual flow rate, m <sup>3</sup> /min)	1.74	1.53	1.38
		Pressure : 751.56 mm Hg	26	1.16	0.92
			Temp. : 304 K	12	

**Sampler 7179 Calibration Curve**  
**Site: Pak Shek Kok (AM3A)**  
**Date of Calibration: 13 September 2005**

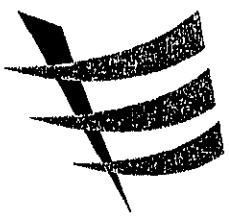


Acceptance Criteria : Correlation coefficient (*r*) of the calibration curve greater than 0.990 after a 5 point calibration

The high volume sampler complies \* / does not comply\* with the specified requirements and is deemed acceptable \*/ unacceptable\* for use.

Calibrated by : Mak Kai Tat  
K W Mak  
(Technician)

Approved by : Linda Law  
Linda Law  
(Environmental Officer)



東業德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

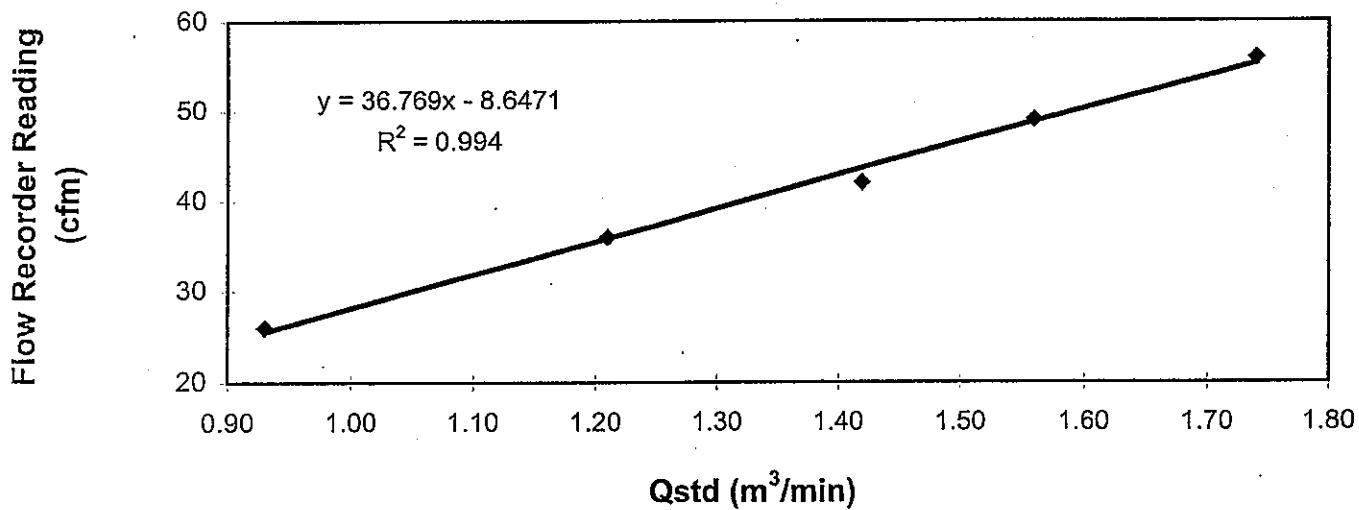
8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong  
Tel : 2695 8318      E-mail : etl@ets-testconsult.com  
Fax : 2695 3944      Web site : www.ets-testconsult.com

**TEST REPORT**

Calibration Report  
of  
High Volume Air Sampler

Manufacturer	:	Greasby GMW	Date of Calibration	:	13 September 2005
Serial No.	:	1172 ( ET / EA / 003 / 11 )	Calibration Due Date	:	12 November 2005
Method	:	Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A			
Results	:	Flow recorder reading (cfm)	56	49	42
		Qstd (Actual flow rate, m <sup>3</sup> /min)	1.74	1.56	1.42
		Pressure : 751.56 mm Hg	36	1.21	0.93
			Temp. : 304 K		

**Sampler 1172 Calibration Curve**  
**Site: Pak Shek Kok (AM5)**  
**Date of Calibration: 13 September 2005**



Acceptance Criteria : Correlation coefficient (*r*) of the calibration curve greater than 0.990 after a 5 point calibration

The high volume sampler complies \* / does not comply \* with the specified requirements and is deemed acceptable \* / unacceptable \* for use.

Calibrated by : Mak Kai Wan  
K W Mak  
(Technician)

Approved by : Linda Law  
Linda Law  
(Environmental Officer)



東業德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong  
Tel : 2695 8318      E-mail : etl@ets-testconsult.com  
Fax : 2695 3944      Web site : www.ets-testconsult.com

**TEST REPORT**

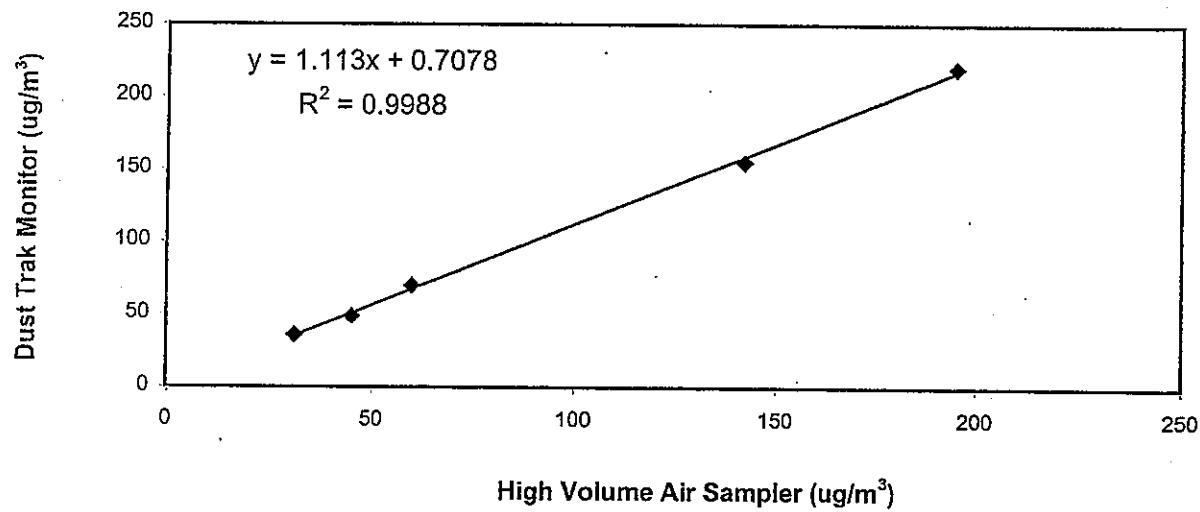
Internal Calibration Report

of

Dust Trak Monitor

Manufacturer	:	TSI - 8520 Dust Trak	Date of Calibration	:	17 September 2005
Serial No.	:	15115 (EA/001/02)	Calibration Due Date	:	16 March 2006
Method	:	Place two Dust Trak Monitor together at same environment condition for parallel measurement with five point calibration			
Results	:	Dust Trak Monitor ( $\mu\text{g}/\text{m}^3$ )	36	49	70
		High Volume Air Sampler ( $\mu\text{g}/\text{m}^3$ )	31	45	60
		High Volume Air Sampler Serial No.: 1178	Calibration Date: 12 / 11 / 2005		

Calibration of Dust Trak Monitor (Serial No. 15115)



Acceptance Criteria : Correlation coefficient ( $r$ ) of the calibration curve greater than 0.990 after a five point calibration

The Dust Trak Monitor complies \* / does not comply \* with the internal calibration procedures and is deemed acceptable \*/ unacceptable \* for use.

Calibrated by : Mak Sui Wan  
K W Mak  
(Technician)

Approved by : H. T. Chow  
H. T. Chow  
(Asst. Environmental Officer)

## **Appendix B2**

### **Air Quality Monitoring Results**

## Summary of 24-hr TSP Monitoring Results

Monitoring Station : AM1  
Location : HKIB Staff Accommodation

Start Date	Time	Finish Date	Time	Elapsed Time	Sampling Time (hrs)	Flow Rate (m³/min.)	Average (m³/min.)	Filter Weight (g)	Conc. (µg/m³)	Weather Condition
05/10/05	16:10	06/10/05	15:59	9122.25	9146.07	23.82	1.26	1.26	2.9106	46 Cloudy
10/10/05	13:05	11/10/05	12:38	9146.07	9169.62	23.55	1.26	1.26	2.8605	72 Sunny
15/10/05	08:24	16/10/05	07:43	9169.62	9192.94	23.32	1.26	1.26	2.8359	160 Cloudy
21/10/05	11:05	22/10/05	10:58	9192.94	9216.82	23.88	1.26	1.26	2.8659	134 Sunny
27/10/05	13:02	28/10/05	13:06	9216.82	6240.88	24.06	1.26	1.26	2.9013	57 Cloudy

Monitoring Station : AM3A  
Location : Cheung Shue Tan (in front of Man Kee Store)

Start Date	Time	Finish Date	Time	Elapsed Time	Sampling Time (hrs)	Flow Rate (m³/min.)	Average (m³/min.)	Filter Weight (g)	Conc. (µg/m³)	Weather Condition
05/10/05	15:30	06/10/05	15:30	14468.59	14492.59	24.00	1.37	1.37	2.9192	3.0318 57 Cloudy
10/10/05	09:46	11/10/05	09:34	14492.59	14516.39	23.80	1.47	1.47	2.8329	2.8762 21 Sunny
15/10/05	13:33	16/10/05	13:38	14516.39	14540.47	24.08	1.37	1.37	2.8109	3.1003 146 Cloudy
21/10/05	10:40	22/10/05	10:51	14540.47	14564.65	24.18	1.37	1.37	2.8533	3.0070 77 Sunny
27/10/05	15:05	28/10/05	15:30	14564.65	14589.06	24.41	1.37	1.37	2.9030	3.0261 61 Cloudy

Monitoring Station : AM5  
Location : Near Wen Chin Tung at the CUHK

Start Date	Time	Finish Date	Time	Elapsed Time	Sampling Time (hrs)	Flow Rate (m³/min.)	Average (m³/min.)	Filter Weight (g)	Conc. (µg/m³)	Weather Condition
05/10/05	15:50	06/10/05	15:41	4503.81	4527.66	23.85	1.01	1.01	2.9099	2.9632 37 Cloudy
10/10/05	10:59	11/10/05	10:32	4527.66	4551.21	23.55	1.01	1.01	2.8395	2.9228 58 Sunny
15/10/05	16:06	16/10/05	15:58	4551.21	4575.08	23.87	1.01	1.01	2.8294	3.0281 137 Cloudy
21/10/05	10:55	22/10/05	11:04	4575.08	4599.23	24.15	1.01	1.01	2.8256	2.9862 110 Sunny
27/10/05	17:32	28/10/05	17:36	4599.23	4623.30	24.07	1.01	1.01	2.9019	2.9676 45 Cloudy

### Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM1 (HKIB Staff Accommodation)

Date	Monitoring Period		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )			Weather
	Start	Finish	Minimum	Maximum	Average	
04/10/05	09:15	10:15	112	392	159	Sunny
06/10/05	10:36	11:36	92	391	120	Sunny
08/10/05	08:45	09:45	114	406	185	Cloudy
10/10/05	13:00	14:00	93	377	135	Sunny
13/10/05	09:40	10:40	110	392	155	Sunny
15/10/05	08:16	09:16	89	392	122	Cloudy
18/10/05	08:05	09:05	125	412	182	Cloudy
20/10/05	13:00	14:00	96	391	140	Cloudy
22/10/05	08:45	09:45	92	389	146	Sunny
25/10/05	15:39	16:39	99	398	128	Cloudy
27/10/05	13:00	14:00	86	382	174	Cloudy
29/10/05	08:39	09:39	84	401	122	Cloudy

Monitoring Station : AM3 – Cheung Shue Tan Village (near the outer building, a temple)

Date	Monitoring Period		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )			Weather
	Start	Finish	Minimum	Maximum	Average	
04/10/05	11:00	12:00	80	337	128	Sunny
06/10/05	17:30	18:30	52	231	77	Sunny
08/10/05	13:00	14:00	68	319	128	Cloudy
10/10/05	09:36	10:36	82	317	90	Sunny
13/10/05	11:00	12:00	68	324	97	Sunny
15/10/05	13:30	14:30	80	361	90	Cloudy
18/10/05	14:43	15:43	70	353	127	Cloudy
20/10/05	15:35	16:35	62	299	80	Cloudy
22/10/05	13:15	14:15	68	327	98	Sunny
25/10/05	13:00	14:00	91	311	92	Cloudy
27/10/05	15:10	16:10	67	327	127	Cloudy
29/10/05	13:00	14:00	79	379	98	Cloudy

### Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM5 – Near Wen Chih Tang at the CUHK

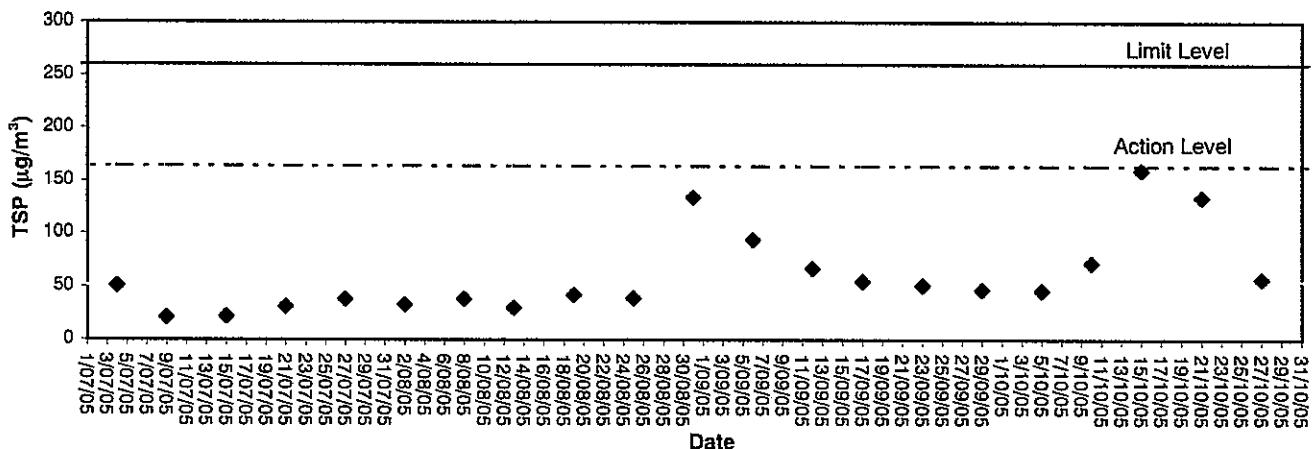
Date	Monitoring Period		1-hr TSP ( $\mu\text{g}/\text{m}^3$ )			Weather
	Start	Finish	Minimum	Maximum	Average	
04/10/05	14:40	15:40	85	340	132	Sunny
06/10/05	16:10	17:10	81	369	107	Sunny
08/10/05	16:00	17:00	77	337	145	Cloudy
10/10/05	10:55	11:55	90	346	109	Sunny
13/10/05	13:00	14:00	75	343	104	Sunny
15/10/05	16:00	17:00	84	386	108	Cloudy
18/10/05	16:10	17:10	68	340	122	Cloudy
20/10/05	16:55	17:55	92	360	117	Cloudy
22/10/05	11:00	12:00	74	340	115	Sunny
25/10/05	14:20	15:20	96	364	114	Cloudy
27/10/05	17:30	18:30	72	339	137	Cloudy
29/10/05	14:16	15:16	81	382	110	Cloudy

## **Appendix B3**

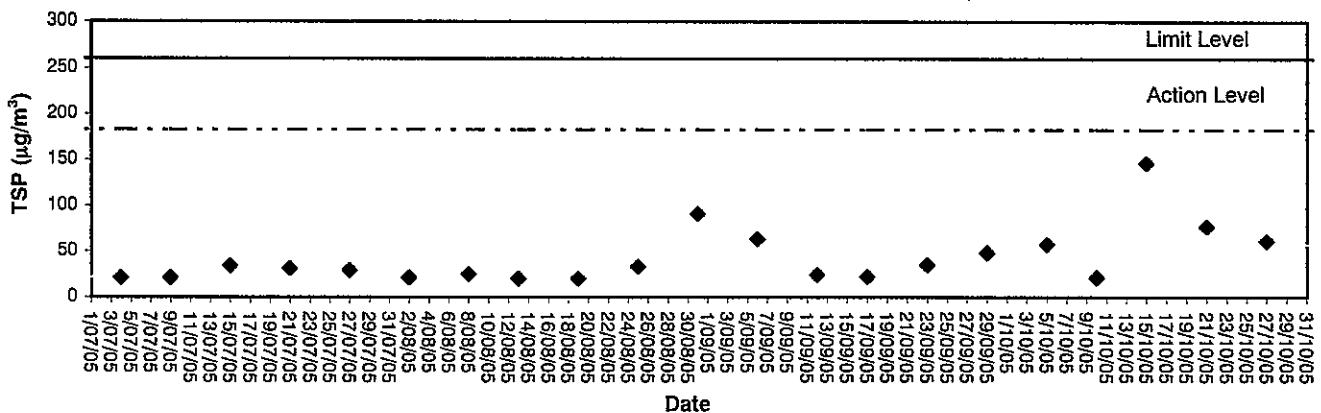
### **Graphical Plots of Air Quality Monitoring Data**



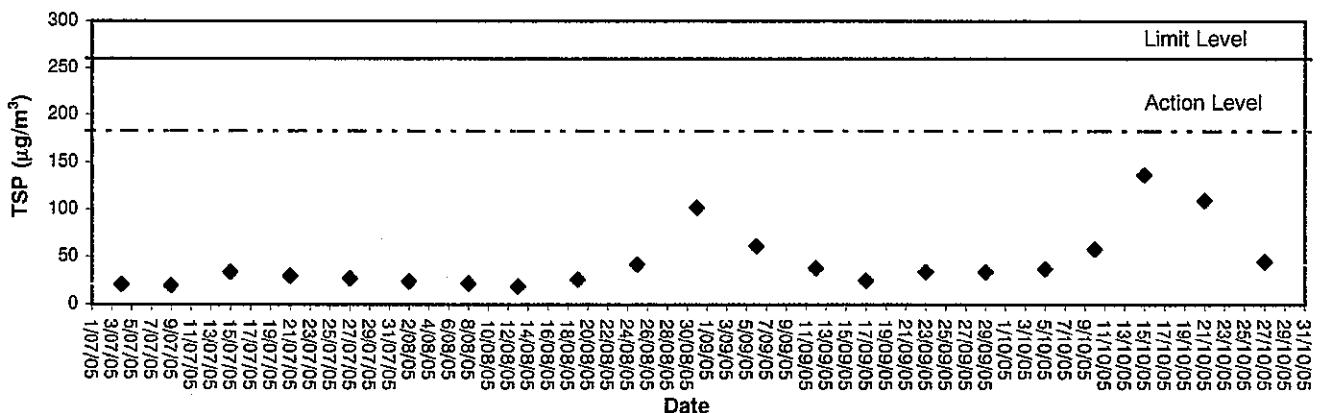
24-hour TSP level at AM1 (HKIB Staff Accommodation)



24-hour TSP level at AM3A  
(Cheung Shue Tan in front of Man Kee Store)

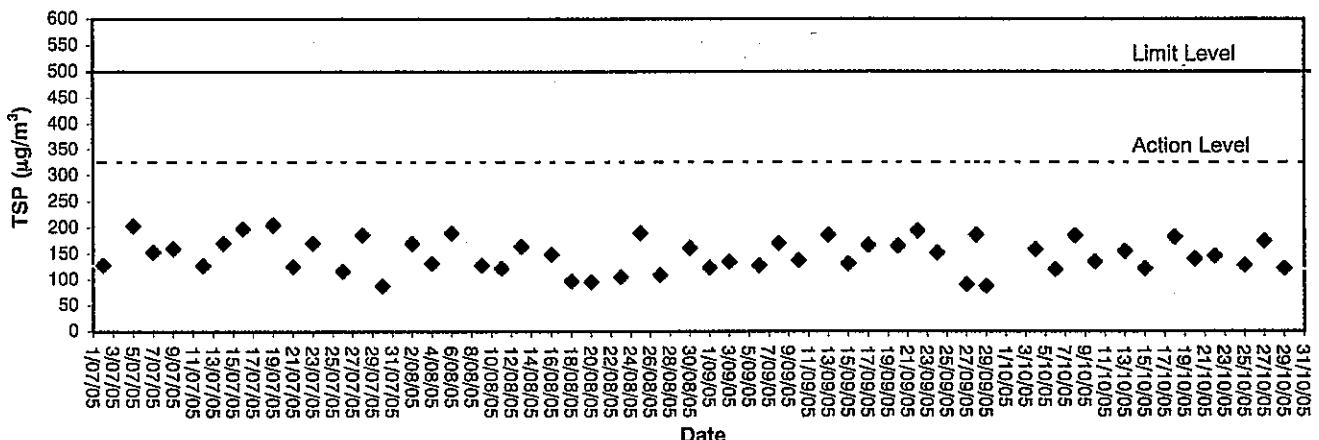


24-hour TSP level at AM5  
(Wen Chih Tang at the CUHK)

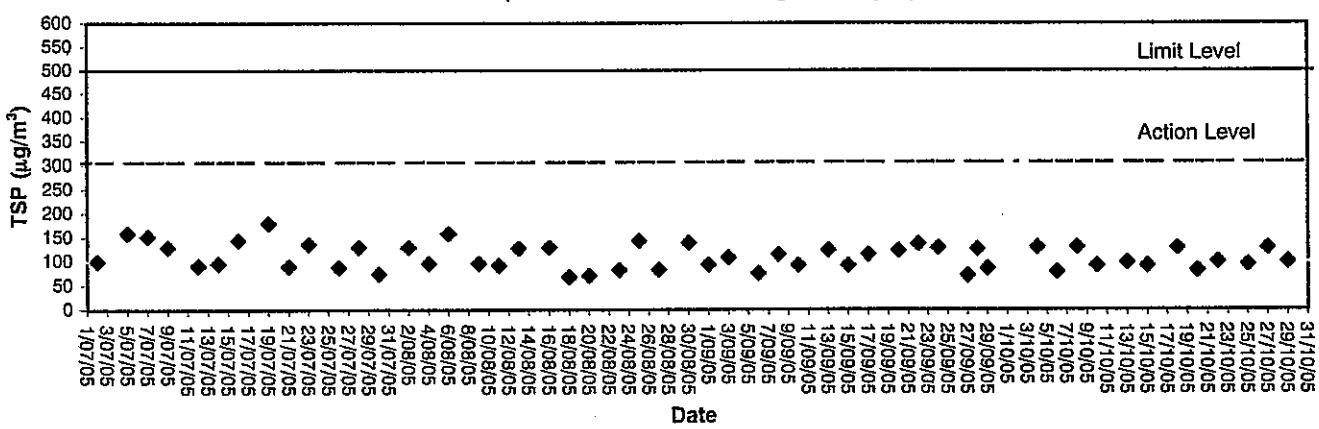




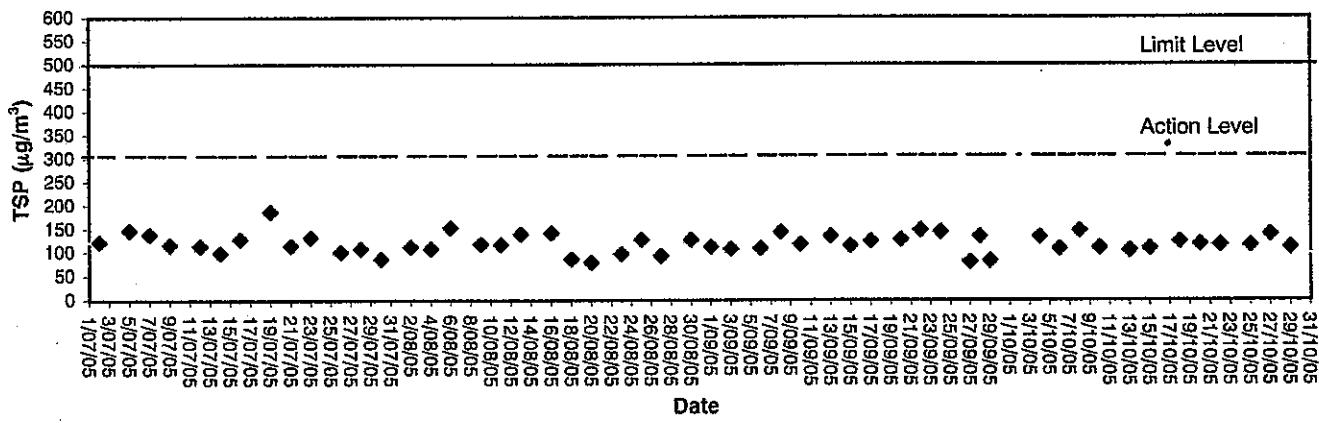
### 1-hour TSP level at AM1, HKIB Staff Accommodation



### 1-hour TSP level at AM3, Cheung Shue Tan Village (near the outer building, a temple)



### 1-hour TSP level at AM5 Wen Chih Tang at the CUHK





東業檢測有限公司  
ETS-TESTCONSULT LIMITED

## Appendix C1

### **Calibration Certificates for Noise Monitoring Equipments**



Hong Kong Calibration Ltd.

香港校正有限公司

# Calibration Certificate

Certificate No. 51472

Page 1 of 3 Pages

Customer : ETS-Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No. : Q50535

Date of receipt : 7-Apr-05

## Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31

Serial No. : 00531142

## Test Conditions

Date of Test : 20-Apr-05

Supply Voltage : --

Ambient Temperature : (22.5 ± 2.5)°C

Relative Humidity : (50 ± 20) %

## Test Specifications

Calibration check according to customer's requirement.

Calibration procedure : Z01.

## Test Results

All results were within the manufacturer's, IEC 651 Type 1, IEC 804 Type 1 specification.

The results are shown in the attached page(s).

Test equipment used:

Equipment No.	Cert. No.	Due Date	Traceable to
S017	C051022	21-Mar-06	PRC-NIM
S024	S41431	22-May-05	PRC-NIM

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by :

Approved by :

  
Alan Chu - Manager

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

Date: 20-Apr-05



# Calibration Certificate

Certificate No. 51472

Page 2 of 3 Pages

Results :

## 1. SPL Accuracy

UUT Setting			UUT Reading (dB)	Correction (dB)
Level Range (dB)	Weight	Response		
20 - 100	L <sub>A</sub>	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L <sub>C</sub>	Fast		0.0
	L <sub>p</sub>	Fast		0.0
30 - 120	L <sub>A</sub>	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L <sub>C</sub>	Fast		+ 0.1
	L <sub>p</sub>	Fast		+ 0.1
30 - 120	L <sub>A</sub>	Fast	114.0	+ 0.1
		Slow		+ 0.1
	L <sub>C</sub>	Fast		0.0
	L <sub>p</sub>	Fast		0.0

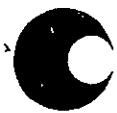
IEC 651 Type 1 Spec. :  $\pm 0.7$  dB

Uncertainty :  $\pm 0.2$  dB

## 2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. :  $\pm 0.3$  dB

Uncertainty :  $\pm 0.01$  dB



# Calibration Certificate

Certificate No. 51472

Page 3 of 3 Pages

## 3. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	- 39.6	- 39.4 dB, ± 1.5 dB
63 Hz	- 26.2	- 26.2 dB, ± 1.5 dB
125 Hz	- 16.2	- 16.1 dB, ± 1 dB
250 Hz	- 8.7	- 8.6 dB, ± 1 dB
500 Hz	- 3.2	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+ 1.3	+ 1.2 dB, ± 1 dB
5 kHz	+ 1.1	+ 1.0 dB, ± 1 dB
8 kHz	- 1.1	- 1.1 dB, + 1.5 dB ~ - 3 dB
16 kHz	- 6.7	- 6.6 dB, + 3 dB ~ ∞

Uncertainty : ± 0.1 dB

## 4. Time Averaging

Applied Burst duty Factor	UUT Reading (dB)	Correction (dB)	IEC 804 Type 1 Spec.
continuous	40.0	--	--
1/10	39.9	+ 0.1	± 0.5 dB
1/10 <sup>2</sup>	39.9	+ 0.1	
1/10 <sup>3</sup>	39.9	+ 0.1	± 1.0 dB
1/10 <sup>4</sup>	39.8	+ 0.2	

Uncertainty : ± 0.1 dB

Remark : 1. UUT : Unit-Under-Test

2. True Value = UUT Reading + Correction.
3. The uncertainty claimed is for a confidence probability of not less than 95%.
4. Atmospheric Pressure : 1 000 hPa.

----- END -----



Hong Kong Calibration Ltd.

香港校正有限公司

# Calibration Certificate

Certificate No. 51473

Page 1 of 2 Pages

**Customer :** ETS-Testconsult Limited

**Address :** 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

**Order No. :** Q50535

**Date of receipt :** 7-Apr-05

## Item Tested

**Description :** Sound Level Calibrator (Eqip No.: ET/0527/004)

**Manufacturer :** Rion

**Model :** NC-73

**Serial No. :** 10196943

## Test Conditions

**Date of Test :** 20-Apr-05

**Supply Voltage :** --

**Ambient Temperature :** (22.5 ± 2.5)°C

**Relative Humidity :** (50 ± 20) %

## Test Specifications

Calibration check according to customer's requirement.

Calibration procedure : F21, Z02.

## Test Results

All results were within the manufacturer's specification.

The results are shown in the attached page(s).

Test equipment used:

<u>Equipment No.</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S014	43147	7-Jul-05	PRC-NIM
S024	S41431	22-May-05	PRC-NIM
S041	43734	12-Aug-05	PRC-NIM

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by :

Approved by :

  
Alan Chu - Manager

This Certificate is issued by:  
Hong Kong Calibration Ltd.

Unit 88, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.  
Tel: 2425 8801 Fax: 2425 8646

Date: 20-Apr-05



Hong Kong Calibration Ltd.

香港校正有限公司

# Calibration Certificate

Certificate No. 51473

Page 2 of 2 Pages

Results :

## 1. Level Accuracy (at 1 kHz)

UUT Nominal Value	Measured Value	Mfr's Spec.
94 dB	94.1 dB	± 1 dB

Uncertainty : ± 0.2 dB

## 2. Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.991 kHz	± 2 %

Uncertainty : ± 0.1 %

## 3. Level Stability : 0.0 dB

Uncertainty : ± 0.01 dB

## 4. Total Harmonic Distortion : < 0.3 %

Mfr's Spec. : < 3 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric Pressure : 1 000 hPa

4. The above measured values are the mean of 3 measurement.

----- END -----

## Appendix C2

### Noise Monitoring Results

## Day-time Noise Monitoring

### Monitoring Location: NM1 (HKIB Staff Accommodation)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>		
04/10/05	09:17	57.9	60.2	54.9	1.0	Sunny
13/10/05	09:42	58.8	61.2	57.2	1.0	Sunny
18/10/05	08:07	58.8	60.5	57.3	0.8	Cloudy
25/10/05	15:45	59.8	61.4	54.1	1.6	Cloudy

### Monitoring Location: NM2 (CUHK Residence No.10)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>		
04/10/05	16:00	56.5	59.3	53.0	0.9	Sunny
13/10/05	10:00	55.3	57.6	51.4	0.9	Sunny
18/10/05	11:25	55.4	57.8	52.3	0.5	Cloudy
25/10/05	17:00	60.0	61.6	53.9	1.3	Cloudy

### Mon Monitoring Location: NM3 (Cheung Shue Tan Village)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>		
04/10/05	11:02	53.8	56.2	49.9	1.1	Sunny
13/10/05	11:03	53.7	55.9	49.6	0.9	Sunny
18/10/05	14:45	53.6	56.0	49.6	0.7	Cloudy
25/10/05	13:05	52.2	54.2	49.1	1.0	Cloudy

### Monitoring Location: NM8 (Near Wen Chih Tang at the CUHK)

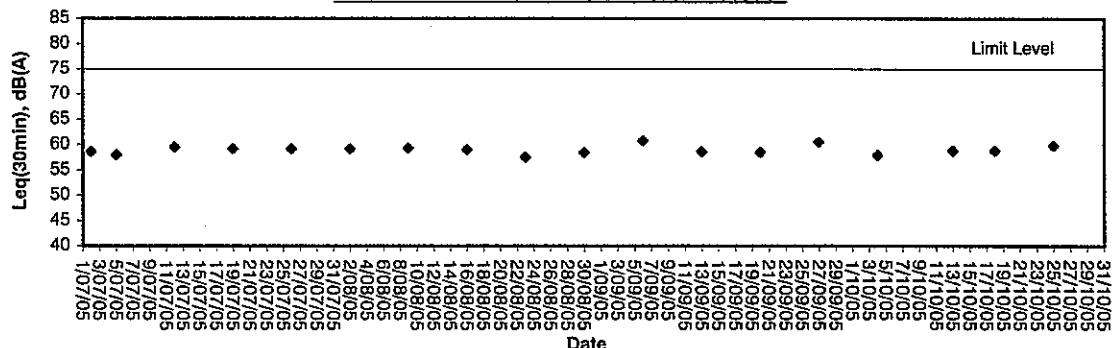
Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L <sub>eq(30min)</sub>	L <sub>10</sub>	L <sub>90</sub>		
04/10/05	14:42	55.1	57.2	52.5	0.9	Sunny
13/10/05	13:02	57.2	59.0	53.3	1.1	Sunny
18/10/05	16:12	55.0	57.5	51.6	0.9	Cloudy
25/10/05	14:27	61.4	62.6	56.1	1.5	Cloudy

## **Appendix C3**

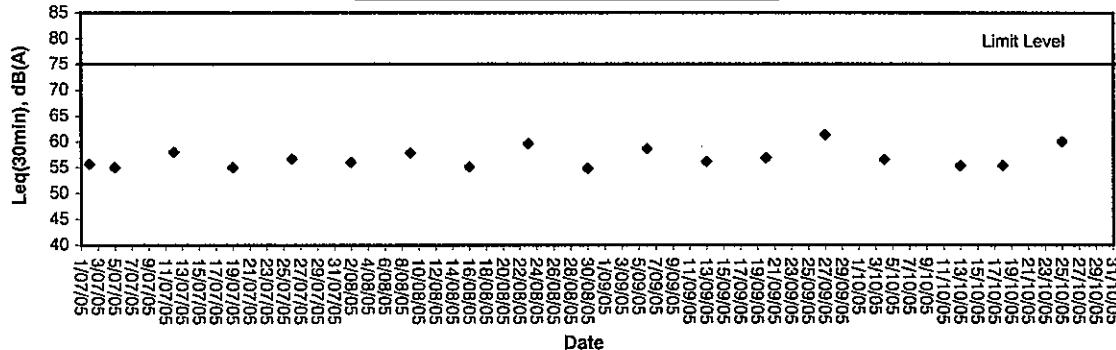
### **Graphical Plots of Noise Monitoring Data**

## Noise Monitoring (Day-time)

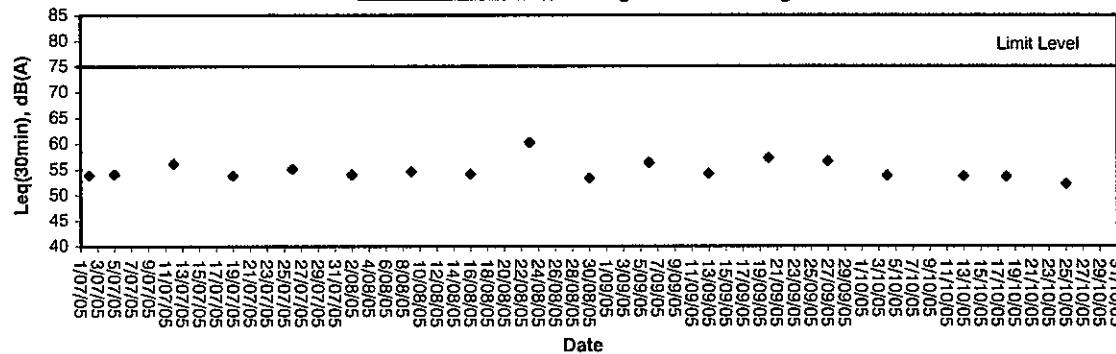
Noise level at NM1, HKIB Staff Accommodation



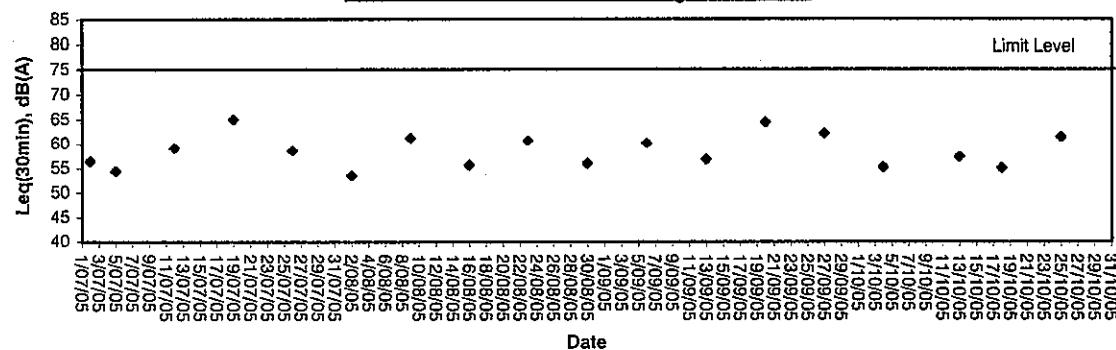
Noise level at NM2, CUHK Residence No.10



Noise level at NM3, Cheung Shue Tan Village



Noise level at NM8, Wen Chih Tang at the CUHK



## Appendix D

### Weather Condition

## Weather Condition

Date	Rainfall (mm)	Max. Temp (°C)	Min. Temp. (°C)	Relative Humidity (%)	Wind Direction	Wind Speed (m/s)
01/10/05	-	30.8	26.8	80	SW	<5
02/10/05	3.6	32.4	24.9	78	W	<5
03/10/05	-	32.3	27.5	67	N	<5
04/10/05	-	30.6	25.6	70	N	<5
05/10/05	0.1	30.5	26.0	74	N	<5
06/10/05	0.1	30.3	26.1	77	E	<5
07/10/05	2.1	29.9	26.5	78	E	<5
08/10/05	-	29.7	25.4	63	N	<5
09/10/05	Trace	28.5	24.6	66	N	<5
10/10/05	Trace	28.9	25.1	74	N	<5
11/10/05	0.6	29.1	26.0	74	E	<5
12/10/05	Trace	28.0	26.0	76	E	<5
13/10/05	0.1	29.6	25.4	77	E	<5
14/10/05	-	29.8	25.7	79	E	<5
15/10/05	-	29.0	25.6	78	E	<5
16/10/05	-	28.3	24.3	75	E	<5
17/10/05	Trace	27.9	25.4	80	E	<5
18/10/05	Trace	27.7	25.2	70	E	<5
19/10/05	Trace	27.7	24.0	66	E	<5
20/10/05	-	27.8	23.5	68	E	<5
21/10/05	-	28.9	24.1	69	E	<5
22/10/05	Trace	27.7	23.2	61	E	<5
23/10/05	-	25.3	21.3	62	N	<5
24/10/05	-	25.6	20.3	65	N	<5
25/10/05	-	26.2	23.2	73	N	<5
26/10/05	-	26.8	23.1	76	E	<5
27/10/05	-	27.3	24.1	76	E	<5
28/10/05	-	27.8	24.2	79	E	<5
29/10/05	-	26.1	22.6	70	N	<5
30/10/05	-	24.9	20.8	67	N	<5
31/10/05	Trace	23.2	20.5	61	E	<5

Remark: Data of wind speed and wind direction were extracted from Hong Kong Observatory (Shatin Station).

## **Appendix E**

### **Event-Action Plans**

## Event / Action Plan for Air Quality

EVENT	ER Leader	IC(E)	ACTION	
			ER	CNOTRATOR
Action Level				
1. Exceedance of one sample	1. Identify source 2. Inform IC(E) and ER 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily	1. Check monitoring data submitted by ET 2. Check Contractor's working method.	1. Notify Contractor	1. Rectify any unacceptable practice 2. Amend working methods if possible
2. Exceedance for two more consecutive samples	1. Identify source 2. Inform IC(E) and ER 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Discuss with IC(E) and Contractor on remedial actions required 6. If exceedance continuous, arrange meeting with IC(E) and ER 7. If exceedance stops, cease additional monitoring	1. Checking monitoring data submitted by ET 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervisor implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial action to IC(E) within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if possible
Limit Level				
1. Exceedance of one sample	1. Identify source 2. Inform ER and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results	1. Check monitoring data submitted by ET 2. Check Contractor's working method. 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposal remedial measures 5. Supervisor implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance 2. Submit proposal for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	1. Notify IC(E), ER, Contractor and EPD 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 6. Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken 7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER to discuss the remedial action to taken 8. If exceedance stops, cease additional monitoring	1. Discuss amongst ER, ET, and Contractor on potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. In consultation with the IC(E), agreed with the Contractor on the remedial measures to be implemented 4. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if possible still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.
				6. If exceedance continues, consider what portion of this work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.

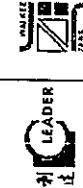
### Event / Action Plan for Construction Noise

EVENT	ET Leader	IC(E)	ACTION	
			ER	CNOTRATOR
Action Level	1. Notify IC(E) and Contractor 2. Carry out investigation 3. Report the results of investigation to the IC(E) and Contractor 4. Discuss with the Contractor and formulate remedial measures 5. Increase monitoring frequency to check mitigation effectiveness	1. Review the analyzed results submitted by the ET 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analyzed noise problem 4. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposal to IC(E) 2. Implement noise mitigation proposals
Limit Level	1. Notify IC(E), ER, and Contractor 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 6. Inform IC(E), ER and EPD the causes & action taken for the exceedances 7. Assess effectiveness of Contractor's remedial action and keep IC(E), EPD and ER informed to the results 8. If exceedance stops, cease additional monitoring	1. Discuss amongst ER, ET and Contractor on the potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analysed noise problem 4. Ensure remedial measures are properly implemented 5. 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 IC(E) 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

## **Appendix F**

### **Construction Programme**





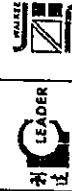
**Leader - Wai Kei (C&T) Joint Venture**  
**TP37/03 - Revised Works Programme : RP03**



Leader - Wai Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme - RP03

Activity ID	Description	On/Off Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	Due Date	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
PRP0000	Entia Contractor Site Office	28		100	12JUL04 A	31JUL04 A	12AUG04 A	31AUG04 A	12AUG04 A																							
Preliminary Works																																
PRP0000	Arrange ULG Meeting	60		100	29JUN04 A	18JUL04 A	29JUN04 A	18JUL04 A	18JUL04 A																							
PRP0000	Arrange TNLG Meeting	48		100	29JUN04 A	23JUL04 A	29JUN04 A	23JUL04 A	23JUL04 A																							
PRP0000	Tree Survey	6		100	29JUN04 A	08AUG04 A	29JUN04 A	08AUG04 A	08AUG04 A																							
PRP0000	Engineer Approval of Tree Survey	12		100	07AUG04 A	30AUG04 A	07AUG04 A	30AUG04 A	07AUG04 A																							
PRP0000	Tree Transplant	24		100	31AUG04 A	28JUN04 A	31AUG04 A	28JUN04 A	31AUG04 A																							
PRP0000	Procure Third Party Insurance	12		100	10JUN04 A	28JUN04 A	10JUN04 A	28JUN04 A	10JUN04 A																							
PRP0000	Erect Project Sign Board	18		100	20AUG04 A	12MAY05 A	20AUG04 A	12MAY05 A	20AUG04 A																							
PRP0400	1st Site Safety Environmental Committee Meeting	24		100	29JUN04 A	20AUG04 A	29JUN04 A	20AUG04 A	29JUN04 A																							
PRP1500	1st SSEMC Meeting	24		100	29JUN04 A	27JUL04 A	29JUN04 A	27JUL04 A	29JUN04 A																							
PRP1600	Propose Location of Temporary Landing Facilities	24		100	10JUN04 A	26JUL04 A	10JUN04 A	26JUL04 A	26JUL04 A																							
PRP1700	Engineer Approval of the Temp Landing Location	12		100	27JUL04 A	17AUG04 A	27JUL04 A	17AUG04 A	17AUG04 A																							
PRP1800	Provide Temp Landing Facilities	15		100	10AUG04 A	18AUG04 A	10AUG04 A	18AUG04 A	10AUG04 A																							
PRP1810	Engineer Revise Dredging Plan to EPD	1		100	04SEP04 A	08SEP04 A	04SEP04 A	08SEP04 A	04SEP04 A																							
PRP1800	Apply Dredging Permit	18		100	10JUN04 A	08JUL04 A	10JUN04 A	08JUL04 A	10JUN04 A																							
PRP2000	Approval of Dredging Permit	42		100	09JUL04 A	15AUG05 A	09JUL04 A	15AUG05 A	09JUL04 A																							
PRP2100	Program Accurate Position Control at Disposal	6		100	25AUG04 A	25CCT04 A	25AUG04 A	25CCT04 A	25AUG04 A																							
PRP2200	Engineer Approval of Proposal	12		100	26OCT04 A	28DEC04 A	26OCT04 A	28DEC04 A	26OCT04 A																							
PRP2300	Provide Water Quality Monitoring Equipment	21		100	10JUN04 A	11OCT04 A	10JUN04 A	11OCT04 A	10JUN04 A																							
PRP2400	Initial Soundings Plan	12		100	13SEP04 A	16SEP04 A	13SEP04 A	16SEP04 A	13SEP04 A																							
PRP2500	Ordering of Precast Concrete Pipes	700		100	10JUL04 A	10JUL04 A	10JUL04 A	10JUL04 A	10JUL04 A																							
PRP2600	Ordering DI Pipes and Fittings	1		100	05FEB05 A	05FEB05 A	05FEB05 A	05FEB05 A	05FEB05 A																							
PRP2700	Concrete Trial Mix	6		100	13JUL04 A	22JUL04 A	13JUL04 A	22JUL04 A	13JUL04 A																							
PRP2800	Manufacture & Delivery of Sawmill Blocks	220	-450	70	13DEC04 A	15OCT05	13DEC04 A	15OCT05	13DEC04 A																							
Milestone																																
Section 5																																
Section 6																																
VCO010	Issue V001A (Section 5)	0		100	22MAY05 A		100	22MAY05 A																								
VCO020	Issue V001B (Section 5)	0		100	12APR05 A		100	12APR05 A																								
VCO030	Issue V001B (Section 7)	0		100	03JUN05 A		100	03JUN05 A																								
VCO040	Issue V001B (Section 7 & 11)	0		100	07JUN05 A		100	07JUN05 A																								
VCO050	Issue V001B (Section 8 & 12)	0		100	07JUN05 A		100	07JUN05 A																								
VCO060	Issue V001C (Section 7)	0		100	23JUN05 A		100	23JUN05 A																								
VCO070	Issue V001C (Section 7 & 8)	0		100	27JUN05 A		100	27JUN05 A																								
VCO080	Issue V001C (Section 2)	0		100	27JUN05 A		100	27JUN05 A																								
VCO090	Issue V001C (Section 7)	0		100	05JUL05 A		100	05JUL05 A																								
Section 7																																
MSS0100	Complete Connection for ArchSD's Works	0	-185d	0	13JAN05		31MARCH05		31JUL05*																							
MSS0200	Commence Toilet & Pavilion by ASD's Contractor	0	-45	0	28JUL05*		100	28DEC04 A																								
MSS0300	Complete Toilet & Pavilion by ASD's Works	0	-45d	0	04NOV05		04NOV05		05NOV05*																							
Variation Order / Instruction																																
MSS040100	Complete Connection of Utilities	0	20d	0	100	22MAY05 A		100	22MAY05 A																							
MSS040200	Commence ASD's Works	0	-45	0	28JUL05*		100	28DEC04 A																								
MSS040300	Complete ASD's Works	0	-45d	0	28JUL05		100	28DEC04 A																								
Section 8																																
VCO010	Issue V001A (Section 5)	0		100	12APR05 A		100	12APR05 A																								
VCO020	Issue V001B (Section 5)	0		100	03JUN05 A		100	03JUN05 A																								
VCO030	Issue V001B (Section 7)	0		100	07JUN05 A		100	07JUN05 A																								
VCO040	Issue V001B (Section 7 & 11)	0		100	07JUN05 A		100	07JUN05 A																								
VCO050	Issue V001B (Section 8 & 12)	0		100	07JUN05 A		100	07JUN05 A																								
VCO060	Issue V001C (Section 7)	0		100	23JUN05 A		100	23JUN05 A																								
VCO070	Issue V001C (Section 7 & 8)	0		100	27JUN05 A		100	27JUN05 A																								
VCO080	Issue V001C (Section 2)	0		100	05JUL05 A		100	05JUL05 A																								
VCO090	Issue V001C (Section 7)	0		100	05JUL05 A		100	05JUL05 A																								
Section 9																																

Leader - Wai Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme - RP03



```

graph TD
    CB[Critical bar] --- SB[Summary bar]
    SB --- SMP[Start milestone point]
    SB --- FMP[Finish milestone point]

```

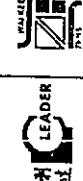




**Leader - Wal Kee (C&T) Joint Venture**  
**TP37/03 - Revised Works Programme - RPP3**

Leader - Wai Kee (C&T) Joint Venture

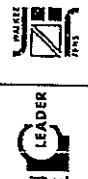




Leader - Wal Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme - RP03



**Leader - Wai Kee (C&T) Joint Venture**  
**TP37/03 - Revised Works Programme - RP03**



Leader - Wai Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme - RP03



Leader - Wai Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme - RP03



LEADER

Act. & ID	Description	Ortg Dur	Total Ftest	Purcent Compn	Early Start	Early Finish	Late Start	Late Finish	Mon	Tue	Wed	Thu	Fri	Sat	Sun	2024 SEP	2024 OCT	2024 NOV	2024 DEC	2025 JAN	2025 FEB	2025 MAR	2025 APR	2025 MAY	2025 JUN	2025 JUL	2025 AUG	2025 SEP	2025 OCT	2025 NOV	2025 DEC	2025 JAN		
ASLUK0300	Install Public Lighting Post	8	11d	0	09AUG06	11AUG06	18DEC05	26DEC06																										
Public Lighting Duct and Kerb																																		
ASLUK0300	Construct Duct Wall (TTA No. 04)	50	81d	0	26APR06	24JUN06	02AUG06	02AUG06	28SEP06	28SEP06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06	03AUG06				
ASLUK0300	Lay Kerb (TTA No. 04)	6	9d	0	03JUN06	02JUL06	02AUG06	02AUG06	27OCT06	10NOV06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06					
ASLUK0400	Lay Kerb (TTA No. 08)	12	81d	0	24JUL06	26JUL06	01AUG06	01AUG06	02DEC06	03DEC06	02OCT06	03OCT06	02OCT06	03OCT06	02OCT06	03OCT06	02OCT06	03OCT06	02OCT06	03OCT06	02OCT06	03OCT06	02OCT06	03OCT06	02OCT06	03OCT06	02OCT06	03OCT06	02OCT06					
ASLUK0500	Lighting Duct & Cable Duct (TTA No. 04)	6	10d	0	03AUG06	02AUG06	03AUG06	03AUG06	16DEC06	16DEC06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06					
ASLUK0600	Lighting Duct & Cable Duct (TTA No. 08)	18	81d	0	03AUG06	02AUG06	03AUG06	03AUG06	16DEC06	16DEC06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06	01AUG06					
ASLUK0700	Trim Formation & Lay Subbase (TTA No. 08)	6	10d	0	07AUG06	15AUG06	05DEC06	13DEC06																										
ASLUK0800	Road Pavement (TTA No. 08)	8	10d	0	16AUG06	24AUG06	11DEC06	22DEC06																										
ASLUK0900	Construct Footpath (TTA No. 04)	24	81d	0	07AUG06	07SEP06	11NOV06	08DEC06																										
ASLUK0900	Construct Footpath (TTA No. 08)	6	81d	0	04SEP06	05SEP06	03SEP06	03SEP06																										
ASLUK1000	Roof Trailing, Traffic Sign and Fencing	2	81d	0	14SEP06	19SEP06	23DEC06	25DEC06																										
ASLUK1100	Apply Road Marking	6	81d	0	11SEP06	16SEP06	16DEC06	22DEC06																										
ASLUK1200	End Signage	6	81d	0	11SEP06	16SEP06	16DEC06	22DEC06																										
ASLUK1300	Install Railing, Fencing & etc	6	81d	0	11SEP06	16SEP06	16DEC06	22DEC06																										
Artwork Area																																		
Drainage Works																																		
ASADW0100	Construct U-Channels	36	11d	0	26JUN06	07AUG06	26DEC06																											
Under Works																																		
ASANAT0100	Water Point WPA-2 to Water Meter No.3	16	10d	0	04JUL06	21JUL06	10NOV06	10NOV06																										
ASANAT0200	Water Point WPA-2 to Water Meter No.5	10	10d	0	22JUL06	02AUG06	28NOV06	09DEC06																										
ASANAT0300	Water Point WPA-2 to Water Meter No.6	14	10d	0	03AUG06	1BAUG06	11DEC06	26DEC06																										
Section 4																																		
Public Toilet No.2																																		
AMPTFC0100	Excavation to Formation Level	6	83d	0	04AUG05	10AUG05	12NOV05	12NOV05	18NOV05	18NOV05	01AUG05	11AUG05	11AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05			
AMPTFC0200	Subsoil Inspection by Structural Engineer	1	83d	0	12AUG05	12AUG05	21NOV05	21NOV05	21NOV05	21NOV05	01AUG05	11AUG05	11AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05	12AUG05			
AMPTFC0300	Blinding	1	83d	0	13AUG05	19AUG05	22NOV05	22NOV05	22NOV05	22NOV05	02AUG05	12AUG05	12AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05	18AUG05			
AMPTFC0400	Steel Fixing for Flooring	6	83d	0	20AUG05	24AUG05	29NOV05	02DEC05																										
AMPTFC0500	Formwork	4	83d	0	20AUG05	24AUG05	29NOV05	02DEC05																										
AMPTFC0600	Concrete	1	83d	0	25AUG05	25AUG05	03DEC05	03DEC05																										
AMPTFC0700	Steel Fixing for Walls & Columns	31	83d	0	26AUG05	29AUG05	05DEC05	07DEC05																										
AMPTFC0800	Formwork	4	83d	0	30AUG05	03SEP05	08DEC05	12DEC05																										
AMPTFC0900	Concreting	1	83d	0	03SEP05	03SEP05	13DEC05	13DEC05																										
AMPTFC1000	Remove Formwork	6	83d	0	05SEP05	10SEP05	14DEC05	20DEC05																										
AMPTCF1100	Backfilling	12	83d	0	12SEP05	26SEP05	21DEC05	05JAN06																										
Ground Floor Slab Construction																																		
AMPTGF0100	Erect Propriety & Formwork	6	83d	0	27SEP05	04OCT05	08JAN06	12JAN06																										
AMPTGF0200	Ground Slab Steel Fixing	3	83d	0	05OCT05	07OCT05	13JAN06	16JAN06																										
AMPTGF0300	Formwork	2	83d	0	08OCT05	10OCT05	17JAN06	18JAN06																										
AMPTGF0400	Concrete	1	83d	0	12OCT05	12OCT05	19JAN06	19JAN06																										
AMPTGF0500	Erect Scaffolding	3	83d	0	13OCT05	15OCT05	20JAN06	21JAN06																										
AMPTGF0600	Walls & Columns Formwork	3	83d	0	17OCT05	19OCT05	24JAN06	24JAN06																										
AMPTGF0700	Slab Fixing for Walls & Columns	3	83d	0	20OCT05	22OCT05	27JAN06	01FEB06																										
AMPTGF0800	Formwork	3	83d	0	24OCT05	26OCT05	04FEB06	04FEB06																										
AMPTGF0900	Concreting	1	83d	0	27OCT05	27OCT05	06FEB06	06FEB06																										
AMPTGF1000	Remove Formwork & Propriety	12	83d	0	05NOV05	18NOV05	15FEB06	28FEB06																										
A12-2nd Flr Slab Construction																																		
AMPTHF0100	Erect Propriety & Formwork	6	83d	0	19NOV05	25NOV05	01MAR06	01MAR06																										
AMPTHF0200	Membrane Slab Steel Fixing	3	83d	0	28NOV05	28NOV05	06MAR06	10MAR06																										



TP37/03 - Revised Works Programme - RP03



LEADER



c Pantech Systems, Inc.



c Pantech

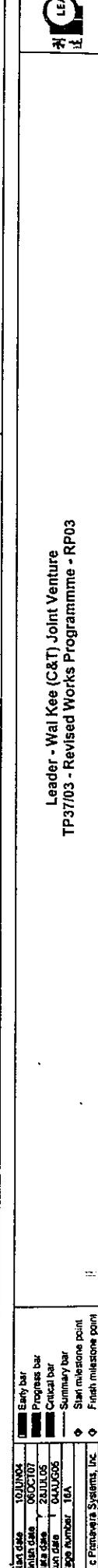
ID	Description	Duration	Float	Completion	Start	Finish	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2004	JAN	FEB	MAR	APR	MAY	JUN	AUG	SEP	OCT	NOV	DEC	2005	JAN	FEB	MAR	APR	MAY	JUN	AUG	SEP	OCT	NOV	DEC	2006	JAN	FEB	MAR	APR	MAY	JUN	AUG	SEP	OCT	NOV	DEC
AIRTFMF0300	Formwork	2	83d	0	30NOV05	01DEC05	11MAR06	13MAR06																																									
AIRTFMF0400	Concreting	1	83d	0	02DEC05	04DEC05	14MAR06	15MAR06																																									
AIRTFMF0500	Walls & Columns Formwork	3	83d	0	03DEC05	06DEC05	15MAR06	17MAR06																																									
AIRTFMF0600	Steel Fixing for Walls & Columns	3	83d	0	07DEC05	09DEC05	18MAR06	21MAR06																																									
AIRTFMF0700	Formwork	3	83d	0	10DEC05	13DEC05	22MAR06	24MAR06																																									
AIRTFMF0800	Concreting	1	83d	0	14DEC05	14DEC05	25MAR06	25MAR06																																									
AIRTFMF0900	Remove Formwork & Propriety	12	83d	0	23DEC05	07JAN06	05APR06	18APR06																																									
Work All Sub-contractors Final Sub-Construction																																																	
AIRTFUF0100	Erect Proprietary Formwork	6	83d	0	09JAN06	14JAN06	19APR06	25APR06																																									
AIRTFUF0200	Upper Mezzanine Slab Steel Fixing	3	83d	0	16JAN06	18JAN06	26APR06	28APR06																																									
AIRTFUF0300	Formwork	2	83d	0	19JAN06	20JAN06	29APR06	02MAY06																																									
AIRTFUF0400	Concreting	1	83d	0	21JAN06	21JAN06	03MAY06	03MAY06																																									
AIRTFUF0500	Remove Formwork & Propriety	12	83d	0	02FEB06	15FEB06	12MAY06	25MAY06																																									
Prepare & Submit Shop Drawings																																																	
AIRTSFS0100	Structural Steels	30	8d	0	28JUL05	31AUG05	08OCT05	10NOV05																																									
AIRTSFS0200	Prepare & Submit Shop Drawings	12	8d	0	01SEP05	14SEP05	11NOV05	12NOV05																																									
AIRTSFS0300	Procurement of Structural Steel	120	8d	0	15SEP05	09FEB06	28NOV05	19APR06																																									
AIRTSFS0400	Delivery of Structural Steel Materials	12	8d	0	10FEB06	23FEB06	20APR06	01MAY06																																									
AIRTSFS0500	Inspection & Testing	18	8d	0	24FEB06	01MAY06	16MAY06	05MAY06																																									
AIRTSFS0600	Fabrication & Painting of Steelworks	48	8d	0	17MAY06	13MAY06	28MAY06	22JUL06																																									
AIRTSFS0700	Delivery of Prefabricated Steelworks	12	8d	0	15MAY06	27MAY06	24JUL06	05JUL06																																									
AIRTSFS0800	Erection of Steelworks	36	8d	0	25MAY06	11JUL06	07AUG06	16SEP06																																									
AIRTSFS0900	Touch Up Painting	12	8d	0	12JUL06	25JUL06	19SEP06	20SEP06																																									
Architectural Bunker Works & Internal Wall																																																	
AIRTAAB0100	Solid Concrete Block Work - Wall	35	8d	0	16FEB06	20MAY06	26MAY06	08JUL06																																									
AIRTAAB0200	Internal Wall Tie	24	8d	0	30MAY06	27APR06	10JUL06	05AUG06																																									
AIRTAAB0300	External Wall Tie	24	8d	0	23JUL06	19SEP06	01NOV06	28NOV06																																									
AIRTAAB0400	Toilet Accessories Installation	24	8d	0	24APR06	26MAY06	07AUG06	02SEP06																																									
AIRTAAB0500	Floor Tie	24	8d	0	27MAY06	24JUN06	04SEP06	03OCT06																																									
AIRTAAB0600	Roof Cladding	24	8d	0	28JUL06	22AUG06	02OCT06	28NOV06																																									
AIRTAAB0700	Metal Works & Ironmongery Installation	24	8d	0	20SEP06	18OCT06	28NOV06	28DEC06																																									
Plumbing Works																																																	
AIRTFPL0100	Plumbing Works	24	8d	0	25JUL06	18SEP06	01NOV06	26DEC06																																									
AIRITEM0100	E & G Works	48	8d	0	25JUL06	01NOV06	01NOV06	26DEC06																																									
Electrical & Mechanical Installations																																																	
Section 5																																																	
Section 14																																																	
AIRSLDN0100	Drainage Works	1	1d	100	28JUL04	28JUL04	28JUL04	28JUL04																																									
AIRSLDN0150	Decked Exact Location of Manholes & Catchpits	0	1d	100	20APR05	14APR05	14APR05	14APR05																																									
AIRSLDN1100	Hand Over 2x250 Pipe Upstream for Connection	0	1d	100	10JUL05	10JUL05	10JUL05	10JUL05																																									
AIRSLDN1200	S413 - S417 (2x250)	30	1d	100	10JUL05	10JUL05	10JUL05	10JUL05																																									
AIRSLDN1300	Connection Point to F4(3) to F4(2) (in Zone ZQ)	30	1d	100	16DEC04	16DEC04	16DEC04	16DEC04																																									
AIRSLDN1400	Outlet - S413 (2x250)	31	1d	100	18JUL05	18JUL05	18JUL05	18JUL05																																									
AIRSLDN1500	Connection Point to F4(3) to F4(2) (in Zone ZQ)	30	1d	100	16DEC0																																												

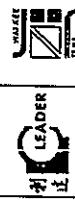
	1 COLUMN	2 COLUMNS	3 COLUMNS	4 COLUMNS	5 COLUMNS
Initial date	10/1/94	10/1/94	10/1/94	10/1/94	10/1/94
Last date	06/07/95	06/07/95	06/07/95	06/07/95	06/07/95
In date	28/10/95	28/10/95	28/10/95	28/10/95	28/10/95
Out date	01/11/95	01/11/95	01/11/95	01/11/95	01/11/95
Due date	15/11/95	15/11/95	15/11/95	15/11/95	15/11/95
File number	15A	15A	15A	15A	15A

**Leader - Val Kee (C&T) Joint Venture**  
**TP37/03 - Revised Works Programme - RP03**



Acq ID	Category	Description	Ohio Total Dur	Forecast Float	Early Start	Early Finish	Late Start	Late Finish	Line	Phase	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan		
ASRLDNV3000	Connection Point - SL4-020a - SA13	18		100	31JUN05 A	19MAY05 A	31JUN05 A	18JUL05 A	SL4-020a	Connection Point - SL4-020a - SA13																							
ASRLDNV400	SA07A - Upstream	20		100	05MAY05 A	19JUL05 A	17MAY05 A	17MAY05 A	SL4-023a	SL4-023a																							
ASRLDNV500	SL4-025a - SL4-023a & galleries	18		100	07MAY05 A	17MAY05 A	107MAY05	17MAY05 A	SL4-025a	SL4-025a																							
ASRLDNV100	Connection Point to F435	16		100	18DEC04 A	06APR05 A	16DEC04 A	06APR05 A	CP87 & CP91	CP87 & CP91																							
ASRLDNV200	SL4-022a - SL4-020a & galleries	16		100	08MAY05 A	28APR05 A	08MAY05	28APR05 A	SL4-022a	SL4-022a																							
ASRLDNV300	F427 - F428	15	-87d	60	10SEP04 A	02AUG05	10SEP04 A	18APR05 A	SL4-020a	SL4-020a																							
ASRLDNV400	F414a - FA14	6	-10d	50	11APR05 A	30JUL05	11APR05 A	18JUL05	FA14a	FA14a																							
ASRLDNV500	Connection Point - SA04 - SA08	18	-44d	80	08MAY05 A	30JUL05	08MAY05	07JUN05	Connection Point to F435	Connection Point to F435																							
ASRLDNV600	CP84 & CP93 - SL4-009a	10	12d	50	02JUL05 A	02AUG05	02JUL05 A	18AUG05	CP84 & CP93	CP84 & CP93																							
ASRLDNV100	F424 - F422	12		100	06JUL05 A	06JUL05 A	06JUL05 A	28JUL05 A	F424 - F422	F424 - F422																							
ASRLDNV510	F422 - F421	8		100	06APR05 A	28JUL05 A	06APR05 A	28JUL05 A	F422 - F421	F422 - F421																							
ASRLDNV5200	SL4-021b - SL4-027 & galleries	36	-58d	5	27JUL05 A	07SEPT05	27JUL05 A	28JUN05	SL4-001b	SL4-001b																							
ASRLDNV5300	CP87 & CP93 - SA08	10	-5d	0	10JUL05	01AUG05	01JUN05	13JUN05	CP87 & CP93 - SA08	CP87 & CP93 - SA08																							
ASRLDNV5400	SA06 - SL4-008a	10	-47d	0	28JUL05	08AUG05	01JUN05	13JUN05	SL4-008a	SL4-008a																							
ASRLDNV5500	F428 - Downstream	15	-87d	0	30JUL05	16AUG05	15APR05	03MAY05	F428 - Downstream	F428 - Downstream																							
ASRLDNV5600	Connection Point - SA07 (1800)	18		100	06APR05 A	28MAY05 A	06APR05 A	28MAY05 A	Connection Point - SA07 (1800)	Connection Point - SA07 (1800)																							
ASRLDNV600	SL4-010a - SL4-008 & galleries	18	-37d	0	17AUG05	06SEP05	04MAY05	25MAY05	SL4-010a - SL4-008 & galleries	SL4-010a - SL4-008 & galleries																							
ASRLDNV6200	SL4-011a - SL4-010 & galleries	18	-18d	0	28JUL05	17AUG05	07JUL05	27JUL05	SL4-011a - SL4-010 & galleries	SL4-011a - SL4-010 & galleries																							
ASRLDNV6300	CP811 - SL4-011b	10	23d	0	18AUG05	08AUG05	14SEP05	28SEP05	CP811 - SL4-011b	CP811 - SL4-011b																							
ASRLDNV6400	CP81 - SL4-015a	10	-62d	0	28JUL05	08AUG05	13MAY05	28MAY05	CP81 - SL4-015a	CP81 - SL4-015a																							
ASRLDNV6500	SL4-007c - SL4-026 & galleries	18	-58d	0	22AUG05	10SEP05	04JUN05	05JUL05	SL4-007c - SL4-026 & galleries	SL4-007c - SL4-026 & galleries																							
ASRLDNV6600	SL4-017a - SL4-026 & galleries	18	-37d	0	28JUL05	17AUG05	14JUN05	05JUL05	SL4-017a - SL4-026 & galleries	SL4-017a - SL4-026 & galleries																							
ASRLDNV6700	SL4-017b - SL4-015a & galleries	10	-42d	0	24JUL05	08AUG05	13MAY05	28MAY05	ASRLDNV6700	ASRLDNV6700																							
ASRLDNV6800	SL4-023a - SL4-026 & galleries	10	22d	0	28JUL05	08AUG05	13MAY05	28MAY05	ASRLDNV6800	ASRLDNV6800																							
ASRLDNV6900	UC - CP81 & CP82	10	15d	0	09AUG05	28AUG05	21SEPT05	21SEPT05	UC - CP81 & CP82	UC - CP81 & CP82																							
ASRLDNV7000	UC - CP83	10	12d	0	01AUG05	12AUG05	01AUG05	27AUG05	ASRLDNV7000	ASRLDNV7000																							
ASRLDNV7400	UC - CP85, CP86, CP87 & CP88	25	27d	0	01AUG05	20SEP05	22SEPT05	24OCT05	ASRLDNV7400	ASRLDNV7400																							
ASRLDNV7500	UC - CP88	10	42d	0	02AUG05	01SEP05	13OCT05	24OCT05	ASRLDNV7500	ASRLDNV7500																							
ASRLDNV7600	UC - CP811	10	23d	0	30AUG05	12AUG05	09SEP05	09OCT05	ASRLDNV7600	ASRLDNV7600																							
ASRLDNV7700	Additional Sub-soil Drain (South) (VC047A)	12	-105d	0	29SEP05	14OCT05	26MAY05	08JUN05	Additional Sub-soil Drain (South) (VC047A)	Additional Sub-soil Drain (South) (VC047A)																							
ASRLDNV7800	Additional UC at Footpath (South) (VC047A)	18	-104d	0	03JAN05	25JAN05	31AUG05	21SEP05	ASRLDNV7800	ASRLDNV7800																							
ASRLDNV7900	Additional UC at Cycle Track (North) (VC051)	18	-61d	0	03NOV05	03DEC05	31AUG05	21SEP05	ASRLDNV7900	ASRLDNV7900																							
ASRLDNV8000	Demolish Existing S25, S25 & 10m Drainpipe	30	43d	0	29JUL05	31AUG05	18SEP05	24OCT05	ASRLDNV8000	ASRLDNV8000																							
Utility Works 5	DJ, Pipes & Fittings Delivery On Site	33	-14d	0	23AUG05	30SEP05	03MARS05	14APR05	Utility Works 5	Utility Works 5																							
ASRLUT000	Watermain - Lay Fresh Main (in Zone 2D)	30	-10d	0	24AUG05	28SEP05	04MARS05	12APR05	ASRLUT000	ASRLUT000																							
ASRLUT000	Watermain - Lay Salt Main (in Zone 2D)	30	-14d	0	28SEP05	01OCT05	01MARS05	18APR05	ASRLUT000	ASRLUT000																							
ASRLUT000	Watermain - Lay Fresh Main (in Zone 2P)	18	-14d	0	03NOV05	20NOV05	20MAY05	08JUN05	ASRLUT000	ASRLUT000																							
ASRLUT000	CLP - Lay 11kV Cable (South)	48	-18d	50	03MAY05 A	31AUG05	19MAY05	10AUG05	ASRLUT000	ASRLUT000																							
ASRLUT000	CLP - Lay 11kV Cable (North)	36	-37d	0	31AUG05	14OCT05	19MAY05	30JUN05	ASRLUT000	ASRLUT000																							
ASRLUT000	HGC - Lay Cable (South)	18	-18d	50	24MARS05 A	07SEP05	24MARS05	17AUG05	ASRLUT000	ASRLUT000																							
ASRLUT000	HGC - Lay Cable (North)	12	-15d	50	24MARS05 A	01SEP05	24MARS05	17AUG05	ASRLUT000	ASRLUT000																							
ASRLUT000	NWT - Lay Cross Road Duct (North)	6	-36d	0	26OCT05	14NOV05	14NOV05	21SEP05	ASRLUT000	ASRLUT000																							
ASRLUT000	NWT - Lay Cross Road Duct (South)	18	-18d	50	24MARS05 A	07SEP05	24MARS05	17AUG05	ASRLUT000	ASRLUT000																							
ASRLUT1100	HKCG - Lay 110 Main (Roundabout - Interchange)	18	-9d	40	12JUL05 A	21SEP05	02JUN05	06JUN05	ASRLUT1100	ASRLUT1100																							
ASRLUT1200	HKCG - Gas Gravity Knock	36	-11d	0	02FEB06	15MARS05	06SEP05	24OCT05	ASRLUT1200	ASRLUT1200																							





Leader - Wai Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme - RP03

Act. & ID	Description	Total Dur.	Percent Complete	Early Start	Lat. Start	Lat. Finish	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	2004	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	
ACTU0900	CLP - Lay 11kV Cable (in Z1, South)	17	100	28FEB05 A	14MAR05 A	28FEB05 A	14MAR05																										
ASCTU010	CLP Lay 11kV Cable (in Z1, North)	12	-85d	012SEP05	26SEP05	02JUN05	16JUN05																										
ASCTU020	CLP - Lay 11kV Cable (In ZG1)	12	-97d	021SEPT05	05OCT05	27MAY05	09JUN05																										
ASCTU030	CLP - 11kV Cable Connection (in ZG1)	12	-97d	021SEPT05	05OCT05	27MAY05	09JUN05																										
ASCTU040	CLP - Lay LV Cable (in Z1, South)	17	100	28FEB05 A	14MAR05 A	28FEB05 A	14MAR05																										
ASCTU050	CLP - Lay LV Cable (in Z1, North)	11	-85d	012SEP05	24SEP05	02JUL05	15JUN05																										
ASCTU060	CLP - Lay LV Cable (in ZG1)	11	-96d	021SEP05	04OCT05	28MAY05	09JUN05																										
ASCTU070	CLP - LV Cable Connection (in ZG1)	12	-97d	021SEP05	04OCT05	28MAY05	09JUN05																										
ASCTU080	CLP - LV Cable Connection (in ZG1)	12	-96d	06OCT05	19OCT05	1JUL05	24JUN05																										
ASCTU100	HKG5 - Lay 150 Gas Main (in Z1) (Deleted)	35	100	06JAN05 A	06JAN05 A	06JAN05 A	06JAN05 A																										
ASCTU1100	HKG5 - Lay 150 Gas Main (in ZG1) (Deleted)	14	100	08JAN05 A	08JAN05 A	08JAN05 A	08JAN05 A																										
Public Lighting Duct and Hub	Lay Kere (in Z1, South)	15	-77d	0123AUG05	08SEP05	23AUG05	08JUN05																										
ASCTPK010	Lay Kere (in Z1, North)	10	-85d	028SEPT05	07OCT05	16JUL05	27JUN05																										
ASCTPK0200	Lay Kere (in ZG1)	12	-97d	010SEPT05	20OCT05	10JUL05	24JUN05																										
ASCTPK0300	Lighting Ducts and Drawpits	24	-97d	010SEPT05	03NOV05	10JUL05	09JUL05																										
ASCTPK0400	Lighting Posts	12	-97d	010SEPT05	01NOV05	11JUL05	23JUL05																										
Road Making, Traffic Signs and Fencing	ASCTRM0100 Apply Road Marking	4	-85d	010SEPT05	14OCT05	16JUN05	19JUL05																										
ASCTRM0200	Apply Road Marking	12	-91d	010SEPT05	28OCT05	28JUN05	19JUL05																										
ASCTRM0300	Construct Fence	21	-84d	010SEPT05	03NOV05	02JUL05	19JUL05																										
Liaison & Stakeholders	ASCTL0100 Construct Planter Wall (in Z1, South)	46	-77d	010SEPT05	03AUG05	25OCT05	30MAY05																										
ASCTL0110	Construct Planter Wall (in Z1, North)	18	-81d	010SEPT05	03AUG05	25OCT05	11JUL05																										
ASCTL0200	Construct Planter Wall (in ZG1)	15	-89d	010SEPT05	03NOV05	02JUL05	23JUL05																										
Section 7	Temporary Traffic Management Scheme																																
TA Implementations	ATTIM50050 Apply & Issue XP for TIA Nos. 10 - 12	1	100	09SEPT04 A	21FEB05 A	09SEPT04 A	21FEB05 A																										
ATTIM500510 Implement TIA No. 10	Implement TIA No. 10	1	100	10AUG05 A	24FEB05 A	10AUG05 A	24FEB05 A																										
ATTIM500511 Implement TIA No. 11	Implement TIA No. 11	1	100	11AUG05 A	11MAY05 A	11MAY05 A	11MAY05 A																										
ATTIM500512 Implement TIA No. 12	Implement TIA No. 12	1	100	12AUG05 A	21MAY05 A	21MAY05 A	21MAY05 A																										
ATTIM500540 Apply & Issue XP for TIA Nos. 48 - 51	ATTIM500540 Apply & Issue XP for TIA Nos. 48 - 51	71	-138d	0307JUL05 A	07SEP05	07JUL05 A	07APR05																										
ATTIM500560 Implement TIA No. 49 (V0030E, 053A & 073)	ATTIM500560 Implement TIA No. 49 (V0030E, 053A & 073)	1	-138d	029SEP05	25SEP05	15APR05	15APR05																										
ATTIM500600 Implement TIA No. 50 (V0030E, 053A & 073)	ATTIM500600 Implement TIA No. 50 (V0030E, 053A & 073)	1	-138d	024OCT05	24OCT05	02JUL05	03MAY05																										
ATTIM500640 Implement TIA No. 51 (V0030E)	ATTIM500640 Implement TIA No. 51 (V0030E)	1	-138d	014DEC05	02DEC05	02JUL05	02JUL05																										
Liaison Node No. 3	Liaison Node No. 3																																
Landscaping	Drilling (Two Drillholes)	16		-100	23SEP04 A	30SEP04 A	23SEP04 A																										
ATLCNS0100	Taking Up Existing Armour to +2.5			3		100	25OCT04 A	27OCT04 A	25OCT04 A	27OCT04 A																							
ATLCNS0200	Taking Up Existing Armour to +2.5			2		100	30OCT04 A	01NOV04 A	30OCT04 A	01NOV04 A																							
ATLCNS0300	Taking Up Existing Rubble to +2.5			14		100	03NOV04 A	13NOV04 A	13NOV04 A	03NOV04 A																							
ATLCNS0300	Demolish Existing Outfall Units			5		100	21NOV04 A	25NOV04 A	21NOV04 A	25NOV04 A																							
ATLCNS0400	Taking Up Existing Concrete Pipe			8	-158d		07NOV05	14NOV05		07NOV05																							
ATLCNS0420	Taking Up Existing Armour Below +2.5			5	-158d		012NOV05	06NOV05		012NOV05																							
ATLCNS0440	Taking Up Existing Underlayer, Below +2.5			2	-152d		017NOV05	08NOV05		017NOV05																							
Start date	TOI/NGA		Progress bar																														
End date	TOI/NGA		Critical bar																														
Run date	TOI/NGA		Summary bar																														
Page Number	18A		Start milestone point																														
c.Photonext Systems, Inc.			Finish milestone point																														



LEADER  
Hi-Tech

TP37703 - Revised Works Programme - RP03

Act. v ID	Description	Grd Dur	Total Float	Percnt Complete	Early Start	Late Finish	Start	Finish	2004	2005	2006	2007	2008	
									APR	MAY	JUN	JUL	AUG	
ATLCHS0500	Taking Up of Existing Rubble, Below +2.5	18	-18d	915NOV05	02DEC05	10JUN05	27JUN05							
ATLCHS0500	Placing Leveling Stone	23	-18d	01OCT05	28DEC05	28JUN05	20JUL05							
ATLCHS0500	Block Wall Construction	31	-15d	02DEC05	23JAN06	21JUL05	20AUG05							
ATLCHS0500	Backfill Rubble Behind	10	-18d	02JAN06	04FEB06	21AUG05	30AUG05							
ATLCHS0500	Reinstate 3200 Dia. Concrete Pipe	14	-18d	05FEB06	19FEB06	31AUG05	13SEP05							
ATLCHS0500	Fabrication of Box Culvert Outfalls	70	-10d	011DEC05	18FEB06	28AUG05	08NOV05							
ATLCHS1000	Install Box Culvert Outfalls	12	-14d	01FEB06	02MAR06	07NOV05	18NOV05							
ATLCHS1000	Install Ramming Blocks for Both Side Outfall	4	-14d	01MAR06	03MAR06	19NOV05	22NOV05							
ATLCHS1000	Reinstate Armour & Underlayer	10	-14d	01MAY06	18MAY06	123NOV05	02DEC05							
<b>Waterfront Promenade</b>														
ATWPWH0100	Construction Pump House	48	39d	0120SEP05	18NOV05	07NOV05	03JAN06							
ATWPWH0100	Decide Exact Location of Manholes & Catchpits	1		100	28JUL04 A	28JUL04 A	28JUL04 A							
ATWPWH0200	AT708 - S714	50	-16d	90	13OCT04 A	02AUG05	13OCT04 A	07JUN05						S708 - S708
ATWPWH0300	AT708 - S708	46	-10d	100	13OCT04 A	14OCT04 A	13OCT04 A	11DEC04 A						
ATWPWH0400	AT714 - Existing Box Culvert	30	-18d	0127JAN06	05MAR06	12OCT05								S714 - Existing Box Culvert
ATWPWH0500	F901 - F902 (TTA No. 10) Partially Aborted	18		100	25FEB05 A	24JUN05 A	25FEB05 A	10MAY05 A						F901 - F902 (TTA No. 10) Partially Aborted
ATWPWH0600	F902 - F903 (TTA No. 11) Aborted	34		100	10MAY05 A	22JUN05 A	10MAY05 A	24JUN05 A						F902 - F903 (TTA No. 11) Aborted
ATWPWH0700	F903 - F904 (TTA No. 12)	16		100	06APR05 A	03MAY05 A	06APR05 A	01MAY05 A						F903 - F904 (TTA No. 12)
ATWPWH0720	F901 - F902 (TTA No. 48) (VO030E)	6	-13d	0130E	03SEP05	07OCT05	16APR05	22APR05						F901 - F902 (TTA No. 48) (VO030E)
ATWPWH0740	F901 - F902 (TTA No. 49) (VO030E)	12	-13d	0125E	07OCT05	07NOV05	11MAY05	24MAY05						F901 - F902 (TTA No. 49) (VO030E)
ATWPWH0760	F901 - F902 (TTA No. 50) (VO030E)	18	-13d	0230E	02NOV05	09JUN05	30JUN05							F901 - F902 (TTA No. 50) (VO030E)
ATWPWH0780	F902 - F903 (TTA No. 48) (VO030E)	24	-13d	0135E	01DEC05	13JAN06	04JUL05							F902 - F903 (TTA No. 48) (VO030E)
ATWPWH0800	F904 - Existing Manhole	26		100	04APR05 A	15JUN05 A	04APR05 A	18JUN05 A						F904 - Existing Manhole
ATWPWH0800	S770 - S773 - S771 (VO073)	25	39d	028JUL05	25AUG05	12SEP05	13OCT05							S770 - S773 - S771 (VO073)
ATWPWH0820	S773 - Ex Manhole (TTA No. 48) (VO073)	18	-13d	0130E	03OCT05	22OCT05	16APR05	07MAY05						S773 - Ex Manhole (TTA No. 48) (VO073)
ATWPWH0840	S773 - Ex Manhole (TTA No. 49) (VO073)	18	-13d	0135E	01DEC05	13JAN06	04JUL05							S773 - Ex Manhole (TTA No. 49) (VO073)
ATWPWH0860	S773 - Ex Manhole (TTA No. 50) (VO073)	24	-13d	0130E	02NOV05	04JUL05	02NOV05							S773 - Ex Manhole (TTA No. 50) (VO073)
ATWPWH0880	CP102 - CP104 (In ZU)	20	39d	026AUG05	17SEP05	14OCT05	05NOV05							CP102 - CP104 (In ZU)
ATWPWH0900	Ed MPH - MPH-34 - F901 (VO058A)	20	-28d	018SEP05	01DEC05	01NOV05	08SEP05							Ed MPH - MPH-34 - F901 (VO058A)
ATWPWH0940	S716 - Existing Box Culvert	22	-12d	0128E	01FEB06	14SEPT05	12OCT05							S716 - Existing Box Culvert
ATWPWH0960	225 Dia. Perforated Drain (In ZS, End -200m)	26	-31d	0131E	01SEP05	01OCT05	27JUL05							225 Dia. Perforated Drain (In ZS, End -200m)
ATWPWH0980	225 Dia. Perforated Drain (In ZS 200m - 400m)	26	-48d	020SEP05	21OCT05	27JUL05	25AUG05							225 Dia. Perforated Drain (In ZS 200m - 400m)
ATWPWH1020	225 Dia. Perforated Drain (In ZS 400m - N. End)	12	-12d	011APR06	21OCT05	16NOV05	18NOV05							225 Dia. Perforated Drain (In ZS 400m - N. End)
ATWPWH1040	225HR & Catchpit with 200d. along Parapet Wall	50	-63d	0129E	01FEB06	11NOV05	10JAN06							225HR & Catchpit with 200d. along Parapet Wall
ATWPWH1050	225JC (In ZU)	24	5d	0135E	02SEP05	22OCT05	28SEP05							225JC (In ZU)
ATWPWH1060	300JC (In ZU)	25	5d	024OCT05	21NOV05	29OCT05	26NOV05							300JC (In ZU)
ATWPWH1070	225Sba Perforated Drain (In ZU)	21	6d	020SEP05	15OCT05	27SEP05	22OCT05							225Sba Perforated Drain (In ZU)
ATWPWH1080	300JC/C (In ZU)	18	87d	026AUG05	11SEP05	09SEP05	21OCT05							300JC/C (In ZU)
ATWPWH1090	225 Dia. Perforated Drain (In ZU)	18	26d	027NOV05	30SEP05	30SEP05	22OCT05							225 Dia. Perforated Drain (In ZU)
<b>Utilities</b>														
ATWPWU0500	D1. Pipes & Fittings Delivery On Site	30	-13d	4527APR05 A	15AUG05	21APR05	30JUL05							D1. Pipes & Fittings Delivery On Site
ATWPWU1000	Watermain - Lay Salt Main (TTA No. 10) Aborted	10		100	15APR05 A	24JUN05 A	15APR05 A	24JUN05 A						Watermain - Lay Salt Main (TTA No. 10) Aborted
ATWPWU2000	Watermain - Lay Salt Main (TTA No. 11) Aborted	34		100	10AUG05 A	24JUN05 A	10AUG05 A	24JUN05 A						Watermain - Lay Salt Main (TTA No. 11) Aborted
ATWPWU3000	Watermain SW Main (TTA No. 48) (VO063A)	12	-13d	0130E	01OCT05	22OCT05	07MAY05							Watermain - SW Main (TTA No. 48) (VO063A)
ATWPWU3050	Watermain SW Main (TTA No. 49) (VO063A)	12	-13d	0138E	01NOV05	21NOV05	02NOV05							Watermain - SW Main (TTA No. 49) (VO063A)
ATWPWU4000	Watermain SW Main (TTA No. 50) (VO063A)	24	-11d	0123NOV05	02APR06	20DEC05	04JUL05							Watermain - SW Main (TTA No. 50) (VO063A)
ATWPWU5000	CLP - Lay LV Cables	12	-8d	028JUL05	10AUG06	18JUL05	30JUN05							CLP - Lay LV Cables
ATWPWU6000	PCOW - Lay Cables	65	-1d	01SEP05	07NOV05	31AUG05	05NOV05							PCOW - Lay Cables

Start date: 10JUN04  
 Finish date: 06OCT07  
 Date code: 24JUL05  
 Job number: 1954  
 Proj. name: Primev Systems Inc.  
 Milestone point: Early cut  
 Milestone point: Progress bar  
 Milestone point: Critical bar  
 Milestone point: Summary bar  
 Milestone point: Finish milestone point

Leader - Wai Kee (C&T) Joint Venture  
 TPP37/03 - Revised Works Programme - RP03





LEADER

Leader - Wal Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme - RP03

Acct ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Latish Finish	Lato Start	Lato Finish	JUN	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	JUL	AUG	SEP	OCT	NOV	DEC	JUL	JUL	2003	2004	2005	
ASLANS440	Taking Up of Existing Armour Below +2.5	6	100	13DEC04 A	22JAN05 A	13DEC04 A	22JAN05 A																										
ASLANS440	Taking Up of Existing Underlayer Below +2.5	3	100	17DEC04 A	09APR05 A	17DEC04 A	09APR05 A																										
ASLANS500	Taking Up of Existing Rubble Below +2.5	23	100	14JAN05 A	22APR05 A	14JAN05 A	22APR05 A																										
ASLANS500	Placing Leveling Stone	25	100	23APR05 A	16MAY05 A	23APR05 A	16MAY05 A																										
ASLANS600	Block Wall Construction	51	100	18MAY05 A	12JUN05 A	18MAY05 A	12JUN05 A																										
ASLANS700	Backfill Rubble Behind	14	+10d	59	15JUN05 A	01AUG05	15JUN05 A	01AUG05																									
ASLANS800	Reinstate 5 Cells Box Culvert Units	18	+10d	27	02JUL05 A	14AUG05	02JUL05 A	14AUG05																									
ASLANS800	Fabrication of 5 Cells Outfall Units	70	+6d	10	02JUL05 A	26SEP05	02JUL05 A	26SEP05																									
ASLANS100	Install 5 Cells Outfall Units	12	+6d	0	29SEP05	10OCT05	02DEC05	10OCT05																									
ASLANS100	Install Remaining Blocks for Both Side Outfall	4	+7d	0	11OCT05	14OCT05	28DEC05	14OCT05																									
ASLANS200	Reinstate Armour & Underlayer	10	+7d	0	15OCT05	24OCT05	01AUG05	10AUG05																									
Landscaping Node No. 2																																	
ASLENS100	Landscape - Rose Structure																																
ASLENS100	Drilling (Two Drillholes)	16		100	27SEP04 A	18OCT04 A	27SEP04 A	18OCT04 A																									
ASLENS200	Taking Up of Existing Armour to +2.5	3		100	06NOV04 A	09NOV04 A	06NOV04 A	09NOV04 A																									
ASLENS200	Taking Up of Existing Underlayer to +2.5	2		100	12NOV04 A	13NOV04 A	12NOV04 A	13NOV04 A																									
ASLENS200	Taking Up of Existing Rubble to +2.5	20		100	14NOV04 A	11JUN05 A	14NOV04 A	11JUN05 A																									
ASLENS300	Demolish Existing Outfall Units	5		100	17NOV04 A	20NOV04 A	17NOV04 A	20NOV04 A																									
ASLENS400	Taking Up Existing 2500 Dia. Concrete Pipe	10		100	12APR05 A	23JUN05 A	12APR05 A	23JUN05 A																									
ASLENS440	Taking Up of Existing Armour Below +2.5	4		100	06OCT04 A	09DEC04 A	06OCT04 A	09DEC04 A																									
ASLENS440	Taking Up of Existing Underlayer Below +2.5	3		100	18DEC04 A	11JAN05 A	18DEC04 A	11JAN05 A																									
ASLENS440	Taking Up of Existing Rubble Below +2.5	20	-9d	77	30DEC04 A	31JUL05	30DEC04 A	31JUL05																									
ASLENS500	Placing Leveling Stone	40	-5d	0	01AUG05	03SEP05	01AUG05	03SEP05																									
ASLENS600	Block Wall Construction (Stage 1)	30	-5d	0	03SEP05	09OCT05	13JUL05	11AUG05																									
ASLENS610	Block Wall Construction (Stage 2)	30	-7d	9	17OCT05	19NOV05	21DEC05	17OCT05																									
ASLENS700	Backfill Rubble Behind (Stage 1)	7	-5d	9	10OCT05	16OCT05	12AUG05	14AUG05																									
ASLENS700	Backfill Rubble Behind (Stage 2)	7	-7d	0	21OCT05	28NOV05	22DEC05	31DEC05																									
ASLENS800	Rainstack 2500 Dia. Pipe Culvert	14	-3d	0	02NOV05	12DEC05	02JAN05	15JAN05																									
ASLENS800	Fabrication of Box Culvert Outfall	70	-3d	0	04OCT05	12DEC05	07NOV05	15JAN05																									
ASLENS100	Install Box Culvert Outfall	12	-3d	0	13DEC05	24DEC05	27JAN05	27JAN05																									
ASLENS100	Install Remaining Blocks for Both Side Outfall	4	-3d	0	25DEC05	28DEC05	30JAN05	02FEB06																									
ASLENS200	Reinstate Armour & Underlayer	10	-3d	0	28DEC05	07JAN05	02FEB06	12FEB06																									
ASLENS210	Diversion of Ex. Cycle Track	1		100	28MAY05 A	28MAY05 A	25MAY05 A	25MAY05 A																									
ASLENS300	Demolition of Ex. Cycle Track Pavement (Phase 2)	4		100	30NOV05 A	11JUN05 A	30MAY05 A	11JUN05 A																									
ASLENS400	Take Up of Diver Ex. Utility Services	12	-7d	100	30NOV05 A	07DEC05	27SEP05	27SEP05																									
ASLENS500	Rainstack Ex. Cycle Track	12	-7d	0	24NOV05	07DEC05	07SEP05	13OCT05																									
ASLENS700	Rumble Ex. Cycle Track	1	-7d	0	08DEC05	08DEC05	14OCT05	14OCT05																									
Service Adapters to Landing Step																																	
Mains Network																																	
ASALMAD100	Taking Up of Armour to +2.5(South Section)	2		100	10NOV04 A	11NOV04 A	10NOV04 A	11NOV04 A																									
ASALMAD110	Taking Up of Underlayer to +2.5 (South Section)	2		100	15NOV04 A	18NOV04 A	15NOV04 A	18NOV04 A																									
ASALMAD200	Taking Up of Rubble to +2.5 (South Section)	8		100	01DEC04 A	17JUN05 A	01DEC04 A	17JUN05 A																									
ASALMAD210	Taking Up of Armour Below +2.5 (South Section)	3		100	27NOV04 A	01DEC04 A	27NOV04 A	01DEC04 A																									
ASALMAD220	Taking Up Underlayer Below +2.5 (South Section)	3		100	09DEC04 A	12DEC04 A	09DEC04 A	12DEC04 A																									
ASALMAD230	Taking Up of Rubble Below +2.5 (South Section)	12		100	13DEC04 A	11JUL05 A	13DEC04 A	11JUL05 A																									
ASALMAD240	Placing Leveling Stone (South Section)	10		100	12JUL05 A	30JUL05 A	12JUL05 A	30JUL05 A																									
ASALMAD400	Block Wall Construction (South Section)	25	-17d	0	31JUL05	24AUG05	14JUL05	07AUG05																									
ASALMAD500	Backfill the Rubble Behind (South Section)	6	-17d	0	25AUG05	30AUG05	08AUG05	13AUG05																									
ASALMAD600	Backfill G300 Rockfill Behind (South Section)	5	-17d	0	31AUG05	04SEP05	14AUG05	18AUG05																									
Start date	TOUR04	Early bar																															
Finish date	06OCT07	Project Bar																															
Run date	28JUL05	Critical Bar																															
Page Number	21A	Summary Bar																															
C Project Name	System, Inc.	Start milestone point																															
C Project Name	System, Inc.	Finish milestone point																															

LEADER • Wai Kee (C&T) Joint Venture  
TP3703 - Revised Works Programme - RP03

C Project Name

Start date 06OCT07  
Finish date 28JUL05  
Run date 21A  
Page Number





Leader - Wai Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme • RP03

ID	Description	Start Date	End Date	Timeline	2024												2025													
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
<b>Project Phases</b>																														
ARWFRP0300	Public Lighting Ducts & Drains @ Promenade	60	88d	01MAY06	24MAY06	02JUN06	03JUN06	04JUN06	05JUN06	06JUN06	07JUN06	08JUN06	09JUN06	010JUN06	011JUN06	012JUN06	013JUN06	014JUN06	015JUN06	016JUN06	017JUN06	018JUN06	019JUN06	01JUL06	02JUL06	03JUL06	04JUL06	05JUL06		
ARWFRP0400	Install Public Lighting	24	88d	025MAY06	22JUN06	03SEPO06	02OCT06																							
ARWFRP0100	Lay Paving Block (in ZR)	49	9d	0127JUL06	21SEPO06	07AUG06	02OCT06																							
ARWFRP0200	Lay Paving Block (in ZK)	24	5d	008JUL06	02AUG06	17AUG06	12AUG06																							
ARWFRP0300	Lay Paving Block (in ZS)	12	9d	021JUN06	05JUL06	03JUL06	16JUL06																							
ARWFRP0400	Lay Paving Block (in ZL)	12	41d	023APR06	12MAY06	17AUG06	12AUG06																							
ARWFRP0500	Lay Paving Block (in ZL, ZK, ZL)	60	41d	021JUN06	27APR06	13MAY06	16JUN06																							
<b>Finishing Works</b>																														
ARWFPWH100	Finishing Works	60	68d	008JUN06	18AUG06	29AUG06	08NOV06																							
E.S.H. Works	Errect Signage																													
ARWEMR000	Irrigation System	50	120d	0119APR06	17JUL06	09SEP06	08NOV06																							
ARWEMR1000	E & M Works	30	88d	023JUN06	28JUL06	03OCT06	08NOV06																							
Road Lighting, Traffic Signs and Fencing	Appy Road Marking	30	9d	022SEPO06	27OCT06	03OCT06	08NOV06																							
ARWFRM0200	Landscaping Hatch's	21	9d	003OCT06	27OCT06	14OCT06	08NOV06																							
ARWPHL0100	Plaster Wall (in ZR)	63	16d	017DEC05	03MARS06	07JAN06	23MARS06																							
ARWPHL0200	Plaster Wall (in ZK)	28	28d	008FEB06	13MARS06	14MARS06	15APR06																							
ARWPHL0300	Plaster Wall (in ZS)	13	28d	023JUN06	08FEB06	27FEB06	13MARS06																							
ARWPHL0400	Plaster Wall (in ZL)	8	27d	023JUN06	02FEB06	25FEB06	06MARS06																							
ARWPHL0500	Plaster Wall (in ZL - Landscape Node 1 South)	40	5d	007NOV05	22DEC05	11JAN06	28FEB06																							
ARWPHL0600	Plaster Wall (in ZL, ZL, ZL)	50	49d	012JUL05	014NOV05	02JUL05	A	12JAN06																						
ARWPHL0700	Fil Rock to Plaster Wall Formation (V0086)	60	65d	0128JUL05	07OCT05	15OCT05	23DEC05																							
ARWPHL0700	Parapet Wall along Seawall (in ZR)	47	65d	0113JUN06	10MAR06	01APR06	27MAY06																							
ARWPHL0800	Parapet Wall along Seawall (in ZK)	22	65d	005APR06	22JUN06	18JUL06																								
ARWPHL0900	Parapet Wall along Seawall (in ZL)	12	65d	021MARS06	03APR06	10AUG06	21JUN06																							
ARWPHL1000	Parapet Wall along Seawall (in ZL)	9	65d	0111MARS06	02MARS06	07MAY06	07JUN06																							
ARWPHL1100	Parapet Wall along Seawall (in Z, ZN, ZL)	80	65d	008DCT05	12JAN06	24DEC05	31MARS06																							
ARWPHL1200	Construct Pavle (3 nos.)	72	68d	0114MARS06	08JUN06	05JUN06	02AUG06																							
ARWPHL1300	Water Point WP24-4 to 24-1	15	24d	028MARS06	14APR06	28APR06	13MAY06																							
ARWPHL1400	Water Point WP23-3 to 22-1	18	21d	028MARS06	18APR06	22APR06	13MAY06																							
ARWPHL1500	Water Point WP21-3 to 21-1	12	28d	005APR06	18APR06	09APR06	28MAY06																							
ARWPHL1600	Water Point WP20-8 to 20-1	21	37d	020FE06	15MAR06	05APR06	26APR06																							
ARWPHL1700	Water Point WP19-4 to 19-1	15	54d	025JUN06	10FEB06	10FEB06	28MAR06																							
ARWPHL1800	Water Point WP18-3 to 18-2	12	57d	025JUN06	07FEB06	07FEB06	01APR06																							
ARWPHL1900	Water Point WP17-9 to 17-1	18	49d	008DEC05	28DEC05	06FEB06	25FEB06																							
ARWPHL2000	Water Point WP16-3 to 16-1	12	55d	008DEC05	19DEC05	13FEB06	25FEB06																							
ARWPHL2200	ASD's Contractor Works	303	-5d	028JUL06	28JUL06	22JUL06	22JUL06																							
<b>Section B</b>																														
<b>Public Landscaping Step</b>																														
<b>Acuvera Works</b>																														
ARSHAD0100	Propose Monitoring Plan for OSD's Submarine Pipe	30	100	013SEPO4 A	08SEPO4 A	01SEPO4 A	06SEPO4 A	01SEPO4 A	07SEPO4 A	01MARS05																				
ARSHAD0200	Ength & DSD Approval of Monitoring Plan	36	100	07SEPO4 A	01MARS05	01MARS05	01MARS05																							
ARSHAD0300	Setup Monitoring for OSD's Submarine Pipeline	30	100	14MARS05	14MARS05	14MARS05	14MARS05																							
ARSHAD0400	Dredging & CPIT	30	100	11SEPO4 A	11OCT04 A	11OCT04 A	11OCT04 A																							
ARSHAD0500	Taking Up of Existing Armour to +2.5	2	100	06NOV04 A	08NOV04 A	08NOV04 A	08NOV04 A																							
ARSHAD0510	Taking Up of Existing Underlayer to +2.5	3	100	11NOV04 A	11NOV04 A	11NOV04 A	11NOV04 A																							
ARSHAD0600	Taking Up of Existing Rubble to +2.5	3	100	17NOV04 A	18NOV04 A	17NOV04 A	18NOV04 A																							
ARSHAD0710	Taking Up of Existing Armour Below +2.5	3	100	24NOV04 A	27NOV04 A	24NOV04 A	27NOV04 A																							
ARSHAD0810	Taking Up of Existing Underlayer Below +2.5	3	100	05DEC04 A	08DEC04 A	05DEC04 A	08DEC04 A																							
ARSHAD0920	Taking Up of Underlayer Below +2.5	3	100	05DEC04 A	08DEC04 A	05DEC04 A	08DEC04 A																							
<b>Public Lighting Ducts &amp; Drains Along Promenade</b>																														
<b>Finishing Works</b>																														
<b>Errect Signage</b>																														



Leader - Wai Kee (C&T) Joint Venture  
TP37/03 - Revised Works Programme - RP03

Act	Description	Orig Dur	Total Dur	Percent Complete	Entry Start	Early Finish	Late Start	Late Finish	Imp. Mth	2004 SEP	2005 JUN	2005 JUL	2005 AUG	2005 SEP	2005 OCT	2005 NOV	2005 DEC
B1AASL000	Planning Works	90	-12sd	0	02MAY06	17JUN06	28SEP06	12JAN07									
B1AASL000	Groundcovers Works	50	-12sd	0	25MAY06	24JUL06	19DEC05	19FEB06									
B1AASL100	Root Barrier (ZS, 10m - 200m) (V00355A)	12	-2sd	0	04OCT06	18OCT06	30AUG06	12SEP06									
B1AASL100	Root Barrier (ZS, 20m - 50m) (V00355A)	12	-3d	0	26OCT06	26OCT06	29OCT06	01NOV06									
B1AASL100	Root Barrier (ZS, 30m - 40m) (V00355A)	12	-3d	0	26OCT06	26OCT06	29OCT06	01NOV06									
B1AASL100	Root Barrier (ZS, 40m - N. End) (V00355A)	2	-16d	0	25APR06	26APR06	05DEC05	08DEC05									
<b>Section 12</b>																	
Area SA7, SA10, SA11A, SA12 & SA13																	
Landscape Soilworks																	
B2ABSL0100	Soil Mix (In ZR, 35m)	47	21d	0	19APR06	14JUN06	15MAY06	10JUL06									
B2ABSL0000	Soil Mix (In ZX, 15m)	24	28d	0	19APR06	17MAY06	23MAY06	20JUN06									
B2ABSL0000	Soil Mix (In ZA, 65m)	12	37d	0	21MAY06	07APR06	09MAY06	22MAY06									
B2ABSL0000	Soil Mix (In ZA, 55m)	7	37d	0	16MAY06	23MAY06	28APR06	08MAY06									
B2ABSL0000	Soil Mix (Z1 - Landscape Node 1 South, 260m)	30	5d	0	11FEB06	17MAR06	17APR06	22MAY06									
B2ABSL0000	Soil Mix (ZA, ZL1, ZL1)	71	49d	0	23DEC05	23MAR06	27FEB06	22MAY06									
B2ABSL0700	Planning Works	90	21d	0	27APR06	12AUG06	23MAY06	06SEP06									
B2ABSL0800	Groundcovers Works	50	21d	0	14AUG06	11OCT06	07SEP06	06NOV06									
B2ABSL0900	Root Barrier (In ZH) (V00365)	12	55d	0	06DEC05	19DEC05	13FEB06	28FEB06									
B2ABSL1000	Root Barrier (In ZB1) (V00365)	2	37d	0	29MAY06	12MAY06	13MAY06										
<b>Section 13</b>																	
Area SA1, SA2, SA3, SA4 & SA5																	
Landscape Soilworks																	
B3ACSL0100	Soil Mix (Area SA1 - South Section)	30	16d	0	08FEB06	14MAR06	23AUG06	26SEP06									
B3ACSL0200	Soil Mix (Area SA1 - North Section)	30	18d	0	11MAY06	17APR06	23AUG06	26SEP06									
B3ACSL0300	Soil Mix (Car Park, Loading & Unloading Area)	6	10d	0	25JUN06	13JUL06	03NOV06	09NOV06									
B3ACSL0400	Soil Mix (Area Adjacent Road Sl.)	30	81d	0	18MAY06	22JUN06	23AUG06	26SEP06									
B3ACSL0500	Planning Works	60	81d	0	23JUN06	01SEP06	27SEP06	07DEC06									
B3ACSL0600	Planting Works (Car Parks, Loading & Unloading Area)	6	143d	0	04JUL06	10JUL06	20DEC06	26DEC06									
Area SA6, SA8, SA15, SA16, SA17 & SA18																	
Landscape Soilworks																	
B3ADSU100	Planning Works	45	107d	0	24MAY05	17JUL06	28SEP06	21NOV06									
B3ADSU2000	Groundcovers Works	30	107d	0	15JUL06	21AUG06	12NOV06	28DEC06									
<b>Section 14</b>																	
Area SA1, SA11B & SA14																	
Establishment Works																	
BAAEYV100	Establishment Works	300	-124d	0	25JUL06	18AUG07	25FEB07										
<b>Section 15</b>																	
Area SA7, SA10, SA11A, SA12 & SA13																	
BSABEW100	Establishment Works	300	25d	0	12OCT06	08OCT07	11NOV06	08NOV07									
<b>Section 16</b>																	
Area SA1, SA2, SA3, SA4 & SA5																	
Establishment Works																	
BAACEV100	Establishment Works	320	81d	0	02SEPER06	19SEPER07	08DEC06	26DEC07									
Area SA9, SA15, SA16, SA17 & SA18																	
Establishment Works																	
BADEW100	Establishment Works	300	111d	0	22AUG06	15AUG07	02JAN07	28DEC07									



Leader - Wai Kee (C&T) Joint Venture  
TP3103 - Revised Works Programme - RP03

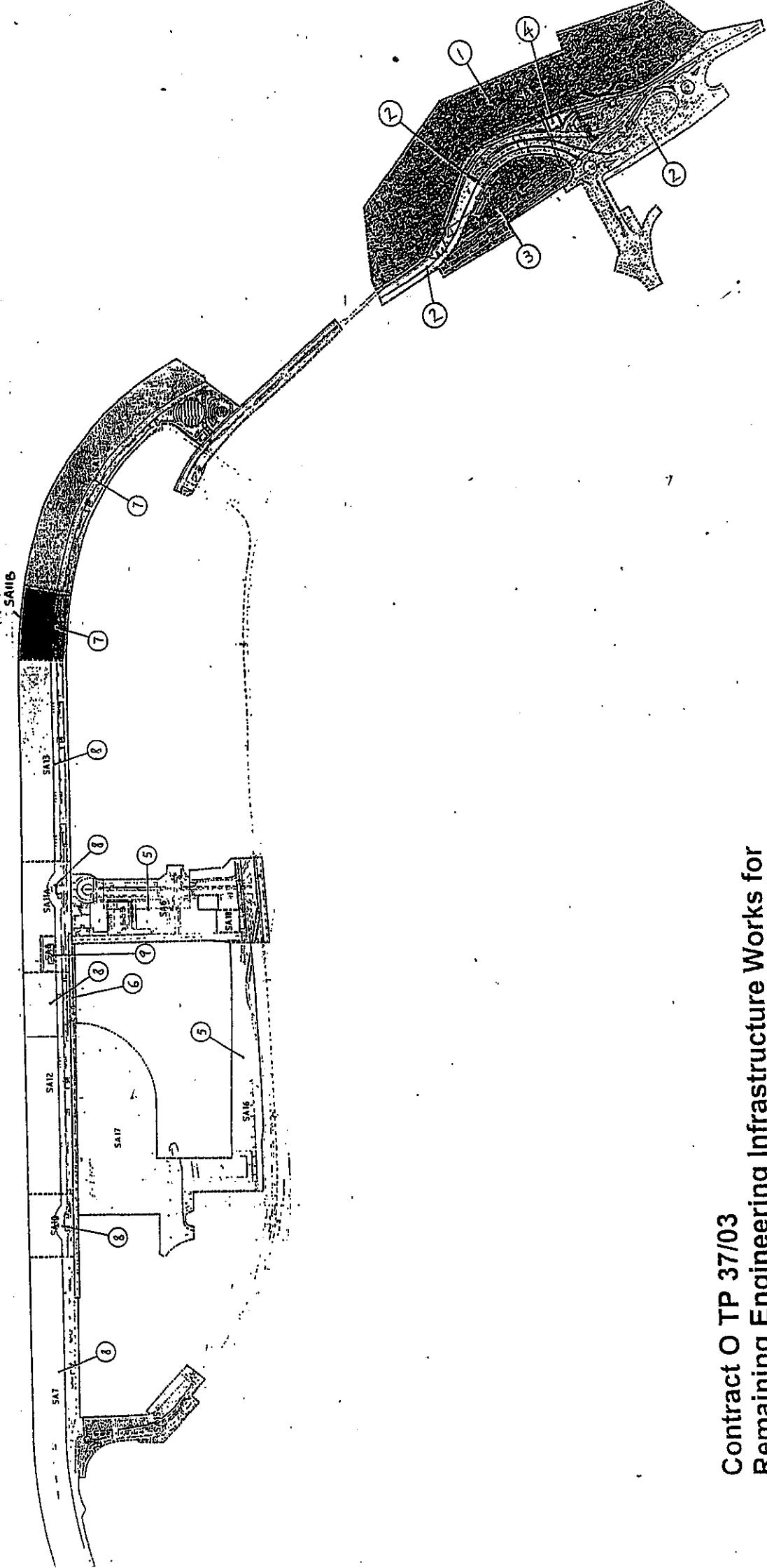
Start date	10JUN04	Early bar
Finish date	06OCT07	Critical bar
Duration	2441D05	Summary bar
Prog. Number	254	Start milestone point
C. Progress	100%	Finish milestone point



東榮德勤測試顧問有限公司  
ETS-TESTCONSULT LIMITED

## **Appendix G**

### **Construction Site Area**



Contract O TP 37/03  
Remaining Engineering Infrastructure Works for  
Pak Shek Kok Development Package 2A

Location and Key Plan



東業 保 劑 測 試 顧 問 有 限 公 司  
ETS-TESTCONSULT LIMITED

## Appendix H

### **The Implementation Status of Mitigation Measures and Follow-up Actions during Weekly Site Inspections**

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 6 October 2005 Inspected by Name : (RS) *Sunny Yuen & LWKWU* Temp : (ET) M. T. Chou  
Time : 15:30 Signature : *[Signature]*

Weather Condition Wind : Fine / Overcast / Drizzle / Rain / Storm / Hazy  
Calm / Light / Breeze / Strong

Temperature Humidity : High / Moderate / Low

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
<b>Air Quality</b>				
- The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading.	<input checked="" type="checkbox"/>			
- During transportation by truck, material should be loaded to a level lower than the side and tail boards, and should be dampened or covered before transport.	<input checked="" type="checkbox"/>			
- All stockpiles of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	<input checked="" type="checkbox"/>			
- The haul road should be either paved or regular watering.	<input checked="" type="checkbox"/>			
- Unpaved areas should be watered regularly to avoid dust generation.	<input checked="" type="checkbox"/>			
- The public road around the site entrance should be kept clean and free from dust.	<input checked="" type="checkbox"/>			
- Vehicle speed should be limited to 20 km/hr.	<input checked="" type="checkbox"/>			
- Wheel washing facilities should be provided at all main entrance of work site.	<input checked="" type="checkbox"/>			
- The enclosures should be around the main dust-generating activities.	<input checked="" type="checkbox"/>			
- Dusty materials should be sprayed prior to loading.	<input checked="" type="checkbox"/>			
- All plant and equipment should be well maintained e.g. without black smoke emission.	<input checked="" type="checkbox"/>			
- Vehicle and equipment should be switched off while not in use.	<input checked="" type="checkbox"/>			
- Open burning should be prohibited.	<input checked="" type="checkbox"/>			
<b>Noise</b>				
- The construction works should be scheduled to minimize noise nuisance.	<input checked="" type="checkbox"/>			
- Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	<input checked="" type="checkbox"/>			
- Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	<input checked="" type="checkbox"/>			
- Plant known to emit noise strongly in one direction, should, where possible, should be orientated so that the noise is directed away from nearby NSRs.	<input checked="" type="checkbox"/>			
- Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	<input checked="" type="checkbox"/>			
- Noise enclosures, noise barriers, or portable noise barriers used where necessary.	<input checked="" type="checkbox"/>			
- Air compressors and hand held breakers should have noise labels.	<input checked="" type="checkbox"/>			
- Compressors and generators should operate with door closed.	<input checked="" type="checkbox"/>			
- Construction Noise Permits should be available for inspection.	<input checked="" type="checkbox"/>			

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
<b>Water Quality</b>					
<b>General Construction Activities</b>					
- Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	✓				
- Permanent drainage channels shall incorporate sediment basins / traps, and baffles.	✓				
- All traps shall incorporate oil and grease removal facilities.	✓				
- Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.	✓				
- All drainage facilities should be adequate for controlled release of storm flows.	✓				
- Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	✓				
- Open stockpiles of more than 50m <sup>3</sup> should be covered.	✓				
- Temporary stockpiles of excavated materials should be covered during rainstorms.	✓				
- Manholes should be covered and sealed.	✓				
- All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.	✓				
- Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.	✓				
- Vehicle washing facilities should be provided at every site exit.	✓				
- Vehicle washing facilities should be adequate to settle out the sand and silt.	✓				
- Washing area and road exiting from washing facility should be paved.	✓				
- Access road should have sufficient back fall toward washing facility.	✓				
<b>Dredging Activities</b>					
- Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.	✓				
- Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.	✓				
- All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by vessel movement or propeller on the water within the site.	✓				
- The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.	✓				
- All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.	✓				
- Excess material shall be cleared from the decks and exposed fittings of the barges before the vessels are moved.	✓				
- Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.	✓				
- Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.	✓				

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
<b>Filling Activities</b>					
• Use of silt screen around the filling face to reduce the losses to the surrounding.		✓			
• All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipeline at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash or pipelines damaged.			✓		
• The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.		✓			
• All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.			✓		
• Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water and barges shall not be filled to a level which will cause overflowing of material or polluted water during loading transportation.		✓			
<b>Waste Management</b>					
• Relevant licence / permits for disposal of marine dredged sediment are available for inspection.			✓		
• Bottom opening of barges is fitted with tight fitting seals to prevent leakage of material. Excess material is cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.			✓		
• Monitoring of the barging loading is conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels are equipped with automatic self-monitoring devices as specified by the EPD.			✓		
• Transport of dredged marine sediments to the disposal site is by split barge of not less than 750m <sup>3</sup> capacity, well maintained and capable of rapid opening and discharge at the disposal site.		✓			
• Inspection of the barge loading to ensure that loss of material does not take place during transportation.		✓			
<b>Construction and Demolition (C&amp;D) Waste</b>					
• Most of the C&D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites.			✓		
• Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.			✓		
• Proper protective measures, such as fences and tarpaulin, are provided, in order to protective the temporary stockpiled materials for later reuse / recycle.		✓			
• Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)			✓		
• In order to reduce the impacts to the public, except for those sorted inert C&D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste frameworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away the sensitive receivers.			✓		
• All Public Fill arising from the demolition works shall be limited to a size not more than 250mm and free of reinforcement bars, timber, etc. before re-using it.			✓		
• Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.		✓			
• Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills			✓		
• Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.			✓		
• Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized			✓		

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

### Mitigation Measures on Waste Management

- Proper storage will minimize the damage and thus the wastage of the materials
- Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.
- Chemical Waste

- It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary/ regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.
- After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.
- Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.
- Containers used for the storage of chemical wastes

- Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed
- Have a capacity of less than 450L unless the specification have been approved by the EPD
- Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice
- Labelling
- Every container of chemical waste would bear an appropriate label, which would contain the particulars details.
- The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste

- Storage Area
  - Be clearly labeled and used solely for the storage of chemical waste
  - Be enclosed on at least 3 sides
  - Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest
  - Have adequate ventilation
  - Be covered to prevent rainfall entering
- Be arranged so that incompatible materials are adequately separated
- Be clean and maintain regularly

- Disposal
  - Be via a licensed waste collector
  - To a licensed disposal facility, such as Chemical Waste Treatment Centre
  - Be a reuser of the waste, under approval from the EPD

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
Proper storage will minimize the damage and thus the wastage of the materials	✓			
Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.	✓			
Chemical Waste				
It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary/ regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓			
After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	✓			
Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓			
Containers used for the storage of chemical wastes				
Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	✓			
Have a capacity of less than 450L unless the specification have been approved by the EPD	✓			
Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice	✓			
Labelling				
Every container of chemical waste would bear an appropriate label, which would contain the particulars details.	✓			
The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste	✓			
Storage Area				
Be clearly labeled and used solely for the storage of chemical waste	✓			
Be enclosed on at least 3 sides	✓			
Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest	✓			
Have adequate ventilation	✓			
Be covered to prevent rainfall entering	✓			
Be arranged so that incompatible materials are adequately separated	✓			
Be clean and maintain regularly	✓			
Disposal				
Be via a licensed waste collector	✓			
To a licensed disposal facility, such as Chemical Waste Treatment Centre	✓			
Be a reuser of the waste, under approval from the EPD	✓			

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
Spillage					
• Establish source of spill or discharge and determine nature of material, where possible halt discharge				✓	
• Commencing at the source of the spill, establish all current and potential impacted areas				✓	
• Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary				✓	
• After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials		✓			
• Dispose of materials as chemical wastes					
General Refuse					
• General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste	✓				
• A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.	✓				
• General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts	✓				(1)
• Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.	✓				
• Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.	✓				
Site Practice					
• Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment.	✓				
• Construction sites should be cleaned on a regular basis.					
• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	✓				
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	✓				
• The Environmental Permit should be displaced conspicuously on site					
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓				
• Any unused chemicals or those with remaining functional capacity should be recycled.					
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	✓				
• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odour, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.	✓				
• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.	✓				
• All generators, fuel and oil storage are within bundle areas.	✓				
• Oil leakage from machinery, vehicle and plant is prevented.	✓				
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.		✓			(3)

### Table for follow-up Action:

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 13 October 2003 Inspected by Name : (RS) Ho Sze Lo (LWKM) Pang Yee (ET) H.T. Chow  
Time : 09:30 Signature : S.

Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy Temperature : 29°C  
Wind : Calm / Light Breeze / Strong Humidity : High / Moderate (Low)

	Mitigation Measures on Waste Management			Implementation Stages*	Remark
	Yes	No	N/A		
<b>Air Quality</b>					
-	The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading.	✓			
-	During transportation by truck, material should be loaded to a level lower than the side and tail boards, and should be dampened or covered before transport.	✓			
-	All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	✓		①	
-	The haul road should be either paved or regular watering.	✓			
-	Unpaved areas should be watered regularly to avoid dust generation.	✓			
-	The public road around the site entrance should be kept clean and free from dust.	✓			
-	Vehicle speeds should be limited to 20 km/hr.	✓			
-	Wheel washing facilities should be provided at all main entrance of work site.	✓			
-	The enclosures should be around the main dust-generating activities.	✓			
-	Dusty materials should be sprayed prior to loading.	✓			
-	All plant and equipment should be well maintained e.g. without black smoke emission.	✓			
-	Vehicle and equipment should be switched off while not in use.	✓			
-	Open burning should be prohibited.	✓			
<b>Noise</b>					
-	The construction works should be scheduled to minimize noise nuisance.	✓			
-	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓			
-	Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓			
-	Plant known to emit noise strongly in one direction, should, where possible, be orientated so that the noise is directed away from nearby NSRs.	✓			
-	Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓			
-	Noise enclosures, noise barriers, or portable noise barriers used where necessary.	✓			
-	Air compressors and hand held breakers should have noise labels.	✓			
-	Compressors and generators should operate with door closed.	✓			
-	Construction Noise Permits should be available for inspection.	✓			

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

		Mitigation Measures on Waste Management			Implementation Stages*	Remark
		Yes	No	N/A		
<b>Water Quality</b>						
<b>General Construction Activities</b>						
- Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	✓					
- Permanent drainage channels shall incorporate sediment basins / traps, and baffles.	✓					
- All traps shall incorporate oil and grease removal facilities.	✓					
- Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.	✓					
- All drainage facilities should be adequate for controlled release of storm flows.	✓					
- Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	✓					
- Open stockpiles of more than 50m <sup>3</sup> should be covered.	✓					
- Temporary stockpiles of excavated materials should be covered during rainstorms.	✓					
- Manholes should be covered and sealed.	✓					
- All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.	✓					
- Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.	✓					
- Vehicle washing facilities should be provided at every site exit.	✓					
- Vehicle washing facilities should be adequate to settle out the sand and silt.	✓					
- Washing area and road exiting from washing facility should be paved.	✓					
- Access road should have sufficient back fall toward washing facility.	✓					
<b>Dredging Activities</b>						
- Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.	✓					
- Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.	✓					
- All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.	✓					
- The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.	✓					
- All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.	✓					
- Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.	✓					
- Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overfilling of material or polluted water during loading or transportation.	✓					
- Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.	✓					

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
<b>Filling Activities</b>					
• Use of silt screen around the filling face to reduce the losses to the surrounding.		✓			
• All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipeline at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash or pipelines damaged.		✓			
• The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.		✓			
• All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.		✓			
• Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water and barges shall not be filled to a level which will cause overflowing of material or polluted water during loading transportation.		✓			
<b>Waste Management</b>					
<b>Marine Dredged Sediment</b>					
• Relevant licence / permits for disposal of marine dredged sediment are available for inspection.			✓		
• Bottom opening of barges is fitted with tight fitting seals to prevent leakage of material. Excess material is cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.			✓		
• Monitoring of the barge loading is conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels are equipped with automatic self-monitoring devices as specified by the EPD.			✓		
• Transport of dredged marine sediments to the disposal site is by split barge of not less than 750m <sup>3</sup> capacity, well maintained and capable of rapid opening and discharge at the disposal site.			✓		
• Inspection of the barge loading to ensure that loss of material does not take place during transportation.			✓		
<b>Construction and Demolition (C&amp;D) Waste</b>					
• Most of the C&D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites.			✓		
• Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.			✓		
• Proper protective measures, such as fences and tarpaulin, are provided, in order to protective the temporary stockpiled materials for later reuse / recycle.			✓		
• Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)			✓		
• In order to reduce the impacts to the public, except for those sorted inert C&D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste formworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away the sensitive receivers.			✓		
• All Public Fill arising from the demolition works shall be limited to a size not more than 250mm and free of reinforcement bars, timber, etc. before re-using it.			✓		
• Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.			✓		
• Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills			✓		
• Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.			✓		
• Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized			✓		

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
Proper storage will minimize the damage and thus the wastage of the materials				
Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.				
Chemical Waste				
It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.				
After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.				
Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.				
Containers used for the storage of chemical wastes				
Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed				
Have a capacity of less than 450L unless the specification have been approved by the EPD				
Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice				
Labelling				
Every container of chemical waste would bear an appropriate label, which would contain the particulars details.				
The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste				
Storage Area				
Be clearly labeled and used solely for the storage of chemical waste				
Be enclosed on at least 3 sides				
Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest				
Have adequate ventilation				
Be covered to prevent rainfall entering				
Be arranged so that incompatible materials are adequately separated				
Be clean and maintain regularly				
Disposal				
Be via a licensed waste collector				
To a licensed disposal facility, such as Chemical Waste Treatment Centre				
Be a reuser of the waste, under approval from the EPD				

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
• Spillage					
• Establish source of spill or discharge and determine nature of material, where possible halt discharge					
• Commencing at the source of the spill, establish all current and potential impacted areas					
• Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary					
• After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials					
• Dispose of materials as chemical wastes					
• General Refuse					
• General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste					
• A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.					
• General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts					
• Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.					
• Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.					
• Site Practice					
• Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment.					
• Construction sites should be cleaned on a regular basis.					
• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.					
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.					
• The Environmental Permit should be displayed conspicuously on site					
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.					
• Any unused chemicals or those with remaining functional capacity should be recycled.					
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.					
• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odor, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.					
• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.					
• All generators, fuel and oil storage are within bundle areas.					
• Oil leakage from machinery, vehicle and plant is prevented.					
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.					

**Table for follow-up Action:**

Item	Details of defective works or observations	Location	Further action to be taken (Included persons / party to take action)	Expected Date for Action taken
#1	Follow up to previous site inspection on 6 October 2005 the rubbish slip was cleaned out by Contractor.	Road 14	Follow up action has completed no further action to be taken.	N/A
#2	Follow up to previous site inspection on 6 October 2005 item ②, no oily water was found in drip tray.	SA 14 and Road 14	-	N/A
#3	Drip tray for diesel tank and oil pump was provided.	Work shop Area	-	N/A
Remark		The haul road at "Node 1" was dry and dusty.	The Contractor should water the haul road and unpaved area more frequently to avoid dust generation.	20 October 2005
Remarks		Fuel containers were not covered and drip tray was provided.	The Contractor was reminded to remove the fuel containers in safety storage area and don't expose those to direct sunlight shining.	20 October 2005
Signature:		RSS	LWKJY	ET
Name:	Pearl Lo	Bernie	Jia	Sofia
Date:	13/10/05	13/10/05	13/10/05	H. T. Chong

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 20 Oct 2003 Inspected by Name : (RSS) Eric Leung (LWKL) Ben Ho (ET) H. T. Chan  
 Time : 10:15 Signature : *[Signature]*

Weather Condition : Sunny / Overcast / Drizzle / Rain / Storm / Hazy  
 Wind : Calm / Light / Breeze / Strong

Temperature : High / *28°C* Humidity : High / Moderate / Low

	Mitigation Measures on Waste Management			Implementation Stages* Yes No N/A	Remark	
<b>Air Quality</b>						
• The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading.						
• During transportation by truck, material should be loaded to a level lower than the side and tail boards, and should be dampened or covered before transport.						
• All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.						
• The haul road should be either paved or regular watering.						
• Unpaved areas should be watered regularly to avoid dust generation.						
• The public road around the site entrance should be kept clean and free from dust.						
• Vehicle speed should be limited to 20 km/hr.						
• Wheel washing facilities should be provided at all main entrance of work site.						
• The enclosures should be around the main dust-generating activities.						
• Dusty materials should be sprayed prior to loading.						
• All plant and equipment should be well maintained e.g. without black smoke emission.						
• Vehicle and equipment should be switched off while not in use.						
• Open burning should be prohibited.						
<b>Noise</b>						
• The constructions works should be scheduled to minimize noise nuisance.						
• Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.						
• Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.						
• Plant known to emit noise strongly in one direction, should, where possible, should be orientated so that the noise is directed away from nearby NSRs.						
• Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.						
• Noise enclosures, noise barriers, or portable noise barriers used where necessary.						
• Air compressors and hand held breakers should have noise labels.						
• Compressors and generators should operate with door closed.						
• Construction Noise Permits should be available for inspection.						

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
<b>Water Quality</b>					
<b>General Construction Activities</b>					
▪ Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.				✓	②
▪ Permanent drainage channels shall incorporate sediment basins / traps, and baffles.				✓	
▪ All traps shall incorporate oil and grease removal facilities.				✓	
▪ Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.				✓	
▪ All drainage facilities should be adequate for controlled release of storm flows.				✓	
▪ Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.				✓	
▪ Open stockpiles of more than 50m <sup>3</sup> should be covered.				✓	
▪ Temporary stockpiles of excavated materials should be covered during rainstorms.				✓	
▪ Manholes should be covered and sealed.				✓	
▪ All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.				✓	
▪ Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.				✓	
▪ Vehicle washing facilities should be provided at every site exit.				✓	
▪ Vehicle washing facilities should be adequate to settle out the sand and silt.				✓	
▪ Washing area and road exiting from washing facility should be paved.				✓	
▪ Access road should have sufficient back fall toward washing facility.				✓	
<b>Dredging Activities</b>					
▪ Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.				✓	
▪ Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.				✓	
▪ All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.				✓	
▪ The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.				✓	
▪ All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.				✓	
▪ Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.				✓	
▪ Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.				✓	
▪ Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.				✓	

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management			Implementation Stages*			Remark
	Yes	No	N/A			
<b>Filling Activities</b>						
• Use of silt screen around the filling face to reduce the losses to the surrounding.						
• All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipeline at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash or pipelines damaged.						
• The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.						
• All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.						
• Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water and barges shall not be filled to a level which will cause overflowing of material or polluted water during loading transportation.						
<b>Waste Management</b>						
<b>Marine Dredged Sediment</b>						
• Relevant licence / permits for disposal of marine dredged sediment are available for inspection.						
• Bottom opening of barges is fitted with tight fitting seals to prevent leakage of material. Excess material is cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.						
• Monitoring of the barging loading is conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels are equipped with automatic self-monitoring devices as specified by the EPD.						
• Transport of dredged marine sediments to the disposal site by split barge of not less than 750m <sup>3</sup> capacity, well maintained and capable of rapid opening and discharge at the disposal site.						
• Inspection of the barge loading to ensure that loss of material does not take place during transportation.						
<b>Construction and Demolition (C&amp;D) Waste</b>						
• Most of the C&D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites.						
• Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.						
• Proper protective measures, such as fences and tarpaulin, are provided, in order to protective the temporary stockpiled materials for later reuse / recycle.						
• Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)						
• In order to reduce the impacts to the public, except for those sorted inert C&D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste frameworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away the sensitive receivers.						
• All Public Fill arising from the demolition works shall be limited to a size not more than 250mm and free of reinforcement bars, timber, etc. before re-using it.						
• Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.						
• Trip ticket system will be implemented to ensure proper waste disposal at public filing and landfills						
• Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.						
• Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized						

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
Proper storage will minimize the damage and thus the wastage of the materials				
Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.	✓			
<b>Chemical Waste</b>				
It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓			
After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	✓			
Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓			
Containers used for the storage of chemical wastes				
Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	✓			
Have a capacity of less than 450L unless the specification have been approved by the EPD	✓			
Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice	✓			
<b>Labelling</b>				
Every container of chemical waste would bear an appropriate label, which would contain the particulars details.	✓			
The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste	✓			
<b>Storage Area</b>				
Be clearly labelled and used solely for the storage of chemical waste	✓			
Be enclosed on at least 3 sides	✓			
Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest	✓			
Have adequate ventilation	✓			
Be covered to prevent rainfall entering	✓			
Be arranged so that incompatible materials are adequately separated	✓			
Be clean and maintain regularly	✓			
<b>Disposal</b>				
Be via a licensed waste collector	✓			
To a licensed disposal facility, such as Chemical Waste Treatment Centre	✓			
Be a reuser of the waste, under approval from the EPD	✓			

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
<b>Spillage</b>					
• Establish source of spill or discharge and determine nature of material, where possible halt discharge				✓	
• Commencing at the source of the spill, establish all current and potential impacted areas				✓	
• Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary				✓	
• After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials				✓	
• Dispose of materials as chemical wastes				✓	
<b>General Refuse</b>					
• General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste				✓	
• A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.				✓	
• General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts				✓	
• Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.				✓	
• Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.				✓	
<b>Site Practice</b>					
• Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment.				✓	
• Construction sites should be cleaned on a regular basis.					
• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.				✓	
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.				✓	
• The Environmental Permit should be displayed conspicuously on site				✓	
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.				✓	
• Any unused chemicals or those with remaining functional capacity should be recycled.					
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.				✓	
• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odor, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.					
• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.				✓	
• All generators, fuel and oil storage are within bundle areas.				✓	
• Oil leakage from machinery, vehicle and plant is prevented.				✓	
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.				✓	

## Table for follow-up Action:

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 26/10/03      Inspected by Name : (RS) Bear Lo (LWKM) Pak Yip (ET) Jordan Lam  
 Time : 14:30      Signature : J

Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy  
 Wind : Calm / Light / Breeze / Strong

Temperature : 25      Humidity : High / Moderate / Low

Mitigation Measures on Waste Management			Implementation Stages*			Remark
	Yes	No	N/A			
<b>Air Quality</b>						
- The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading.	✓					
- During transportation by truck, material should be loaded to a level lower than the side and tail boards, and should be dampened or covered before transport.	✓					
- All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	✓					
- The haul road should be either paved or regular watering.	✓					
- Unpaved areas should be watered regularly to avoid dust generation.	✓					
- The public road around the site entrance should be kept clean and free from dust.	✓					
- Vehicle speed should be limited to 20 km/hr.	✓					
- Wheel washing facilities should be provided at all main entrance of work site.	✓					
- The enclosures should be around the main dust-generating activities.	✓					
- Dusty materials should be sprayed prior to loading.	✓					
- All plant and equipment should be well maintained e.g. without black smoke emission.	✓					
- Vehicle and equipment should be switched off while not in use.	✓					
- Open burning should be prohibited.	✓					
<b>Noise</b>						
- The construction works should be scheduled to minimize noise nuisance.	✓					
- Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓					
- Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓					
- Plant known to emit noise strongly in one direction, should, where possible, be orientated so that the noise is directed away from nearby NSRs.	✓					
- Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓					
- Noise enclosures, noise barriers, or portable noise barriers used where necessary.	✓					
- Air compressors and hand held breakers should have noise labels.	✓					
- Compressors and generators should operate with door closed.	✓					
- Construction Noise Permits should be available for inspection.	✓					

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

			Mitigation Measures on Waste Management			Implementation Stages*	Remark
			Yes	No	N/A		
<b>Water Quality</b>							
<b>General Construction Activities</b>							
-	Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.		✓				
-	Permanent drainage channels shall incorporate sediment basins / traps, and baffles.		✓				
-	All traps shall incorporate oil and grease removal facilities.		✓				
-	Sediment traps / sedimentation tanks shall be regular cleaned and maintained regularly.		✓				
-	All drainage facilities should be adequate for controlled release of storm flows.		✓				
-	Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.		✓				
-	Open stockpiles of more than 50m <sup>3</sup> should be covered.		✓				
-	Temporary stockpiles of excavated materials should be covered during rainstorms.		✓				
-	Manholes should be covered and sealed.		✓				
-	All chemical stores shall be contained (bunded) such that spills are not allowed to gain access to water bodies.		✓				
-	Vehicles and plant should be cleaned of earth, mud and debris before leaving the site.		✓				
-	Vehicle washing facilities should be provided at every site exit.		✓				
-	Vehicle washing facilities should be adequate to settle out the sand and silt.		✓				
-	Washing area and road exiting from washing facility should be paved.		✓				
-	Access road should have sufficient back fall toward washing facility.		✓				
<b>Dredging Activities</b>							
-	Dredging of designated contaminated marine mud shall only be undertaken by a suitable grab dredger using a close grab.		✓				
-	Mechanical grabs shall be designed and maintained to avoid spillage and shall be seal tightly while being lifted.		✓				
-	All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipelines at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller on the water within the site.		✓				
-	The works shall cause no visible foam, oil, grease, scum litter or other objectionable matter to be present on the water within the site.		✓				
-	All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials.		✓				
-	Excess material shall be cleaned from the decks and exposed fittings of the barges before the vessels are moved.		✓				
-	Loading of barges shall be controlled to prevent splashing of dredging material to the surrounding water and the barges shall not be filled to a level which will cause overflowing of material or polluted water during loading or transportation.		✓				
-	Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.		✓				

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management				Implementation Stages*	Remark
	Yes	No	N/A		
<b>Filling Activities</b>					
• Use of silt screen around the filling face to reduce the losses to the surrounding.				✓	
• All vessels shall be sized such that adequate clearance is maintained between vessel and the sea bed and under water pipeline at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash or pipelines damaged.				✓	
• The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.				✓	
• All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.				✓	
• Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water and barges shall not be filled to a level which will cause overflowing of material or polluted water during loading transportation.				✓	
<b>Waste Management</b>					
<b>Marine Dredged Sediment</b>					
• Relevant licence / permits for disposal of marine dredged sediment are available for inspection.				✓	
• Bottom opening of barges is fitted with tight fitting seals to prevent leakage of material. Excess material is cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.				✓	
• Monitoring of the barging loading is conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels are equipped with automatic self-monitoring devices as specified by the EPD.				✓	
• Transport of dredged marine sediments to the disposal site is by split barge of not less than 750m <sup>3</sup> capacity, well maintained and capable of rapid opening and discharge at the disposal site.				✓	
• Inspection of the barge loading to ensure that loss of material does not take place during transportation.				✓	
<b>Construction and Demolition (C&amp;D) Waste</b>					
• Most of the C&D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites.				✓	
• Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.				✓	
• Proper protective measures, such as fences and tarpaulin, are provided, in order to protective the temporary stockpiled materials for later reuse / recycle.				✓	
• Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)				✓	
• In order to reduce the impacts to the public, except for those sorted inert C&D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste frameworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away the sensitive receivers.				✓	
• All Public Fill arising from the demolition works shall be limited to a size not more than 250mm and free of reinforcement bars, timber, etc. before re-using it.				✓	
• Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.				✓	
• Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills				✓	
• Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.				✓	
• Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized				✓	

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management	Implementation Stages*			Remark
	Yes	No	N/A	
• Proper storage will minimize the damage and thus the wastage of the materials				
• Training of site personnel in proper waste management procedures. The workers shall be constantly educated for the awareness of the proper handling of waste and to reduce the amount of waste while Site Agent shall be constantly met to discuss the effectiveness of the implementation of the waste management plan. Information to promote the waste management and the reduction concept shall be posted at the site to raise alertness of the personnel concerned.	✓	✓		
• Chemical Waste				
• It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.				
• After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	✓			
• Chemical wastes should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓			
• Containers used for the storage of chemical wastes				
• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed	✓			
• Have a capacity of less than 450L unless the specification have been approved by the EPD				
• Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Chemical Waste (General) Regulations and Codes of Practice	✓			
• Labelling				
• Every container of chemical waste would bear an appropriate label, which would contain the particulars details.				
• The waste produced would ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste				
• Storage Area				
• Be clearly labeled and used solely for the storage of chemical waste				
• Be enclosed on at least 3 sides				
• Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest	✓			
• Have adequate ventilation				
• Be covered to prevent rainfall entering				
• Be arranged so that incompatible materials are adequately separated				
• Be clean and maintain regularly				
• Disposal				
• Be via a licensed waste collector				
• To a licensed disposal facility, such as Chemical Waste Treatment Centre	✓			
• Be a reuser of the waste, under approval from the EPD	✓			

## SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management	Implementation Stages*			Remark
		Yes	No	N/A	
• Spillage					
• Establish source of spill or discharge and determine nature of material, where possible halt discharge				✓	
• Commencing at the source of the spill, establish all current and potential impacted areas				✓	
• Commence containment of spill using bunds made from available materials and ground water cut-off trenches where necessary		✓			
• After spill is contained remove material (including contaminated soil where necessary) using pumps and/or absorbent materials		✓			
• Dispose of materials as chemical wastes		✓			
• General Refuse					
• General refuse generated on-site is in enclosed bins or compaction units separate from construction and chemical waste	✓				
• A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from the construction and chemical waste.	✓				
• General refuse generated is removed on daily or every second day basis to minimise odour, pest and litter impacts	✓				
• Aluminium cans are recovered from the waste stream by individual collectors if they are segregated or easily accessible, so separate, labelled bins for their deposit should be provided if feasible.	✓				
• Office wastes are reduced through recycling of paper if volumes are large enough to warrant collection.	✓				
• Site Practice					
• Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from dropping into the nearby environment.					
• Construction sites should be cleaned on a regular basis.					
• The Contractor assigned worker is responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.					
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.					
• The Environmental Permit should be displayed conspicuously on site					
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓				
• Any unused chemicals or those with remaining functional capacity should be recycled.	✓				
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	✓				
• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odour, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.	✓				
• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.	✓				
• All generators, fuel and oil storage are within bundle areas.	✓				
• Oil leakage from machinery, vehicle and plant is prevented.	✓				
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.	✓				

### Table for follow-up Action:

Item	Details of defective works or observations	Location	Further action to be taken (Included persons / party to take action)	Expected Date for Action taken
#(1) Follow up to the previous site inspection finding item ① on 20/10/05, the stockpile was covered with tarpaulin sheet.	Node 3	No Further action is required since the finding is completed.	N/A	
#(2) Follow up to the previous site inspection finding item ③ on 20/10/05, no black smoke was observed emitted from the excavators and other site machines.	Node 3	No Further action is required since the finding is completed	-	
Remark	Silt, water has found accumulated in the drainage channel.	The Contractor was reminded to divert silty water to the sedimentation tank before discharge. Besides, the channel should be covered to prevent the sand splashed to the channel during up-loading.	LWKJV	ET
Signature:	RSS			
Name:	Reed C.		Cinda Lam	
Date:	21/10/05	Ben TSP	Linda Lam	26/10/05

## Appendix I

### **IEC and RE Comments on Monthly EM&A Report**

**September 2005**

**IEC and RE Comments on Monthly Environmental Monitoring and Audit Report – September 2005**

Item No.	Document Reference	Comment	ET Response
---	---	No RE and IEC comments were noticed.	No responses were required since no comments were noticed.

**Appendix J**

**Wastewater Monitoring**

**Test Reports of Wastewater Samples from Discharge Points**



# ENVIRO LABS LIMITED

環境化驗有限公司

## TEST REPORT

JOB NO. : A-05638

DATE OF ISSUE : 20 September 2005

PAGE : 1 of 1

### 1. Client

Leader - Wai Kee (C&T) Joint Venture

Unit 1001-1005, 10/F., Grand Central Plaza, Tower 1, 138 Shatin Rural Committee Road, Sha Tin, N.T., HK  
Attn.: Mr. Ben Yip

### 2. Sample Identification

Sample Description : One set of water sample said to be wastewater  
 Sampling : Conducted by the Enviro Labs Ltd.  
 Sampling Point : Outlet of sedimentation tank at  
                             Construction Site of Remaining Engineering Infrastructure Works for Pak Shek Kok  
                             Development Package 2A, Pak Shek Kok, N.T. (Contract No. TP 37/03)  
 Preservation : Delivered and stored under refrigerated condition  
 Sampling Date & Time : 15 Sep 2005 10:00  
 Received Date & Time : 15 Sep 2005 10:15

### 3. Test Method

Parameter	Reference Method	Testing Period
(i) Total Suspended Solids (TSS) Dried at 103-105°C	APHA <sup>1</sup> 17e 2540 D	15 Sep 2005

1. APHA Standard Methods for the Examination of Water and Wastewater

### 4. Test Result\*

Sample Label	Test Parameter	Sample No.	Test Result	Discharge Limit **	Unit
Ma Liu Shui voided abutment	Total Suspended Solids	05638-1	21	≤30	mg/L

\* Test results relate only to the items received.

\*\* Information provided by the client. (It is not a test result, information for reference only).

— END OF REPORT —



APPROVED SIGNATORY:

Kenneth Lam  
(Laboratory Manager)



# ENVIRO LABS LIMITED

## 環境化驗有限公司

### TEST REPORT

JOB NO. : A-05512-1A

DATE OF ISSUE : 12 September 2005

PAGE : 1 of 1

#### 1. Client

Leader - Wai Kee (C&T) Joint Venture  
Unit 1001-1005, 10/F., Grand Central Plaza, Tower 1, 138 Shatin Rural Committee Road, Sha Tin, N.T., HK  
Attn.: Mr. Ben Yip

#### 2. Sample Identification

Sample Description : One set of water sample said to be wastewater  
Sampling : Conducted by the Enviro Labs Ltd.  
Sampling Point : Outlet of sedimentation tank at  
Construction Site of Remaining Engineering Infrastructure Works for Pak Shek Kok  
Development Package 2A, Pak Shek Kok, N.T. (Contract No. TP 37/03)  
Preservation : Delivered and stored under refrigerated condition  
Sampling Date & Time : 30 Aug 2005 10:00  
Received Date & Time : 30 Aug 2005 11:45

#### 3. Test Method

Parameter	Reference Method	Testing Period
(i) Total Suspended Solids (TSS) Dried at 103-105°C	APHA <sup>1</sup> 17e 2540 D	31 Aug 2005

1. APHA Standard Methods for the Examination of Water and Wastewater

#### 4. Test Result\*

Sample Label	Test Parameter	Sample No.	Test Result	Discharge Limit **	Unit
Rd. L.4	Total Suspended Solids	05512-2	17	≤30	mg/L

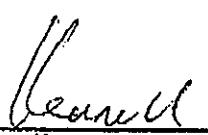
\* Test results relate only to the items received.

\*\* Information provided by the client. (It is not a test result, information for reference only).

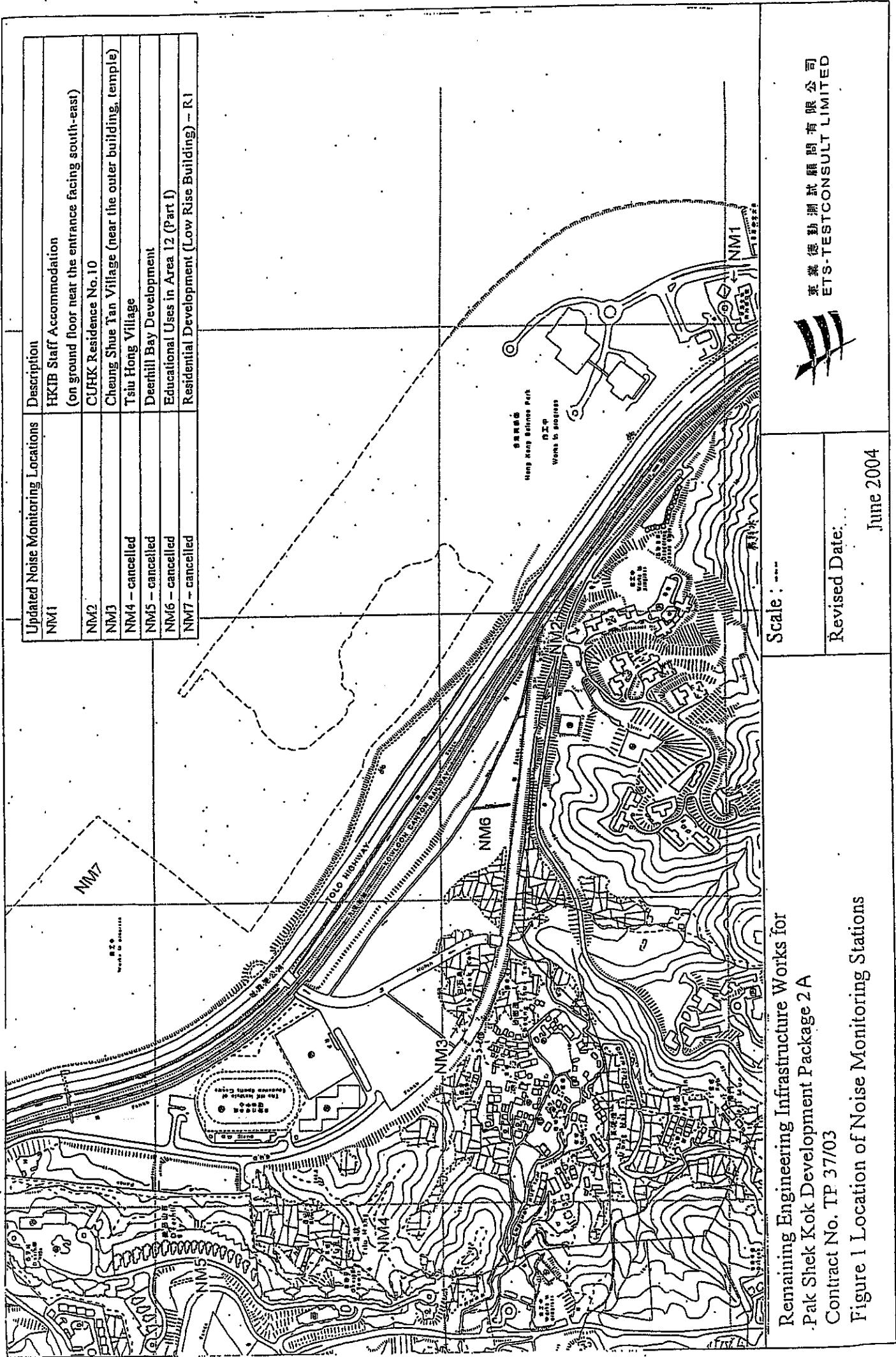
— END OF REPORT —



APPROVED SIGNATORY:

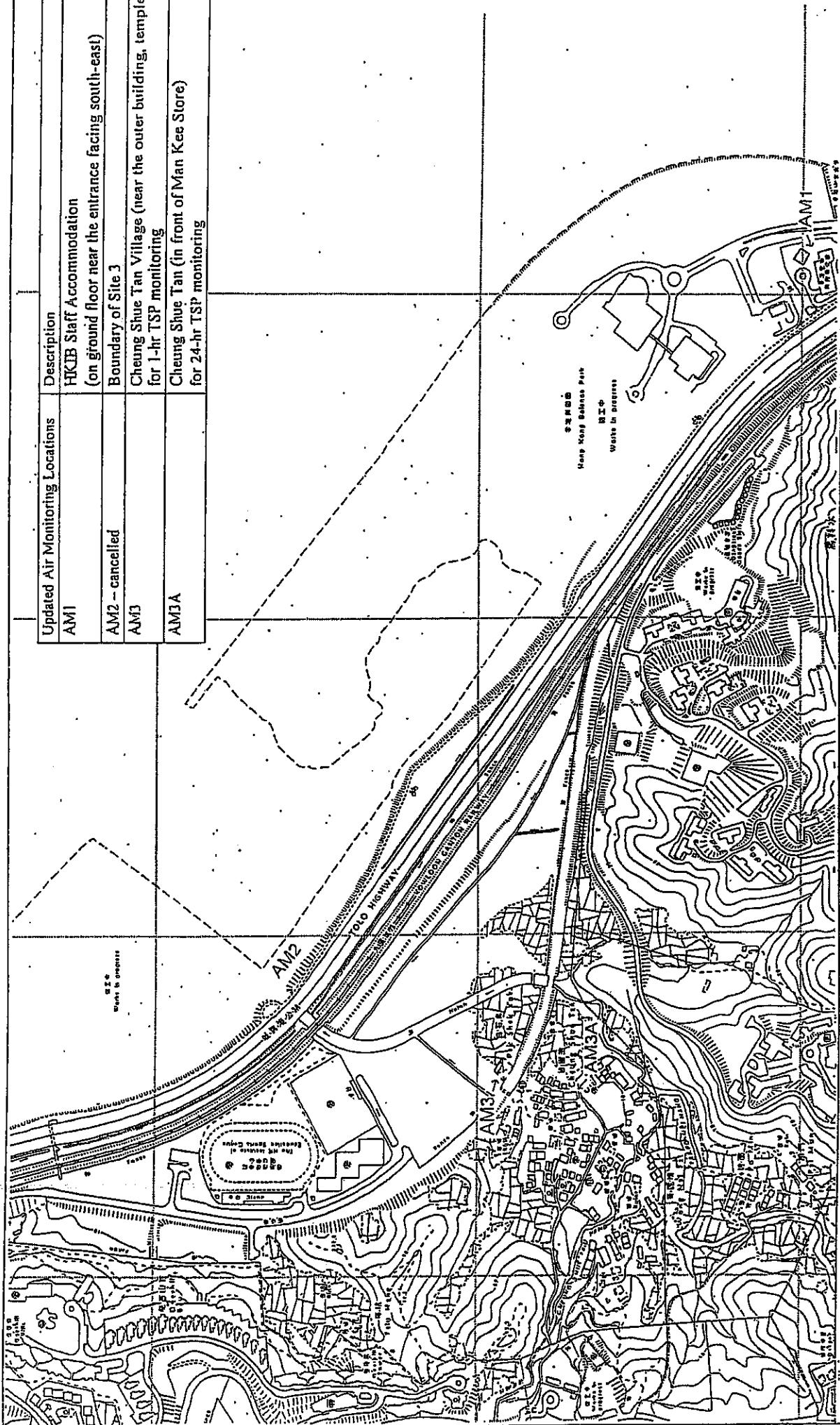
  
Kenneth Lam  
(Laboratory Manager)

## Figures



Remaining Engineering Infrastructure Works for  
Pak Shek Kok Development Package 2A  
Contract No. TP 37/03  
Figure 1 Location of Noise Monitoring Stations

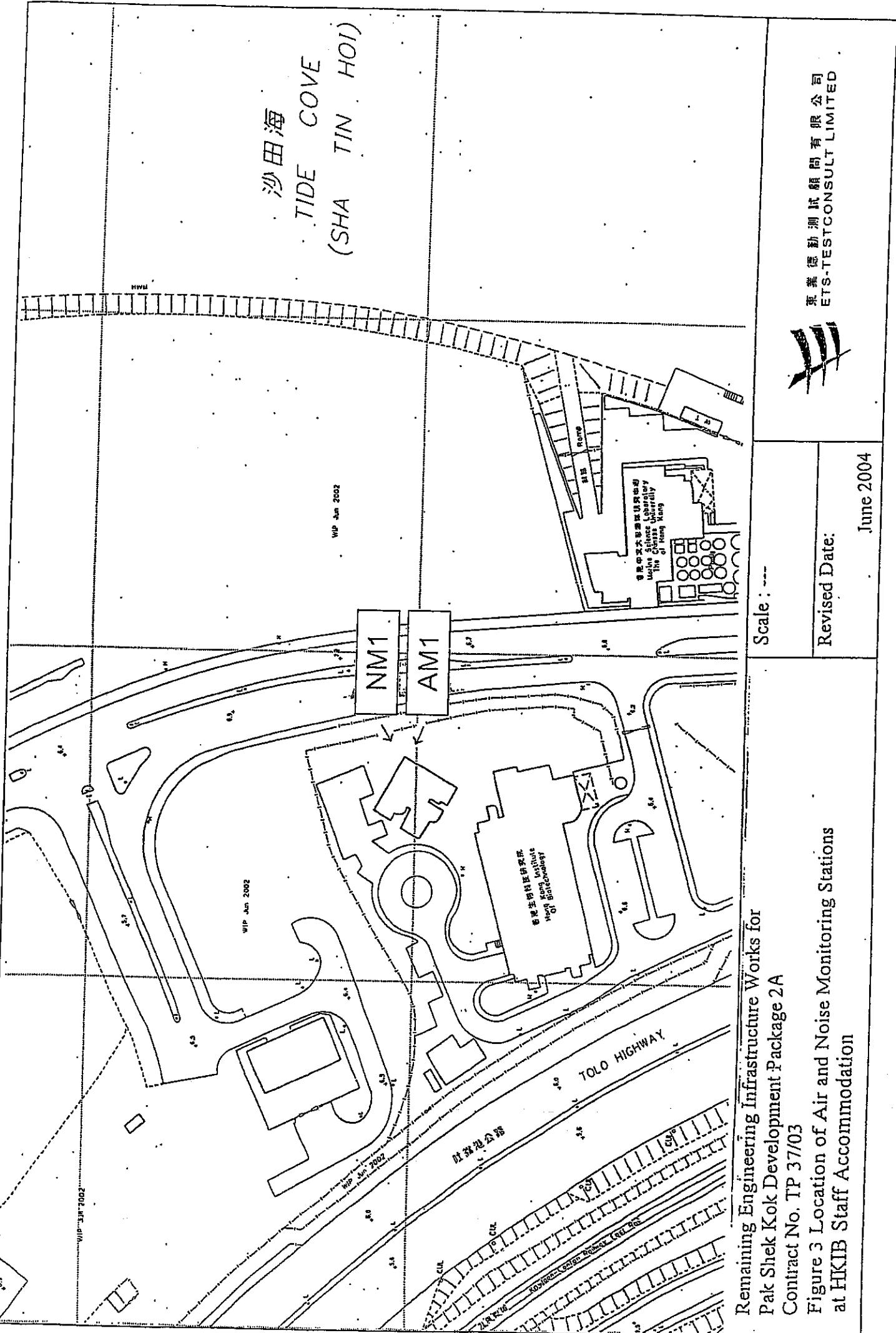
Updated Air Monitoring Locations	Description
AM1	HKCIB Staff Accommodation (on ground floor near the entrance facing south-east)
AM2 - cancelled	Boundary of Site 3
AM3	Cheung Shue Tan Village (near the outer building, temple) for 1-hr TSP monitoring.
AM1A	Cheung Shue Tan (in front of Man Kee Store) for 24-hr TSP monitoring



Remaining Engineering Infrastructure Works for  
Pak Shek Kok Development Package 2 A  
Contract No. TP 37/03  
Figure 2 Location of Air Monitoring Stations

Scale : ---	Revised Date:
	June 2004

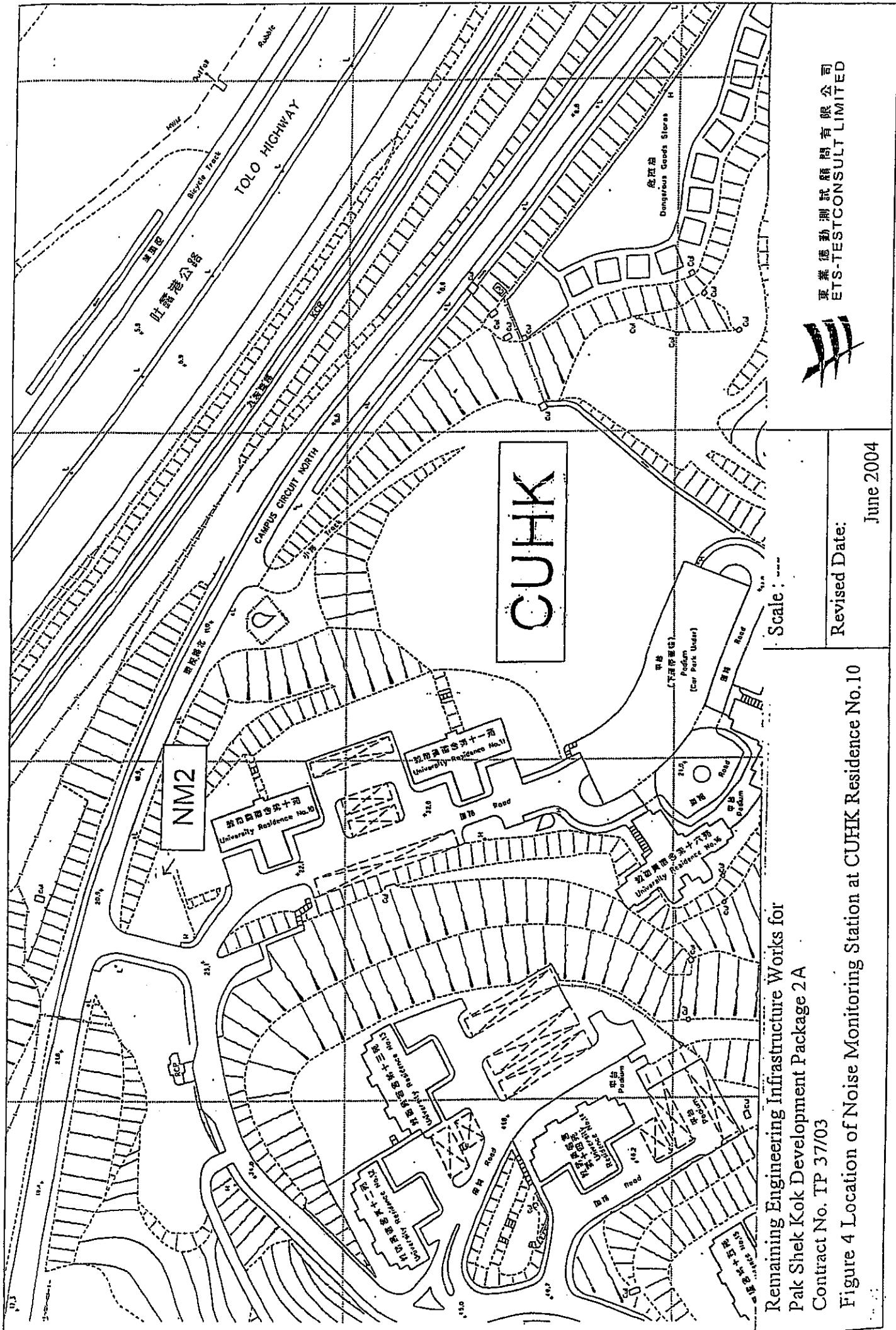
東業 億勁測試顧問有限公司  
ETS-TESTCONSULT LIMITED



Remaining Engineering Infrastructure Works for  
Pak Shek Kok Development Package 2A  
Contract No. TP 37/03

Figure 3 Location of Air and Noise Monitoring Stations  
at HKIB Staff Accommodation

東業德勤測量顧問有限公司  
ETS-TESTCONSULT LIMITED



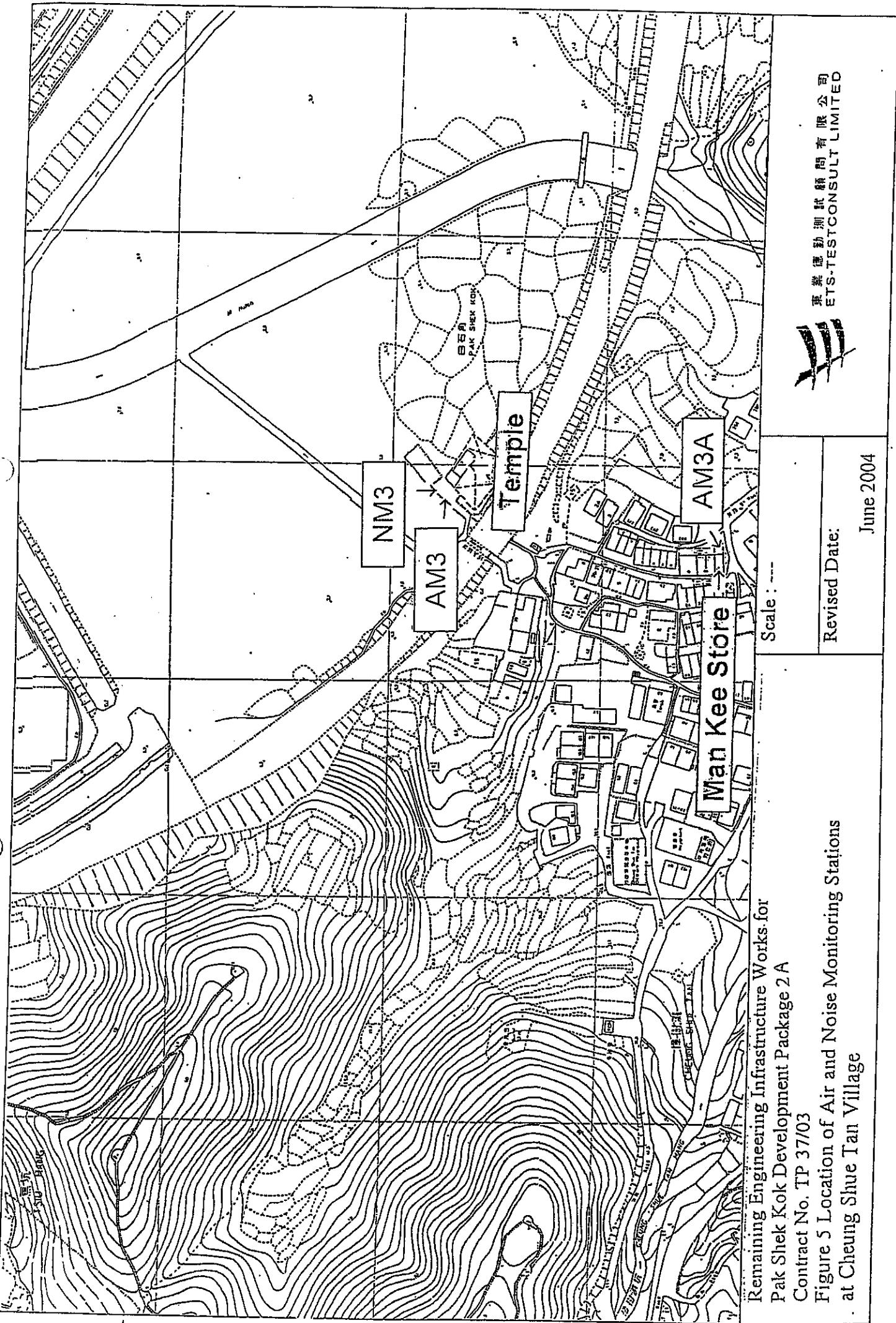




Figure 7 Additional Locations of Air and Noise Monitoring Stations at the Chinese University of Hong Kong

Remaining Engineering Infrastructure Works for Pak Shek Kok Development  
Package 2A Contract No. TP 37/03

Revised Date :  
October 2004

Scale : ---

