

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
(APRIL AND MAY 2005)**

Prepared by:

Linda Law
Environmental Officer

Checked by:

C. L. Lau
Environmental Team Leader

Approved by:

Tony Wong
Operations Manager

Report No.: ENA50303



INDEPENDENT ENVIRONMENTAL CHECKER
CHECK CERTIFICATE

Verified: _____
Independent Environmental Checker

Name: Ir Coleman Ng
Senior Environmental Consultant
Hyder Consulting Limited



TABLE OF CONTENTS		Page
EXECUTIVE SUMMARY		
1.0	INTRODUCTION	1
2.0	PROJECT INFORMATION	
	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
3.0	CONSTRUCTION PROGRESS IN THIS REPORTING MONTH	2
4.0	AIR QUALITY MONITORING	
	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
	4.7 Event-Action Plans	6
	4.8 Results	6
5.0	NOISE MONITORING	
	5.1 Monitoring Requirement	6
	5.2 Monitoring Equipment	6
	5.3 Monitoring Parameters, Frequency and duration	6 – 7
	5.4 Monitoring Locations and Period	7
	5.5 Monitoring Methodology	7 – 8
	5.6 Action and Limit levels	8
	5.7 Event-Action Plans	8
	5.8 Results	8
6.0	WASTEWATER MONITORING	13
7.0	ENVIRONMENTAL NON-CONFORMANCE	
	7.1 Summary of air quality, noise and wastewater monitoring	13 – 14
	7.2 Summary of environmental complaints	14
	7.3 Summary of notification of summons and prosecutions	14
8.0	SITE INSPECTION	
	8.1 Summary of site inspection findings and Action(s) taken by LWKJV and ET	14 – 15
	8.2 Status of Environmental Licensing and Permitting	15
	8.3 Recommendation on Site Inspection findings	16
9.0	WASTE MANAGEMENT	
	9.1 Waste Management Audit	16
	9.2 Records of waste quantities	16
10.0	Implementation Status	
	10.1 Implementation Status of Environmental Mitigation Measures	17
	10.2 Implementation Status of Event and Action Plan	17
	10.3 Implementation Status of Environmental Complaint Handling	17
11.0	CONCLUSION	17
12.0	FUTURE KEY ISSUE	
	12.1 Upcoming EM&A Schedule in coming two months	17 – 18
	12.2 Upcoming Construction Works Schedule in coming month	18



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	Wastewater Monitoring - Test Report of Wastewater Sample from Discharge Point

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.1) 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 25 April to 31 May 2005.

Construction Progress

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

- Drainage works at Road L4, Section 6,7,8 and Science Park Road Drainage Works
- Planter wall construction at Section 7 & 8;
- Waterworks at Section 7
- Seawall at Landscape Node P1, P3 and Public Landing Step

Environmental Monitoring Progress

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

- Noise Monitoring (Day-time): 5 Occasion at 4 designated locations
- 24-hour TSP Monitoring: 7 Occasions at 3 designated locations
- 1-hour TSP Monitoring: 16 Occasions at 3 designated locations
- Weekly-site inspection: 5 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 25 May 2005. One wastewater sample was collected from the discharge point at the construction site. The results of suspended solids content of the wastewater sample was complied the discharge limit of the Discharge Licence. The test report was attached at Appendix I. The test report had been submitted to the EPD at 01 June 2005 (Ref No.: J0402/03.09/05/4278L).

Site Inspection

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

<u>Concerned Parties</u>	<u>Dates of Audit / Inspection</u>
ET (weekly site inspection)	30/04, 07/05, 14/05, 21/05, 28/05
IEC/LWKJV/ET (Monthly site inspection)	25/05

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	Wastewater was found discharged without passing through the sedimentation tank at Road L4 during weekly site inspections (30/04/05).	The contractor replied the sedimentation tank was not operating since improvement works of the drainage channel was carried out during the site inspection. The sedimentation tank will be operated immediately when the improvement works were completed.	During the subsequent site inspection (07/05/05), it was found that the wastewater was found passed through the sedimentation tank before discharge. Hence, the finding was completed and no further actions were required.
2	Chemical	Chemicals were found exposed at Contractor's site office during weekly site inspection (30/04/05).	The contractor replied to store the chemicals in designated chemical storage area.	During the subsequent site inspection (07/05/05), it was found that the chemicals had been removed. Hence, the finding was completed and no further actions were required.
3	Water	Standing water was found at SA14 during the weekly site inspection (30/04/05).	The contractor replied to drain the standing water out and fill up the area by using sand to avoid accumulation of water during rainy day.	During the subsequent site inspection (14/05/05), it was found that the standing water had been drained through the temporary ditch. Hence, the finding was completed and no further actions were required.



Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
4	Waste	Rubbish skip was found full at Road L4 during weekly site inspection (07/05/05).	The Contractor replied to provide manpower to clean up the rubbish skip immediately and regularly.	During the subsequent site inspection (14/05/05), it was found that the rubbish skip had been cleaned up. Hence, the finding was completed and no further actions were required.
5	Air	Stockpile at Science Park Road Additional Area was only partly covered during weekly site inspection (07/05/05)	The Contractor replied to cover all stockpiles to avoid dust generation.	During the subsequent site inspection (14/05/05), it was found that the stockpile had been covered. Hence, the finding was completed and no further actions were required.
6	Chemical	Flammable chemical was exposed on Chemical Storage Area during the weekly site inspection (14/05/05).	The Contractor replied to cover the chemical to prevent over heat under sunlight.	During the subsequent site inspection (21/05/05), it was found that the chemical had been removed. Hence, the finding was completed and no further actions were required.
7	Water	Standing water was observed at Road L4 during weekly site inspection (21/05/05 and 28/05/05).	The Contractor replied to drain the standing water to prevent mosquito breeding.	Since the finding was still observed at the last weekly site inspection of this reporting month, the finding will be verified at the first inspection at 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. 6100 m³ inert C&D materials and 3000 kg C&D Wastes (e.g. 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 25 April to 31 May 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 1 and 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	Road L4, Section 6, 7, 8 and Science Park Road
Planter Wall Construction	Section 7 & 8
Water Works	Section 7
Seawall Construction	Landscape Node P1, P3 and Public Landing Step

Table 3.2 Implementation of Environmental Mitigation Measures

General construction works	<ul style="list-style-type: none">• Effective water sprays used on the site at potential dust emission sources such as haul roads and unpaved areas;• 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;• Water, hydro-seed or cover the open stockpile and exposed loose soil areas by using clean tarpaulin sheets;• 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;• Remove the sand/rubbish accumulated in the drain/channel regularly;• 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;• Remove the construction waste accumulated inside or outside the site regularly.
----------------------------	--

4.0 AIR QUALITY MONITORING

4.1 Monitoring Requirement

1-hour and 24-hour TSP monitoring were required to 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

Air quality 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					26/04/05	15:10	16:10
						28/04/05	10:02	11:02
						30/04/05	10:40	11:40
						03/05/05	09:45	10:45
						05/05/05	08:30	09:30
						07/05/05	14:08	15:08
						10/05/05	13:00	14:00
						12/05/05	15:02	16:02
						14/05/05	09:45	10:45
						17/05/05	09:30	10:30
						19/05/05	11:00	12:00
						21/05/05	09:00	10:00
						24/05/05	13:00	14:00
						26/05/05	09:15	10:15
						28/05/05	11:00	12:00
				31/05/05	11:00	12:00		



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)					26/04/05	10:18	11:18	
						28/04/05	16:32	17:32	
						30/04/05	13:00	14:00	
						03/05/05	11:00	12:00	
						05/05/05	13:00	14:00	
						07/05/05	08:30	09:30	
						10/05/05	09:55	10:55	
						12/05/05	09:50	10:50	
						14/05/05	11:00	12:00	
						17/05/05	13:15	14:15	
						19/05/05	08:00	09:00	
						21/05/05	14:20	15:20	
						24/05/05	10:30	11:30	
						26/05/05	10:30	11:30	
						28/05/05	13:00	14:00	
				31/05/05	09:30	10:30			
AM5	Near Wen Chih Tang at the CUHK					26/04/05	18:00	19:00	
						28/04/05	17:48	18:48	
						30/04/05	14:20	15:20	
						03/05/05	15:45	16:45	
						05/05/05	14:15	15:15	
						07/05/05	09:50	10:50	
						10/05/05	16:20	17:20	
						12/05/05	11:00	12:00	
						14/05/05	13:00	14:00	
						17/05/05	14:30	15:30	
						19/05/05	13:00	14:00	
						21/05/05	13:00	14:00	
						24/05/05	14:20	15:20	
						26/05/05	14:00	15:00	
						28/05/05	14:15	15:15	
				31/05/05	14:40	15:40			
AM1	HKIB Staff Accommodation	25/04/05	17:18	26/04/05	17:16				
		30/04/05	10:42	01/05/05	10:52				
		06/05/05	08:35	07/05/05	08:34				
		12/05/05	15:08	13/05/05	14:54				
		18/05/05	09:55	19/05/05	09:59				
		24/05/05	13:10	25/05/05	13:15				
		30/05/05	09:15	31/05/05	09:11				
AM3A	Cheung Shue Tan (in front of Man Kee Store)	25/04/05	16:45	26/04/05	17:02				
		30/04/05	13:02	01/05/05	13:45				
		06/05/05	09:55	07/05/05	10:16				
		12/05/05	09:54	13/05/05	10:07				
		18/05/05	09:28	19/05/05	09:59				
		24/05/05	10:39	25/05/05	10:56				
		30/05/05	09:22	31/05/05	09:20				
AM5	Near Wen Chih Tang at the CUHK	25/04/05	17:05	26/04/05	17:08				
		30/04/05	14:22	01/05/05	14:32				
		06/05/05	Cancelled due to no power supply						
		12/05/05	15:30	13/05/05	15:31				
		18/05/05	09:38	19/05/05	09:17				
		24/05/05	14:22	25/05/05	14:32				
		30/05/05	08:55	31/05/05	09:21				

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 0.6m³/min and 1.7m³/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°C ± 3°C and the relative humidity (RH) <50% ±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_{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

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

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

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

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

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

Noise monitoring stations	Monitoring Period							
	Day-time		Evening-time		Holiday		Night-time	
NM1	28/04/05	10:03	---	---	---	---	---	---
	05/05/05	08:32	---	---	---	---	---	---
	12/05/05	13:03	---	---	---	---	---	---
	19/05/05	11:06	---	---	---	---	---	---
	26/05/05	09:17	---	---	---	---	---	---
NM2	28/04/05	10:45	---	---	---	---	---	---
	05/05/05	14:27	---	---	---	---	---	---
	12/05/05	16:12	---	---	---	---	---	---
	19/05/05	16:15	---	---	---	---	---	---
	26/05/05	15:10	---	---	---	---	---	---
NM3	28/04/05	16:35	---	---	---	---	---	---
	05/05/05	13:02	---	---	---	---	---	---
	12/05/05	09:50	---	---	---	---	---	---
	19/05/05	08:02	---	---	---	---	---	---
	26/05/05	10:32	---	---	---	---	---	---
NM8	28/04/05	11:30	---	---	---	---	---	---
	05/05/05	14:17	---	---	---	---	---	---
	12/05/05	11:03	---	---	---	---	---	---
	19/05/05	13:05	---	---	---	---	---	---
	26/05/05	14:02	---	---	---	---	---	---

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 are 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 25 May 2005. One wastewater sample was collected from the discharge point at the construction site. The results of suspended solids content of the wastewater sample was complied the discharge limit of the Discharge Licence. The test report was attached at Appendix I. The test report had been submitted to the EPD at 01 June 2005 (Ref No.: J0402/03.09/05/4278L).

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.

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 (30 April, 07, 14, 21 and 28 May 2005). Monthly joint site inspection at 25 May 2005 was carried out by Engineer's Representative, IEC, LWKJV and ET. 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	Wastewater was found discharged without passing through the sedimentation tank at Road L4 during weekly site inspections (30/04/05).	The contractor replied the sedimentation tank was not operating since improvement works of the drainage channel was carried out during the site inspection. The sedimentation tank will be operated immediately when the improvement works were completed.	During the subsequent site inspection (07/05/05), it was found that the wastewater was found passed through the sedimentation tank before discharge. Hence, the finding was completed and no further actions were required.
2	Chemical	Chemicals were found exposed at Contractor's site office during weekly site inspection (30/04/05).	The contractor replied to store the chemicals in designated chemical storage area.	During the subsequent site inspection (07/05/05), it was found that the chemicals had been removed. Hence, the finding was completed and no further actions were required.
3	Water	Standing water was found at SA14 during the weekly site inspection (30/04/05).	The contractor replied to drain the standing water out and fill up the area by using sand to avoid accumulation of water during rainy day.	During the subsequent site inspection (14/05/05), it was found that the standing water had been drained through the temporary ditch. Hence, the finding was completed and no further actions were required.
4	Waste	Rubbish skip was found full at Road L4 during weekly site inspection (07/05/05).	The Contractor replied to provide manpower to clean up the rubbish skip immediately and regularly.	During the subsequent site inspection (14/05/05), it was found that the rubbish skip had been cleaned up. Hence, the finding was completed and no further actions were required.
5	Air	Stockpile at Science Park Road Additional Area was only partly covered during weekly site inspection (07/05/05)	The Contractor replied to cover all stockpiles to avoid dust generation.	During the subsequent site inspection (14/05/05), it was found that the stockpile had been covered. Hence, the finding was completed and no further actions were required.
6	Chemical	Flammable chemical was exposed on Chemical Storage Area during the weekly site inspection (14/05/05).	The Contractor replied to cover the chemical to prevent over heat under sunlight.	During the subsequent site inspection (21/05/05), it was found that the chemical had been removed. Hence, the finding was completed and no further actions were required.
7	Water	Standing water was observed at Road L4 during weekly site inspection (21/05/05 and 28/05/05).	The Contractor replied to drain the standing water to prevent mosquito breeding.	Since the finding was still observed at the last weekly site inspection of this reporting month, the finding will be verified at the first inspection at 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	GW-RN0682-04	30/12/04	29/06/05	Group A One Tug Boat (CNP 221) Group B Two Derrick Barge (CNP 061) One Dredger, grab (CNP 063)
Chemical Waste Producer	5113-729-LL1113-01	24/09/04	---	Spent lubricating oil, spent battery parts containing heavy metals



Description	Permit No.	Valid Period		Section
		From	To	
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 refuses;
- 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
Inert C&D Materials	Total Quantity Generated (m ³)	6100	Reused in the Contract	33815
	Broken Concrete (m ³)	100	N/A	385
	Reused in the Contract (m ³)	6000	N/A	33500
	Reused in other Projects (m ³)	0	N/A	0
	Disposal as Public Fill (m ³)	0	N/A	0
C&D Waste	Metals (1000kg)	0	N/A	37.341
	Paper/Cardboard Packaging (1000kg)	0	N/A	0.010
	Plastics (1000kg)	0	N/A	0.014
	Chemical Waste (1000kg)	0	N/A	1
	Other, e.g. General Refuse (1000kg)	3	SENT	58.29



10.0 IMPLEMENTATION STATUS

10.1 Implementation Status of Environmental Mitigation Measures

LWKJV has been implementing the required environmental mitigation measures according to Implementation of Mitigation Measures (clause 4.2, 5.2 and 6.2) in Environmental Management Plan for Contract No. TP 35/02 Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1 (Revision 2). 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.

Water quality monitoring was carried out at 25 May 2005. One wastewater sample was collected from the discharge point at the construction site. The results of suspended solids content of the wastewater sample was complied the discharge limit of the Discharge Licence.

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	June 2005	July 2005
Noise Monitoring (Day-time)	02, 09, 16, 23, 30	07, 14, 21, 28
1-hour TSP	02, 04, 07, 09, 11, 14, 16, 18, 21, 23, 25, 28, 30	02, 05, 07, 09, 12, 14, 16, 19, 21, 23, 26, 28, 30
24-hour TSP	04, 10, 16, 22, 28	04, 09, 15, 21, 27
Site Inspection	04, 11, 18, 25	02, 09, 16, 23, 30

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 June and July 2005	<ul style="list-style-type: none">▪ Road L4, Section 6, 7, 8 and Science Park Road Drainage Works;▪ Planter Wall Construction at Section 7 & 8;▪ Waterworks at Section 7;▪ Seawall at Landscape Node P1, P3 and Public Landing Steps;▪ Ma Liu Shui Piling works, Pre-loading mound;▪ Landscape Node P2 marine structure;▪ Waterworks at Section 5, 6, 7 and 8 and Science Park Road.

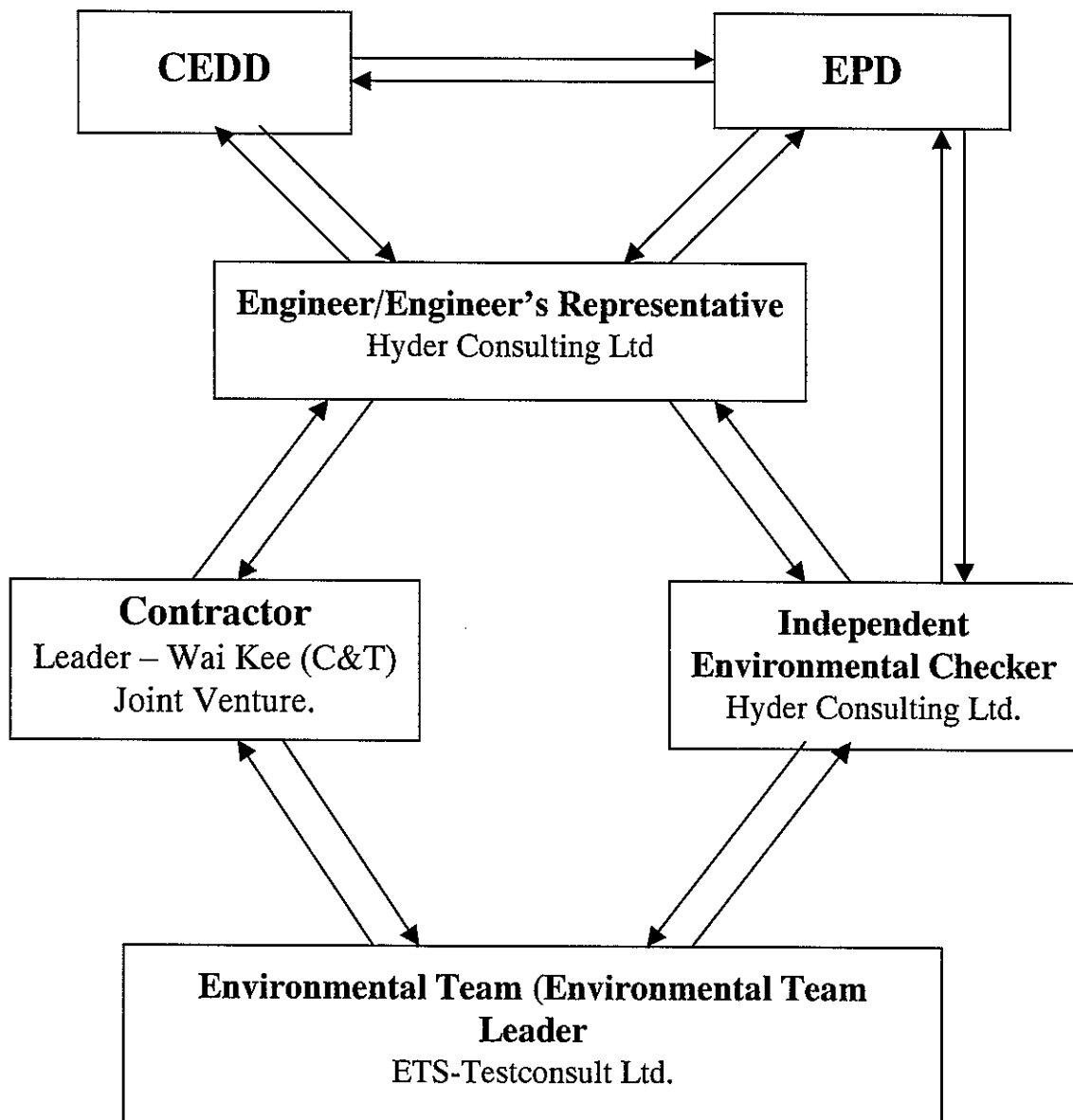


Appendix A

Organization Chart and Lines of Communication



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

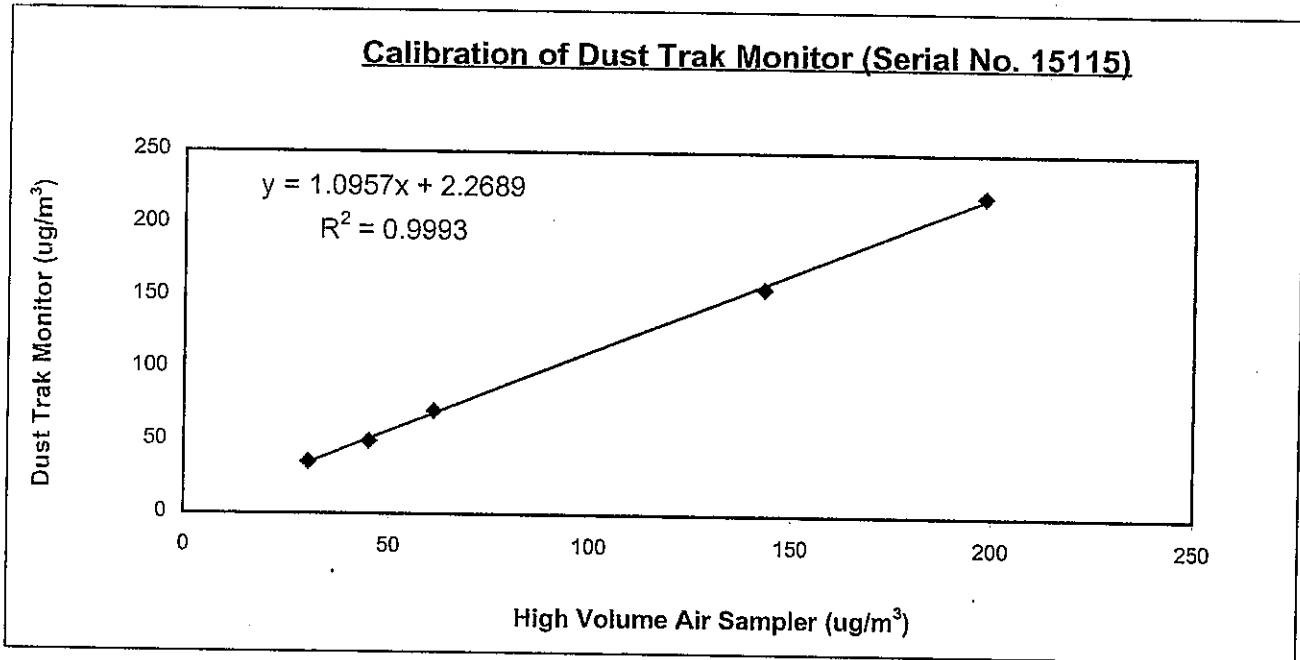
TEST REPORT

Internal Calibration Report
of
Dust Trak Monitor

Manufacturer : TSI - 8520 Dust Trak Date of Calibration : 18 March 2005
Serial No. : 15115 (EA/001/02) Calibration Due Date : 17 September 2005
Method : Place two Dust Trak Monitor together at same environment condition for parallel measurement with five point calibration


Results :

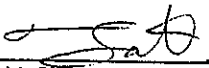
Dust Trak Monitor (ug/m ³)	36	50	71	156	221
High Volume Air Sampler (ug/m ³)	30	45	61	143	198
High Volume Air Sampler Serial No.: 1178			Calibration Date: 15 / 03 / 2005		



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 : 
Felix Tin
(Technician)

Approved by : 
H. T. Chow
(Asst. 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

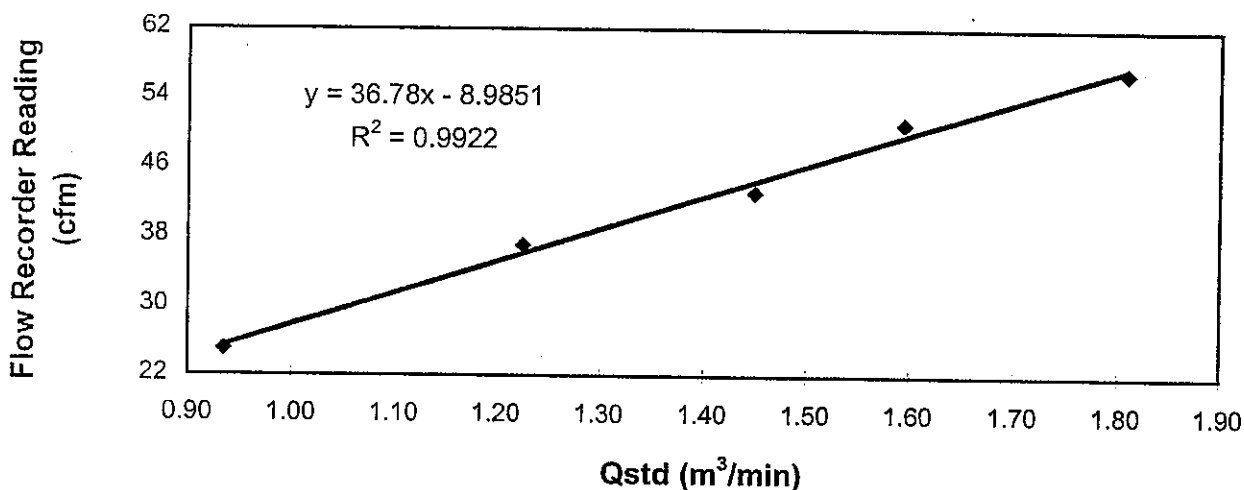
TEST REPORT

Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 15 March 2005
Serial No. : 1178 (ET/EA/003/01) Calibration Due Date : 14 May 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A


Results	Flow recorder reading (cfm)	57	51	43	37	25
	Qstd (Actual flow rate, m ³ /min)	1.81	1.59	1.45	1.23	0.93
	Pressure : 763.56 mm Hg	Temp. : 287 K				


Sampler1178 Calibration Curve
Site: Pak Shek Kok Monitoring Station AM1 (24hr.)
Date of Calibration: 15 March 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 : 
Felix Tin
(Technician)

Approved by : 
H. T. Chow
(Asst. 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 Pul 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

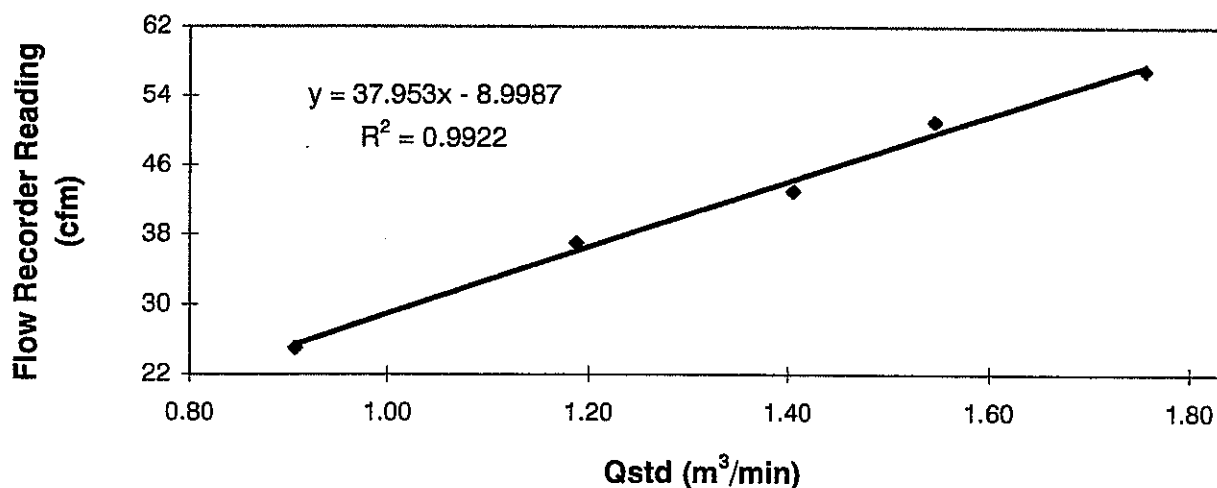
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 14 May 2005
Serial No. : 1178 (ET / EA / 003 / 01) Calibration Due Date : 13 July 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :


Flow recorder reading (cfm)	57	51	43	37	25
Qstd (Actual flow rate, m ³ /min)	1.75	1.55	1.40	1.19	0.91
Pressure :	754.56 mm Hg			Temp. :	302 K

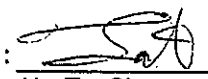
Sampler1178 Calibration Curve
Site: Pak Shek Kok Monitoring Station AM1 (24hr.)
Date of Calibration: 14 May 2005



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 : 
Peter Leung
(Technician)

Approved by : 
H. T. Chow
(Asst. 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

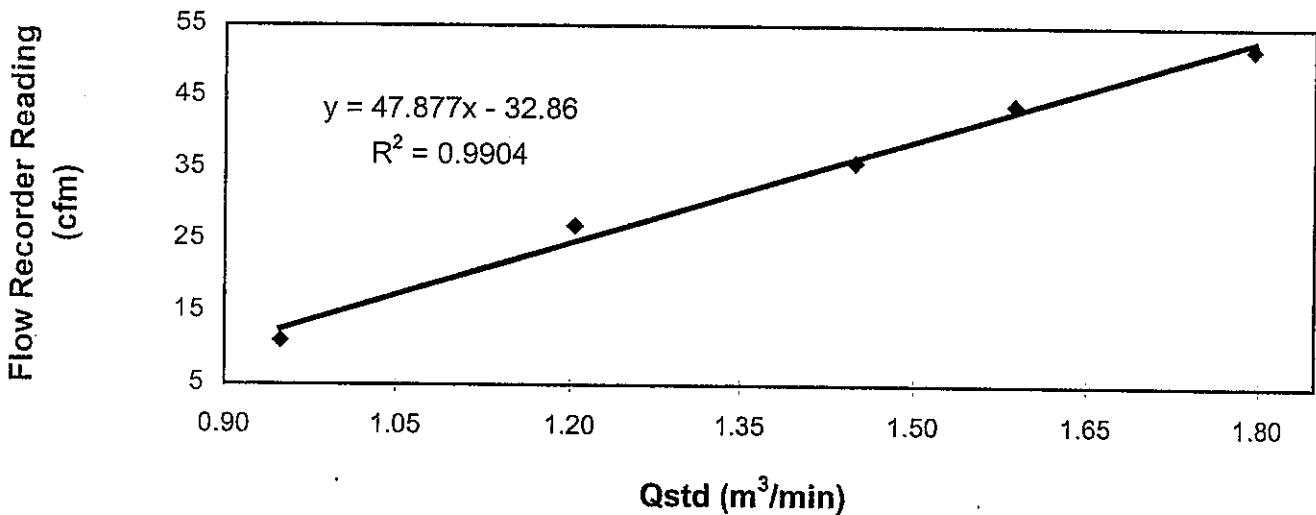
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 15 March 2005
Serial No. : 7179 (ET / EA / 003 / 16) Calibration Due Date : 14 May 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :


Flow recorder reading (cfm)	52	44	36	27	11
Qstd (Actual flow rate, m ³ /min)	1.79	1.59	1.45	1.20	0.95
Pressure :	763.56 mm Hg		Temp. :	287 K	


Sampler 7179 Calibration Curve
Site: Pak Shek Kok (AM3A)
Date of Calibration: 15 March 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 : 
Felix Tin
(Technician)

Approved by : 
H. T. Chow
(Asst. 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

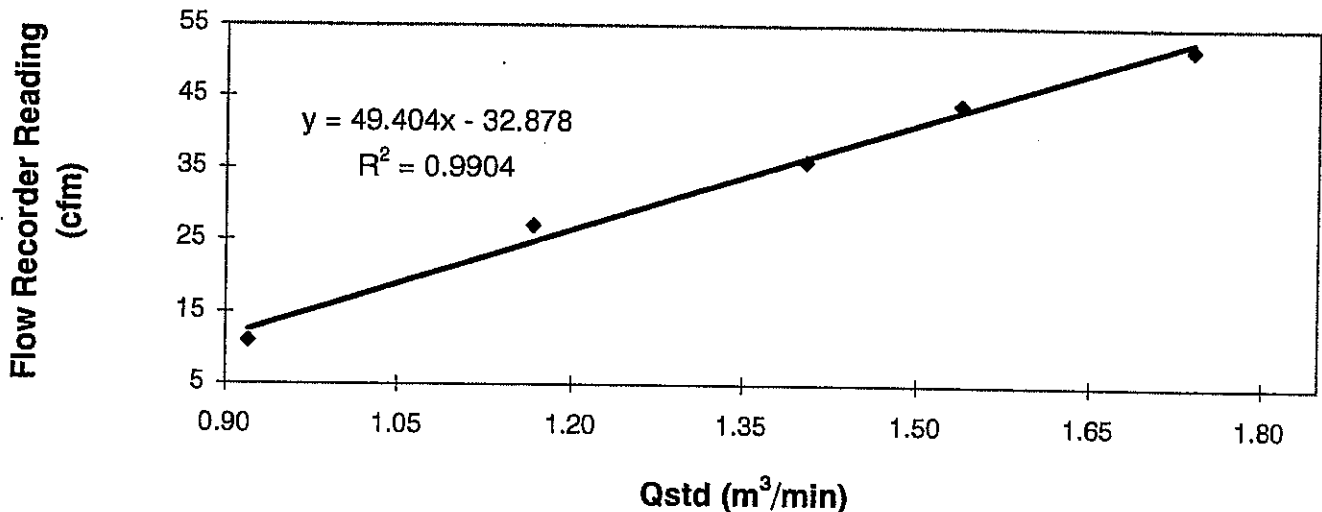
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW **Date of Calibration** : 14 May 2005
Serial No. : 7179 (ET / EA / 003 / 16) **Calibration Due Date** : 13 July 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :


Flow recorder reading (cfm)	52	44	36	27	11
Qstd (Actual flow rate, m ³ /min)	1.74	1.54	1.40	1.17	0.92
Pressure :	754.56 mm Hg		Temp. :	302 K	


Sampler 7179 Calibration Curve
Site: Pak Shek Kok (AM3A)
Date of Calibration: 14 May 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 : 
Peter Leung
(Technician)

Approved by : 
H. T. Chow
(Asst. 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

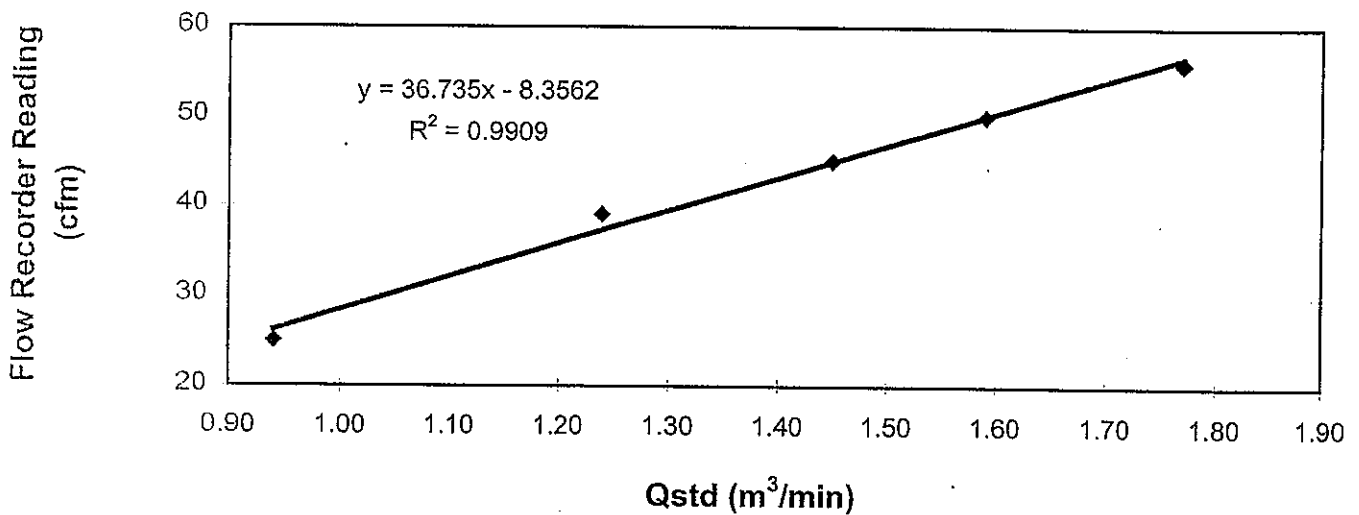
**Calibration Report
of
High Volume Air Sampler**

Manufacturer : Greasby GMW Date of Calibration : 23 April 2005
Serial No. : 1172 (ET / EA / 003 / 11) Calibration Due Date : 22 June 2005
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :


Flow recorder reading (cfm)	56	50	45	39	25
Qstd (Actual flow rate, m ³ /min)	1.77	1.59	1.45	1.24	0.94
Pressure :	758.31 mm Hg			Temp. :	297 K

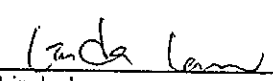
**Sampler 1172 Calibration Curve
Site: Pak Shek Kok (AM5)
Date of Calibration: 23 April 2005**



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 : 
Felix Tin
(Technician)

Approved by : 
Linda Law
(Environmental Officer)



Appendix B2

Air Quality Monitoring Results

Summary of 24-hr TSP Monitoring Results

Monitoring Station : AM1
Location : HKIB Staff Accommodation

Start Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
25/04/05	17:18	26/04/05	17:16	8309.57	8333.53	23.96	1.49	1.49	1.49	2.9008	2.9878	41	Cloudy
30/04/05	10:42	01/05/05	10:52	8357.10	8381.26	24.16	1.25	1.25	1.25	2.8912	2.9714	44	Cloudy
06/05/05	08:35	07/05/05	08:34	8405.16	8429.15	23.99	1.31	1.31	1.31	2.8982	3.0279	69	Sunny
12/05/05	15:08	13/05/05	14:54	8452.29	8476.06	23.77	1.31	1.31	1.31	2.9028	2.9893	46	Cloudy
18/05/05	09:55	19/05/05	09:59	8500.11	8524.18	24.07	1.31	1.31	1.31	2.8936	2.9552	43	Rainy
24/05/05	13:10	25/05/05	13:15	8548.20	8572.29	24.09	1.34	1.34	1.34	2.8883	2.9539	34	Cloudy
30/05/05	09:15	31/05/05	09:11	8596.19	8620.12	23.93	1.24	1.24	1.24	2.8583	2.9336	42	Sunny

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

Start Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
25/04/05	16:45	26/04/05	17:02	13644.16	13668.42	24.26	1.49	1.49	1.49	2.8829	2.9517	32	Cloudy
30/04/05	13:02	01/05/05	13:45	13692.54	13717.25	24.71	1.49	1.49	1.49	2.8939	2.9436	22	Cloudy
06/05/05	09:55	07/05/05	10:16	13741.51	16765.86	24.35	1.37	1.37	1.37	2.9123	3.0037	46	Sunny
12/05/05	09:54	13/05/05	10:07	13789.64	13813.85	24.21	1.37	1.37	1.37	2.9031	2.9679	33	Cloudy
18/05/05	09:28	19/05/05	09:59	13838.33	13862.85	24.52	1.37	1.37	1.37	2.8562	2.9368	40	Rainy
24/05/05	10:39	25/05/05	10:56	13886.79	13911.08	24.29	1.45	1.45	1.45	2.8737	2.9399	31	Cloudy
30/05/05	09:22	31/05/05	09:20	13935.49	13959.45	23.96	1.39	1.39	1.39	2.8528	2.9232	35	Sunny

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

Start Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)	Weather Condition	
		Date	Time	Initial	Final		Initial	Final		Initial	Final			
25/04/05	17:05	26/04/05	17:08	3852.29	3876.34	24.05	1.48	1.48	1.48	2.8856	2.9443	27	Cloudy	
30/04/05	14:22	01/05/05	14:32	3876.34	3900.54	24.17	1.37	1.37	1.37	2.8869	2.9385	26	Cloudy	
06/05/05				The monitoring was cancelled due to the disconnection of power supply										
12/05/05	15:30	13/05/05	15:31	3900.54	3924.56	24.02	1.26	1.26	1.26	2.9079	2.9902	28	Cloudy	
18/05/05	09:38	19/05/05	09:17	3924.56	3948.21	23.65	1.26	1.26	1.26	2.9004	2.9916	51	Rainy	
24/05/05	14:22	25/05/05	14:32	3948.22	3972.39	24.17	1.15	1.15	1.15	2.8855	2.9415	34	Cloudy	
30/05/05	08:55	31/05/05	09:21	3972.39	3996.83	24.44	1.12	1.12	1.12	2.8703	2.9232	32	Sunny	

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		
26/04/05	15:10	16:10	104	389	186	Cloudy	
28/04/05	10:02	11:02	106	398	167	Cloudy	
30/04/05	10:40	11:40	98	380	170	Cloudy	
03/05/05	09:45	10:45	106	405	198	Cloudy	
05/05/05	08:30	09:30	124	410	179	Cloudy	
07/05/05	14:08	15:08	98	447	128	Cloudy	
10/05/05	13:00	14:00	79	351	117	Cloudy	
12/05/05	15:02	16:02	83	359	126	Cloudy	
14/05/05	09:45	10:45	89	382	140	Cloudy	
17/05/05	09:30	10:30	114	402	185	Cloudy	
19/05/05	11:00	12:00	89	384	116	Cloudy	
21/05/05	09:00	10:00	98	390	135	Sunny	
24/05/05	13:00	14:00	94	395	137	Cloudy	
26/05/05	09:15	10:15	92	379	107	Cloudy	
28/05/05	11:00	12:00	93	398	136	Cloudy	
31/05/05	11:00	12:00	89	377	134	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		
26/04/05	10:18	11:18	89	340	128	Cloudy	
28/04/05	16:32	17:32	87	332	120	Cloudy	
30/04/05	13:00	14:00	78	330	153	Cloudy	
03/05/05	11:00	12:00	101	340	167	Cloudy	
05/05/05	13:00	14:00	97	345	142	Cloudy	
07/05/05	08:30	09:30	80	202	91	Cloudy	
10/05/05	09:55	10:55	72	309	105	Cloudy	
12/05/05	09:50	10:50	76	301	105	Cloudy	
14/05/05	11:00	12:00	72	330	126	Cloudy	
17/05/05	13:15	14:15	87	350	120	Cloudy	
19/05/05	08:00	09:00	73	363	96	Cloudy	
21/05/05	14:20	15:20	90	376	97	Sunny	
24/05/05	10:30	11:30	89	387	95	Cloudy	
26/05/05	10:30	11:30	72	330	98	Cloudy	
28/05/05	13:00	14:00	88	356	95	Cloudy	
31/05/05	09:30	10:30	80	306	98	Cloudy	

Summary of 1-hr TSP Monitoring Results

Monitoring Station : AMB – Near Wen Vhnh Tand at the CUHK

Date	Monitoring Period		1-hr TSP ($\mu\text{g}/\text{m}^3$)			Weather
	Start	Finish	Minimum	Maximum	Average	
26/04/05	18:00	19:00	80	328	121	Cloudy
28/04/05	17:48	18:48	68	306	112	Cloudy
30/04/05	14:20	15:20	69	310	130	Cloudy
03/05/05	15:45	16:45	98	325	147	Cloudy
05/05/05	14:15	15:15	90	330	147	Cloudy
07/05/05	09:50	10:50	91	330	117	Cloudy
10/05/05	16:20	17:20	75	321	107	Cloudy
12/05/05	11:00	12:00	74	312	112	Cloudy
14/05/05	13:00	14:00	69	321	124	Cloudy
17/05/05	14:30	15:30	69	327	98	Cloudy
19/05/05	13:00	14:00	70	349	99	Cloudy
21/05/05	13:00	14:00	95	396	99	Sunny
24/05/05	14:20	15:20	86	374	90	Cloudy
26/05/05	14:00	15:00	65	325	95	Cloudy
28/05/05	14:15	15:15	90	366	105	Cloudy
31/05/05	14:40	15:40	81	312	95	Cloudy

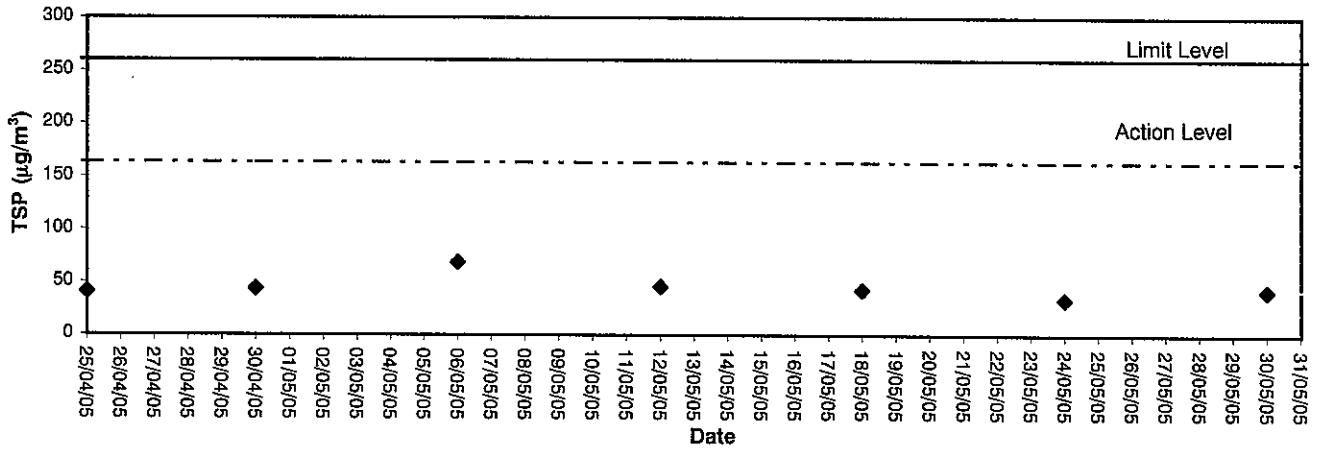


Appendix B3

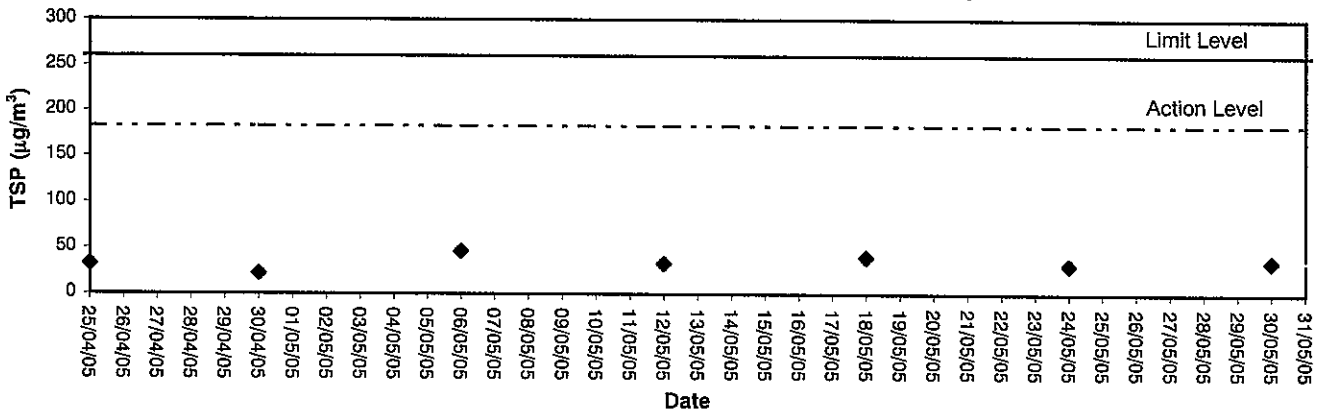
Graphical Plots of Air Quality Monitoring Data



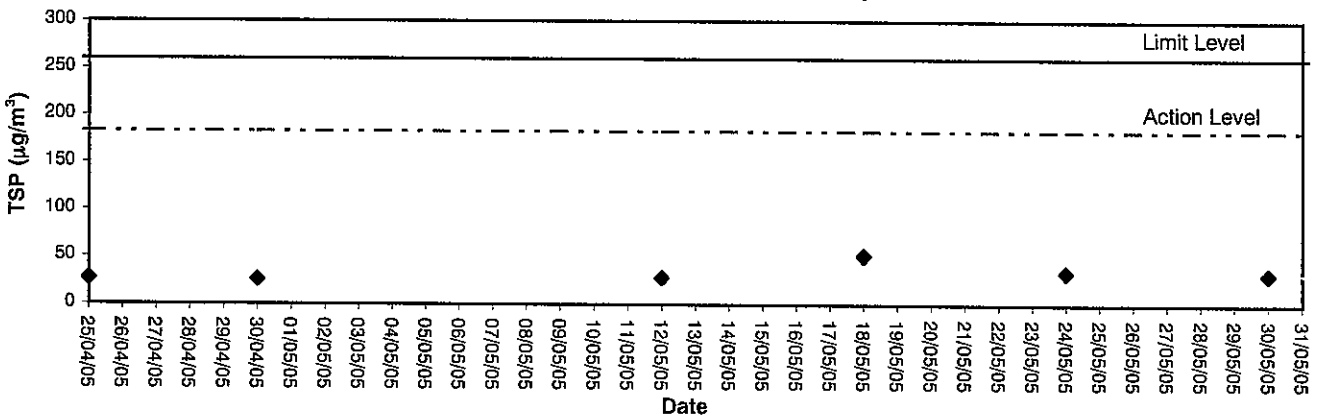
24-hour TSP level at AM1 (HKIB Staff Accommodation)



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

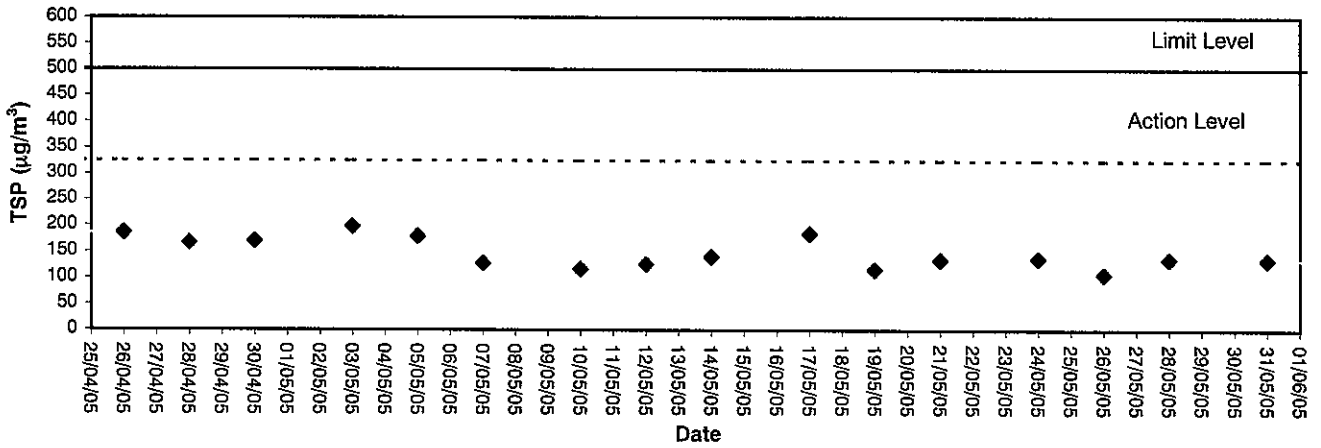


**24-hour TSP level at AM5
(Wen Chih Tang at the CUHK)**

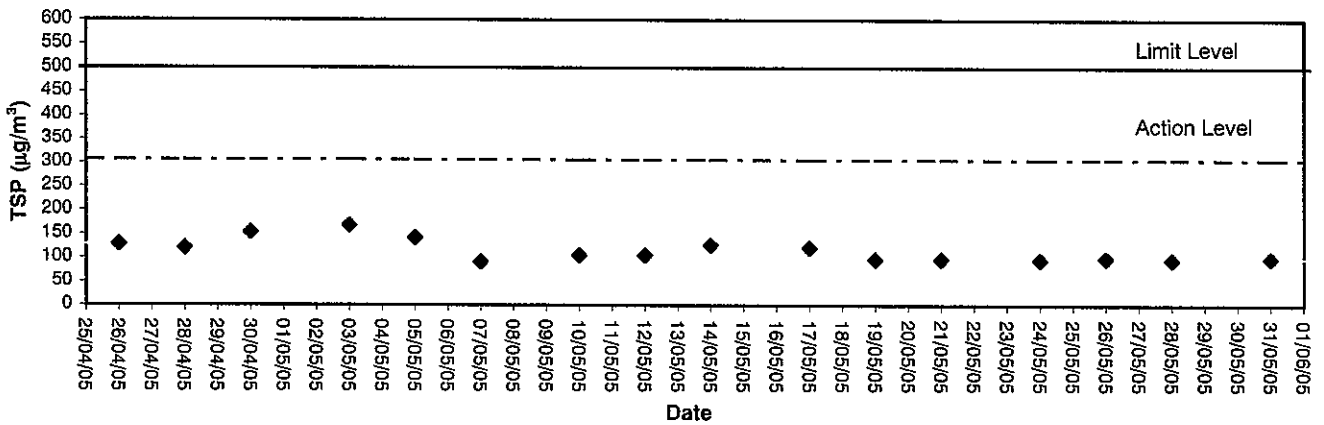




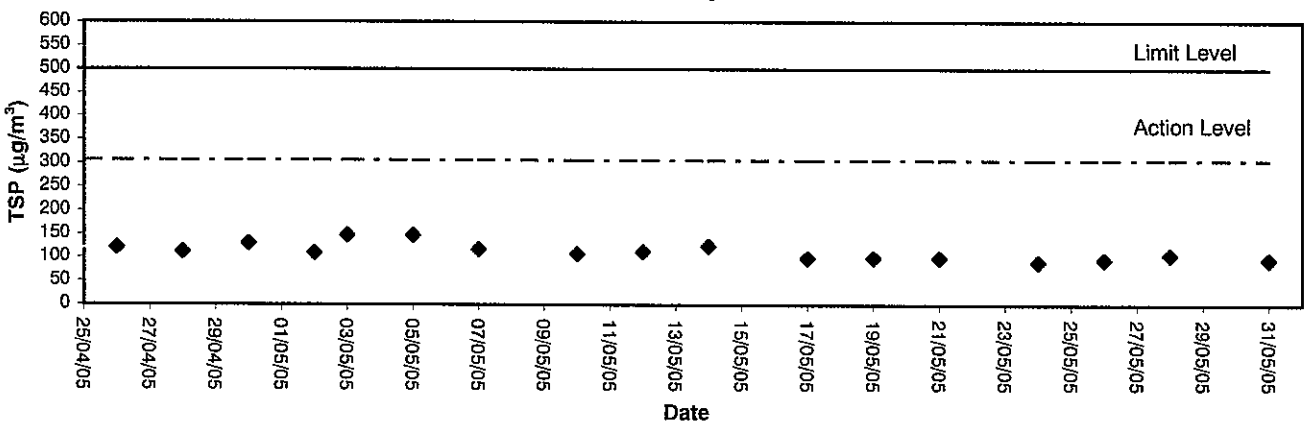
1-hour TSP level at AM1, HKIB Staff Accommodation



**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**





Appendix C1
Calibration Certificates for
Noise Monitoring Equipments



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 : $(22.5 \pm 2.5)^{\circ}\text{C}$

Relative Humidity : $(50 \pm 20) \%$

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:

<u>Equipment No.</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
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.

Date: 20-Apr-05

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



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 _A	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L _C L _p	Fast		0.0
		Fast		0.0
30 - 120	L _A	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L _C L _p	Fast		+ 0.1
		Fast		+ 0.1
30 - 120	L _A	Fast	114.0	+ 0.1
		Slow		+ 0.1
	L _C L _p	Fast		0.0
		Fast		0.0

IEC 651 Type 1 Spec. : ± 0.7 dB

Uncertainty : ± 0.2 dB

2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. : ± 0.3 dB

Uncertainty : ± 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 ²	39.9	+ 0.1	
1/10 ³	39.9	+ 0.1	± 1.0 dB
1/10 ⁴	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 -----



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 (Equip 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

Date: 20-Apr-05



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 _{eq(30min)}	L10	L90		
28/04/05	10:03	60.0	61.3	55.1	1.2	Cloudy
05/05/05	08:32	59.3	61.2	55.8	1.0	Cloudy
12/05/05	13:03	58.0	61.0	54.5	0.7	Cloudy
19/05/05	11:06	58.4	60.3	55.9	1.0	Cloudy
26/05/05	09:17	58.0	60.3	55.3	0.8	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 _{eq(30min)}	L10	L90		
28/04/05	10:45	57.6	59.0	52.4	1.1	Cloudy
05/05/05	14:27	54.7	56.8	51.5	0.7	Cloudy
12/05/05	16:12	54.7	57.1	50.9	0.5	Cloudy
19/05/05	16:15	55.0	56.5	49.9	0.6	Cloudy
26/05/05	15:10	54.3	56.6	50.3	0.6	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 _{eq(30min)}	L10	L90		
28/04/05	16:35	56.1	57.5	50.5	0.9	Cloudy
05/05/05	13:02	53.0	54.8	49.2	1.0	Cloudy
12/05/05	09:50	53.0	55.1	49.1	0.5	Cloudy
19/05/05	08:02	53.1	55.2	49.2	0.6	Cloudy
26/05/05	10:32	53.2	55.3	49.0	0.6	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 _{eq(30min)}	L10	L90		
28/04/05	11:30	57.6	58.7	50.6	1.3	Cloudy
05/05/05	14:17	51.9	54.0	48.3	0.9	Cloudy
12/05/05	11:03	52.5	54.5	48.8	0.7	Cloudy
19/05/05	13:05	52.4	54.8	48.3	0.6	Cloudy
26/05/05	14:02	53.9	56.2	49.7	0.6	Cloudy



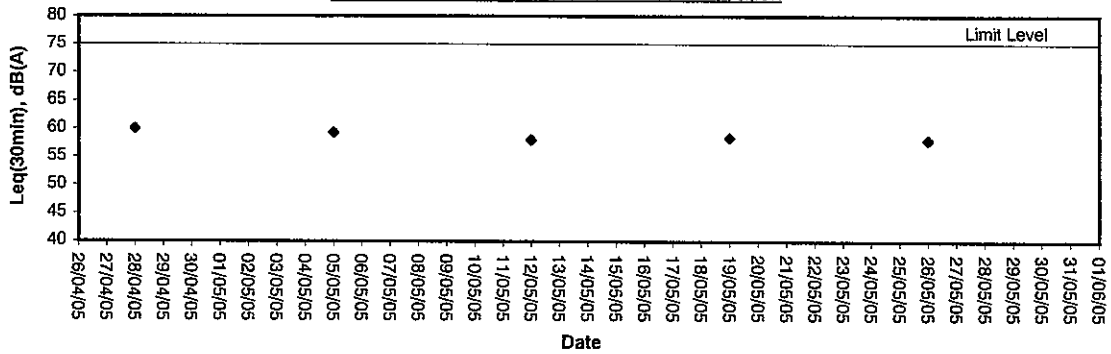
Appendix C3

Graphical Plots of Noise Monitoring Data

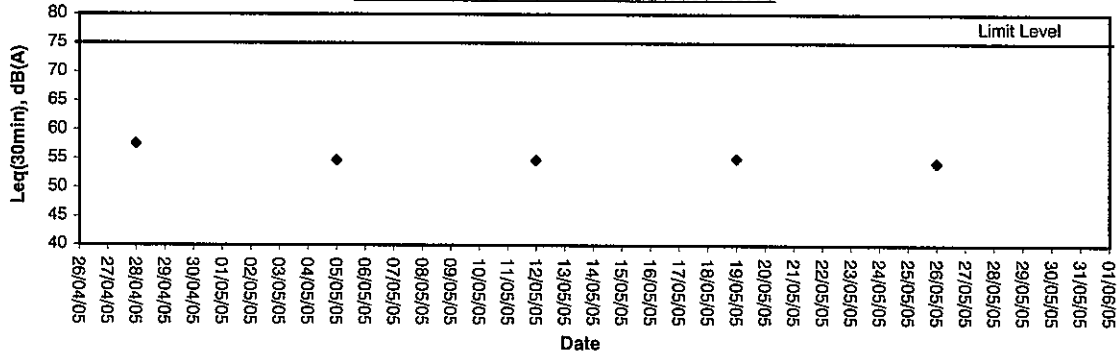


Noise Monitoring (Day-time)

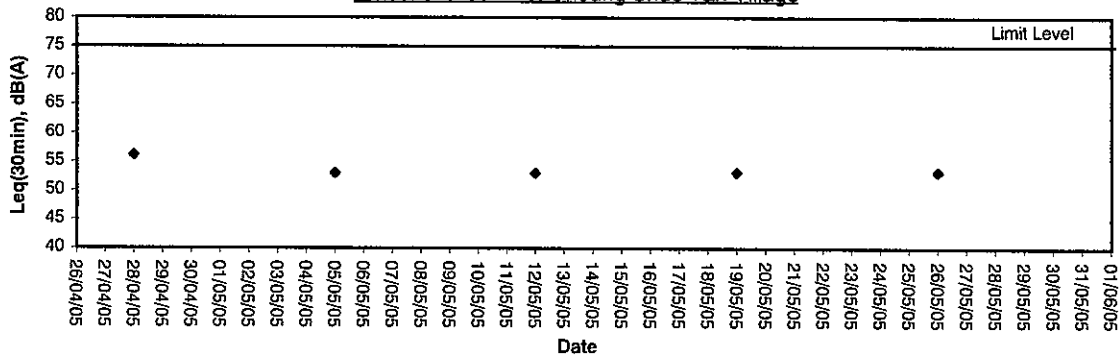
Noise level at NM1, HKIB Staff Accommodation



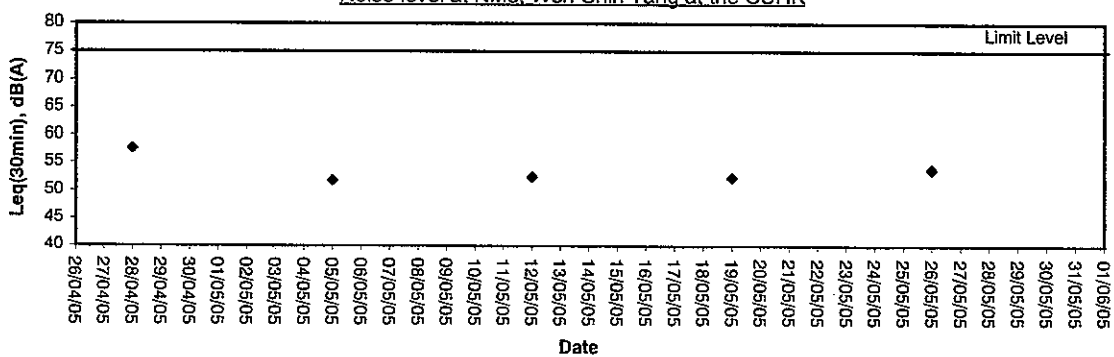
Noise level at NM2, CUHK Residence No.10



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)
25/04/05	3.5	25.5	23.7	91	E	<5
26/04/05	Trace	25.1	22.7	89	E	<5
27/04/05	3.1	22.9	21.2	92	NE	<5
28/04/05	0.2	28.2	22.2	85	NE	<5
29/04/05	2.4	28.8	25.9	83	S	<5
30/04/05	0.7	29.2	26.3	82	S	<5
01/05/05	Trace	28.5	27.0	82	S	<5
02/05/05	Trace	29.6	27.1	80	S	<5
03/05/05	-	30.6	26.7	79	S	<5
04/05/05	Trace	29.7	26.4	80	S	<5
05/05/05	-	29.9	27.0	77	S	<5
06/05/05	22.6	28.2	22.0	75	SW	<5
07/05/05	Trace	27.4	24.4	77	E	<5
08/05/05	37.1	29.2	24.2	93	E	<5
09/05/05	67.5	27.4	22.2	91	SW	<5
10/05/05	87.9	26.0	23.2	94	E	<5
11/05/05	0.2	24.7	23.2	94	E	<5
12/05/05	Trace	29.8	24.5	88	S	<5
13/05/05	-	30.1	27.9	91	SW	<5
14/05/05	Trace	30.5	28.2	79	SE	<5
15/05/05	5.5	30.5	28.3	81	S	<5
16/05/05	9.6	30.7	25.6	84	S	<5
17/05/05	6.5	30.6	25.2	79	SW	<5
18/05/05	47.2	32.2	25.3	81	SW	<5
19/05/05	16.4	27.9	25.0	92	E	<5
20/05/05	38.1	27.5	24.9	93	E	<5
21/05/05	0.4	28.7	24.9	88	SE	<5
22/05/05	Trace	32.6	24.2	75	SW	<5
23/05/05	8.5	30.1	24.8	83	S	<5
24/05/05	44.7	28.7	24.3	88	SW	<5
25/05/05	Trace	27.4	24.5	87	E	<5
26/05/05	30.5	26.5	24.5	94	E	<5
27/05/05	85.6	28.7	24.5	92	E	<5
28/05/05	0.3	28.5	24.4	89	E	<5
29/05/05	Trace	26.7	22.4	82	E	<5
30/05/05	Trace	28.8	21.9	77	E	<5
31/05/05	Trace	29.3	23.6	83	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

		ACTION		CNTRACTOR
EVENT	ET Leader	IC(E)	ER	
Action Level				
1. Exceedance of one sample	<ol style="list-style-type: none"> Identify source Inform IC(E) and ER Repeat measurement to confirm finding Increase monitoring frequency to daily 	<ol style="list-style-type: none"> Check monitoring data submitted by ET Check Contractor's working method. 	<ol style="list-style-type: none"> Notify Contractor 	<ol style="list-style-type: none"> Rectify any unacceptable practice Amend working methods if possible
2. Exceedance for two more consecutive samples	<ol style="list-style-type: none"> Identify source Inform IC(E) and ER Repeat measurement to confirm findings Increase monitoring frequency to daily Discuss with IC(E) and Contractor on remedial actions required If exceedance continuous, arrange meeting with IC(E) and ER If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> Checking monitoring data submitted by ET Check Contractor's working method Discuss with ET and Contractor on possible remedial measures Advise the ER on the effectiveness of the proposed remedial measures Supervisor implementation of remedial measures 	<ol style="list-style-type: none"> Confirm receipt of notification of failure in writing Notify Contractor Ensure remedial measures properly implemented 	<ol style="list-style-type: none"> Submit proposals for remedial action to IC(E) within 3 working days of notification Implement the agreed proposals Amend proposal if possible
Limit Level				
1. Exceedance of one sample	<ol style="list-style-type: none"> Identify source Inform ER and EPD Repeat measurement to confirm finding Increase monitoring frequency to daily Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results 	<ol style="list-style-type: none"> Check monitoring data submitted by ET Check Contractor's working method. Discuss with ET and Contractor on possible remedial measures Advise the ER on the effectiveness of the proposal remedial measures Supervisor implementation of remedial measures 	<ol style="list-style-type: none"> Confirm receipt of notification of failure in writing Notify Contractor Ensure remedial measures properly implemented 	<ol style="list-style-type: none"> Take immediate action to avoid further exceedance Submit proposal for remedial actions to IC(E) within 3 working days of notification Implement the agreed proposals Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> Notify IC(E), ER, Contractor and EPD Identify source Repeat measurement to confirm findings Increase monitoring frequency to daily Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER to discuss the remedial action to taken If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> Discuss amongst ER, ET, and Contractor on potential remedial actions Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly Supervise the implementation of remedial measures 	<ol style="list-style-type: none"> Confirm receipt of notification of failure in writing Notify Contractor In consultation with the IC(E), agreed with the Contractor on the remedial measures to be implemented Ensure remedial measures properly implemented 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. 	<ol style="list-style-type: none"> Take immediate action to avoid further exceedance Submit proposals for remedial actions to IC(E) within 3 working days of notification Implement the agreed proposals Resubmit proposals if possible still not under control Stop the relevant portion of works as determined by the ER until the exceedance is abated.



Event / Action Plan for Construction Noise

EVENT	ACTION			CNTRACTOR
	ET Leader	IC(E)	ER	
Action Level	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposal to IC(E) 2. Implement noise mitigation proposals
Limit Level	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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

Contract Award	Project Commencement Date	100 16JUN04 A	100 29JUN04 A	10JUN04 A
PC0100	Contract Award			
PC0200	Project Commencement Date			

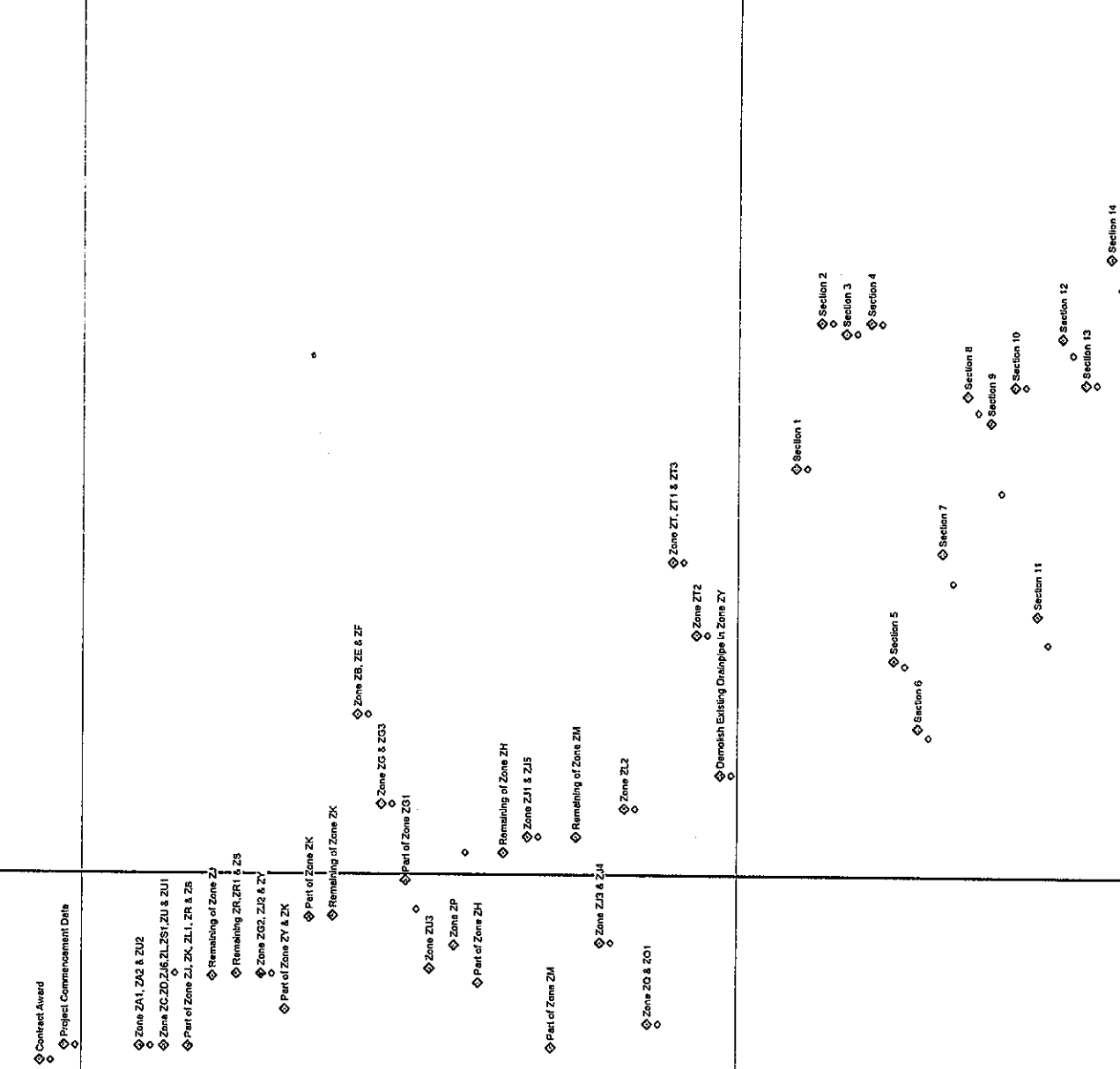
Contract Award	Project Commencement Date	100 16JUN04 A	100 29JUN04 A	10JUN04 A	29JUN04 A
PD0100	Zone ZA, ZAB & ZU2	0	0	100 16JUN04 A	10JUN04 A
PD0200	Zone ZC, ZD, Z16, ZL, ZS, ZU & ZU1	0	0	100 29JUN04 A	29JUN04 A
PD0300	Part of Zone ZI, ZK, ZL1, ZR & ZS	0	0	100 29JUN04 A	29JUN04 A
PD0400	Remainder of Zone ZI	0	0	100 24SEP04 A	24SEP04 A
PD0500	Remainder of Zone ZI & ZS	0	0	100 27SEP04 A	27SEP04 A
PD0600	Zone ZG2, Z22 & ZY	0	0	100 27SEP04 A	27SEP04 A
PD0700	Part of Zone ZY & ZK	0	0	100 14AUG04 A	14AUG04 A
PD0800	Part of Zone ZK	0	0	100 06DEC04 A	06DEC04 A
PD0900	Remainder of Zone ZK	0	0	100 06DEC04 A	06DEC04 A
PD1000	Zone ZB, ZE & ZF	0	18d	0 13AUG05 *	31AUG05
PD1100	Zone ZC & ZG3	0	90d	0 25APR05 *	24JUL05
PD1200	Part of Zone ZG1	0	0	100 21JAN05 A	21JAN05 A
PD1300	Zone ZU3	0	0	100 04OCT04 A	04OCT04 A
PD1400	Zone ZP	0	0	100 02NOV04 A	02NOV04 A
PD1500	Part of Zone ZH	0	0	100 17SEP04 A	17SEP04 A
PD1600	Remainder of Zone ZH	0	844d	0 24FEB05 *	26DEC07
PD1700	Zone ZJ1 & ZJ5	0	119d	0 16MAR05 *	13JUL05
PD1800	Part of Zone ZM	0	0	100 29JUN04 A	29JUN04 A
PD1900	Remainder of Zone ZM	0	847d	0 16MAR05 *	25DEC07
PD2000	Zone ZJ3 & ZJ4	0	0	100 06AUG04 A	06AUG04 A
PD2100	Zone ZL2	0	95d	0 20APR05 *	24JUL05
PD2200	Zone ZO & ZO1	0	0	100 29JUL04 A	29JUL04 A
PD2300	Zone ZT1, ZT1 & ZT3	0	92d	0 19FEB05 *	22MAY06
PD2400	Zone ZT2	0	90d	0 21NOV05 *	19FEB06
PD2500	Demolish Existing Drainpipe in Zone ZY	0	89d	0 01JUN05 *	14SEP05

Contract Award	Project Commencement Date	100 16JUN04 A	100 29JUN04 A	10JUN04 A	
CD0100	Section 1	0	34d	0 14JUN06	18JUL06 *
CD0200	Section 2	0	16d	0 07DEC06	25DEC06 *
CD0300	Section 3	0	31d	0 24NOV06	25DEC06 *
CD0400	Section 4	0	16d	0 07DEC06	25DEC06 *
CD0500	Section 5	0	0	0 21OCT05	21OCT05 *
CD0600	Section 6	0	-6d	0 29JUL05	23JUL05 *
CD0700	Section 7	0	-15d	0 03MAR06	18FEB06 *
CD0800	Section 8	0	55d	0 11SEP06	05NOV06 *
CD0900	Section 9	0	137d	0 10AUG06	25DEC06 *
CD1000	Section 10	0	94d	0 22SEP06	25DEC06 *
CD1100	Section 11	0	64d	0 16DEC05	18FEB06 *
CD1200	Section 12	0	-15d	0 20NOV06	05NOV06 *
CD1300	Section 13	0	91d	0 25SEP06	25DEC06 *
CD1400	Section 14	0	-6d	0 24FEB07	18FEB07 *

Section Completion

Start date: 10JUN04
 Finish date: 20JUN07
 Mile date: 25JUL05
 Run date: 25JAN05
 Project name: IP05
 Page number: 1A

Legend:
 Empty bar: Start milestone point
 Full bar: Finish milestone point
 Empty start point: Start milestone point
 Full start point: Target start point
 Empty finish point: Target finish point
 Full finish point: Target finish point
 Progress bar: Progress bar
 Summary bar: Summary bar
 Start milestone point: Start milestone point
 Finish milestone point: Finish milestone point



Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Initial Works Programme
 Updated to 28 January 2005

Act ID	Description	Orig	Total	Percent	Dur	Float	Complete	Early Start	Early Finish	Late Start	Late Finish
CD1600	Section 16	0	154	0	874	0		05NOV07	23NOV07	19SEP07	25DEC07
CD1601	Section 16	0	874	0							
Submissions											
General Submissions											
SUGS0100	Drafted Safety Plan	10	100	100.00	24JUN04	24JUN04	100	10JUN04	24JUN04	10JUN04	24JUN04
SUGS0200	Safety Plan	12	100	100.00	14JUL04	14JUL04	100	25JUN04	14JUL04	25JUN04	14JUL04
SUGS0300	Sub-Contractor Management Plan (SCMP)	24	100	100.00	12JUL04	12JUL04	100	10JUN04	12JUL04	10JUN04	12JUL04
SUGS0400	Drift Waste Management Plan (WMP)	16	100	100.00	05JUL04	05JUL04	100	10JUN04	05JUL04	10JUN04	05JUL04
SUGS0500	Waste Management Plan	18	100	100.00	02AUG04	02AUG04	100	28JUN04	02AUG04	28JUN04	02AUG04
SUGS0600	Engineer Approval of WMP	18	100	100.00	08SEP04	08SEP04	100	03AUG04	08SEP04	03AUG04	08SEP04
SUGS0700	Layout Plan & Location of Site Office	14	100	100.00	06JUL04	06JUL04	100	10JUN04	06JUL04	10JUN04	06JUL04
SUGS0800	Engineer Approval of Site Layout Plan	6	100	100.00	28AUG04	28AUG04	100	07JUL04	28AUG04	07JUL04	28AUG04
SUGS0900	Project Signboard Location & Details	10	100	100.00	12JUL04	12JUL04	100	29JUN04	12JUL04	29JUN04	12JUL04
SUGS1000	Engineer Approval of Project Signboard Details	6	100	100.00	13AUG04	13AUG04	100	13JUL04	13AUG04	13JUL04	19AUG04
SUGS1100	EM&A and EMIS with Baseline Monitoring Record	12	100	100.00	12JUL04	12JUL04	100	29JUN04	12JUL04	29JUN04	12JUL04
SUGS1200	Engineer & EPD Consent of EM&A and EMIS	80	100	100.00	13JUL04	13JUL04	100	13JUL04	13JUL04	13JUL04	13JUL04
SUGS1500	Initial Works Programme	7	100	100.00	15JUN04	15JUN04	100	10JUN04	15JUN04	10JUN04	15JUN04
SUGS1600	Engineer Approval of Initial Works Programme	12	2009	99	15JUN04	27JAN05	99	15JUN04	16JUN04	16JUN04	11JUL04
SUGS1700	Deleted Works Programme	50	2009	0	28JAN05	18MAR05	0	28JAN05	18MAR05	12JUL04	30AUG04
SUGS1800	First Three Month Rolling Programme	12	2004	100	10JUN04	15JUN04	100	10JUN04	15JUN04	10JUN04	15JUN04
SUGS1900	Executive Summary Programme	50	2004	0	28JAN05	18MAR05	0	28JAN05	18MAR05	12JUL04	30AUG04
SUGS2000	Particulars of Environmental Team Leader	12	100	100.00	24JUN04	24JUN04	100	10JUN04	24JUN04	10JUN04	24JUN04
SUGS2100	EPD & Engineer Approval of ET Leader	6	100	100.00	23JUL04	23JUL04	100	25JUN04	23JUL04	25JUN04	23JUL04
SUGS2200	Overall TTA Scheme & Traffic Management Design	24	100	100.00	28JUL04	28JUL04	100	10JUN04	28JUL04	10JUN04	28JUL04
SUGS2300	Comments on Overall TTA Scheme & TMD	18	100	100.00	29JUL04	29JUL04	100	29JUL04	29JUL04	29JUL04	29JUL04
SUGS2400	Revised Overall TTA Scheme & TMD	24	100	100.00	02OCT04	02OCT04	100	02OCT04	02OCT04	02OCT04	02OCT04
SUGS2500	Approval of Overall TTA Scheme & TMD	12	100	100.00	04OCT04	04OCT04	100	04OCT04	04OCT04	04OCT04	04OCT04

Material Submission	Description	Orig	Total	Percent	Dur	Float	Complete	Early Start	Early Finish	Late Start	Late Finish
SUMA0100	Particulars of DI Pipes & Fittings	48	100	100.00	23JUN04	23JUN04	100	23JUN04	23JUN04	23JUN04	23JUN04
SUMA0200	Engineer Approval of DI Pipes & Fittings	24	99	30JUL04	27JAN05	30JUL04	99	30JUL04	27JAN05	30JUL04	07FEB05
SUMA0300	Particulars of Concrete Design Mix	16	100	100.00	24JUN04	24JUN04	100	10JUN04	24JUN04	10JUN04	24JUN04
SUMA0400	Engineer Approval of Concrete Design Mix	23	100	100.00	06NOV04	06NOV04	100	25JUN04	06NOV04	25JUN04	06NOV04
SUMA0500	Particulars of Precast Concrete Pipe	12	100	100.00	24JUN04	24JUN04	100	10JUN04	24JUN04	10JUN04	24JUN04
SUMA0600	Engineer Approval of Precast Concrete Pipe	12	100	100.00	25JUN04	25JUN04	100	25JUN04	25JUN04	25JUN04	25JUN04
SUMA0700	Glazed Skylight Roof Cover System Details	50	100	100.00	08SEP04	08NOV04	100	08SEP04	08NOV04	08NOV04	08NOV04
SUMA0800	Engineer Approval of Roof Cover System	72	1156	99	09NOV04	26JAN05	99	09NOV04	26JAN05	09NOV04	17JUN05
SUMA0900	Sample Panels	50	100	100.00	08SEP04	08NOV04	100	08SEP04	08NOV04	08SEP04	08NOV04
SUMA1000	Engineer Approval of Sample Panels	72	1156	99	09NOV04	26JAN05	99	09NOV04	26JAN05	09NOV04	17JUN05

Method Statement Submissions	Description	Orig	Total	Percent	Dur	Float	Complete	Early Start	Early Finish	Late Start	Late Finish
SUME0100	Treatment Work Before Discharge of Effluent	24	100	100.00	10JUN04	24JUN04	100	10JUN04	24JUN04	10JUN04	24JUN04
SUME0200	Engineer Approval of Treatment Work	16	100	100.00	27NOV04	27NOV04	100	25JUN04	27NOV04	25JUN04	27NOV04
SUME0300	Drainage Works	18	100	100.00	17JUL04	17JUL04	100	17JUL04	17JUL04	17JUL04	17JUL04
SUME0400	Engineer Approval of Drainage Works	12	100	100.00	07AUG04	07AUG04	100	07AUG04	07AUG04	07AUG04	07AUG04
SUME0500	Tree Transplant	24	100	100.00	30JUL04	30JUL04	100	30JUL04	30JUL04	30JUL04	30JUL04
SUME0600	Engineer Approval of Tree Transplant	18	100	100.00	31JUL04	31JUL04	100	31JUL04	31JUL04	31JUL04	31JUL04
SUME0700	Pre-drilling	19	100	100.00	10JUL04	10JUL04	100	10JUL04	10JUL04	10JUL04	10JUL04
SUME0800	Engineer Approval of Pre-drilling	12	100	100.00	31JUL04	31JUL04	100	31JUL04	31JUL04	31JUL04	31JUL04

Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Initial Works Programme
 Updated to 28 January 2005

Start date	10JUN04
Finish date	28NOV04
Contract no.	28JAN05
Project name	TP03
Page number	24

Start bar

Early start point

Early finish point

Target start point

Target finish point

Progress bar

Original bar

Summary bar

Finish date/finish point

© Primavera Systems, Inc.

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
SUNE0300	MLS Bridge Piling Works	18		100	18AUG04	20SEP04	18AUG04	20SEP04
SUNE1000	Engineer Approval of MLS Bridge Piling Works	12	15d	99	20SEP04	27JAN05	20SEP04	17FEB05
SUNE1100	MLS Bridge Construction	40	62d	80	19NOV04	08FEB05	19NOV04	28APR05
SUNE1200	Engineer Approval of MLS Bridge Construction	12	121d	0	12FEB05	28FEB05	07JUL05	20JUL05
SUNE1300	Construction of Public Toilet No. 2	39	62d	0	12FEB05	25MAR05	27APR05	07JUN05
SUNE1400	Engineer Approval of Public Toilet No. 2	12	133d	0	28MAR05	09APR05	01SEP05	14SEP05
SUNE1500	Construction of Ma Liu Shui Subway	48	62d	0	28MAR05	21MAY05	06JUN05	04AUG05
SUNE1600	Engineer Approval of Ma Liu Shui Subway	12	72d	0	23MAY05	04JUN05	17AUG05	30AUG05
SUNE1700	Retaining Wall No. 1	24	62d	0	23MAY05	20JUN05	05AUG05	01SEP05
SUNE1800	Engineer Approval for Retaining Wall No. 1	12	62d	0	21JUN05	05JUL05	02SEP05	15SEP05
SUNE1900	Construction of Public Landing Step	80		100	10JUN04	12JUL04	10JUN04	12JUL04
SUNE2000	Engineer Approval of Public Landing Step	12		100	13JUL04	30JUL04	13JUL04	30JUL04
SUNE2100	Construction of Landscape Node P1, P2 & P3	60		100	05AUG04	19AUG04	05AUG04	19AUG04
SUNE2200	Engineer Approval of Construction for P1-3	12		100	20AUG04	29AUG04	20AUG04	29AUG04
SUNE2300	Minimise Adverse Impacts Upon Water Quality	60		100	05AUG04	18AUG04	05AUG04	18AUG04
SUNE2400	Engineer Approval of Minimise Method	12		100	20AUG04	24AUG04	20AUG04	24AUG04

Preparatory Works
Contractor's Site Accommodation

PPCS0100	Mobilization	12		100	28JUN04	13JUL04	28JUN04	13JUL04
PPCS0200	Erect Contractor Site Office	28		100	10JUL04	31JUL04	10JUL04	31JUL04

Preliminary Works

PPPR0300	Arrange ULG Meeting	60		100	29JUN04	18JUL04	29JUN04	18JUL04
PPPR0400	Arrange THLG Meeting	48		100	29JUN04	23JUL04	29JUN04	23JUL04
PPPR0500	Tree Survey	6		100	28JUN04	08AUG04	28JUN04	08AUG04
PPPR0600	Engineer Approval of Tree Survey	12		100	07AUG04	30AUG04	07AUG04	30AUG04
PPPR0700	Tree Transplant	24		100	31AUG04	31AUG04	31AUG04	31AUG04
PPPR1000	Tree Felling	12		100	30AUG04	30AUG04	30AUG04	30AUG04
PPPR1100	Procure Third Party Insurance	12		100	10JUN04	23JUL04	10JUN04	23JUL04
PPPR1300	Erect Project Sign Board	18	16d	75	20AUG04	02FEB05	20AUG04	24AUG05*
PPPR1400	1st Site Safety/Environmental Committee Meeting	24		100	29JUN04	27JUL04	29JUN04	27JUL04
PPPR1500	1st S&E&C Meeting	24		100	29JUN04	27JUL04	29JUN04	27JUL04
PPPR1600	Propose Location of Temporary Landing Facilities	24		100	10JUN04	26JUL04	10JUN04	26JUL04
PPPR1700	Engineer Approval the Temp Landing Location	12		100	27JUL04	31AUG04	27JUL04	31AUG04
PPPR1800	Provide Temp Landing Facilities	15		100	18AUG04	19AUG04	18AUG04	19AUG04
PPPR1900	Apply Dumping Permit	18		100	10JUN04	08JUL04	10JUN04	08JUL04
PPPR2000	Approval of Dumping Permit	42		100	08JUL04	17SEP04	08JUL04	17SEP04
PPPR2100	Propose Accurate Position Central at Disposal	6		100	25AUG04	25OCT04	25AUG04	25OCT04
PPPR2200	Engineer Approval of Proposal	12		100	26OCT04	20DEC04	26OCT04	20DEC04
PPPR2300	Provide Water Quality Monitoring Equipment	21		100	10JUN04	11OCT04	10JUN04	11OCT04
PPPR2400	Initial Stamping Plan	12		100	13SEP04	16SEP04	13SEP04	16SEP04
PPPR2500	Ordering & Delivery of Precast Concrete Pipes	700	-21d	25	10JUL04	20OCT06	10JUL04	25SEP06
PPPR2600	Ordering & Delivery of DI Pipes and Fittings	700	6d	5	25OCT04	07APR07	25OCT04	18APR07
PPPR2700	Concrete Trial Mix	6		100	13JUL04	22JUL04	13JUL04	22JUL04
PPPR2800	Ordering & Delivery of Sawwall Blocks	110	5d	10	09DEC04	27MAY05	09DEC04	02JUN05

Milestones
Section 5

MSSS0100	Complete Laying of Utilities	0	-24d	0	24AUG05		24AUG05	31JUL05*
----------	------------------------------	---	------	---	---------	--	---------	----------



Ordering & Delivery of Precast Concrete Pipes

Ordering & Delivery of DI Pipes and Fittings

Concrete Trial Mix

Ordering & Delivery of Sawwall Blocks

Complete Laying of Utilities

Leader - Wai Kee (C&T) Joint Venture
TP3703 - Initial Works Programme
 Updated to 28 January 2005

Start date	10JUL04	Early bar
Finish date	20JUL07	Early finish point
Date due	28JAN05	Target start point
Run date	28JAN05	Target finish point
Project name	IP06	Target bar
Page number	3A	Progress bar
		Critical bar
		Summary bar
		Sub-activity bar
		Finish milestones bar

© Primavera Systems, Inc.

Act ID	Description	Orig Dur	Total	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
01CTUT1300	Watermain - Testing and Connection of 300 Dia	16	87%	0	21JAN05	10FEB05	08MAY06	25MAY06
01CTUT1400	Watermain - Testing and Connection of 250 Dia	16	65%	0	21FEB05	10MAR05	10MAY06	27MAY06
01CTUT1500	Install Public Lighting Post	8	43%	0	18MAY06	26MAY06	10JUL06	18JUL06
Public Lighting, Ducts and Kios								
01CTPR0100	Construct Dwarf Wall (South Section)	18	23%	0	23MAR05	13APR05	20APR06	11MAY06
01CTPR0200	Construct Dwarf Wall (North Section)	18	15%	0	05APR05	25APR05	22APR06	10MAY06
01CTPR0300	Lay Kerb (South Section)	14	39%	0	23MAR05	09APR05	10MAY06	25MAY06
01CTPR0400	Lay Kerb (North Section)	11	34%	0	05APR05	17APR05	16MAY06	27MAY06
01CTPR0500	Lighting Drapeil & Cable Duct (South Section)	18	23%	0	14APR05	09MAY05	12MAY06	02JUN06
01CTPR0600	Lighting Drapeil & Cable Duct (North Section)	18	15%	0	26APR05	17MAY05	15MAY06	05JUN06
Roads and Paving								
01CTPR0100	Trim Formation & Lay Subbase (South Section)	12	23%	0	28APR05	12MAY05	26MAY06	09JUN06
01CTPR0200	Trim Formation & Lay Subbase (North Section)	10	15%	0	11MAY05	22MAY05	29MAY06	09JUN06
01CTPR0300	Lay Cycle Track Pavement (South Section)	18	23%	0	13MAY05	03JUN05	10JUN06	30JUN06
01CTPR0400	Lay Cycle Track Pavement (North Section)	18	15%	0	23MAY05	13JUN05	10JUN06	30JUN06
Road Marking, Traffic Signs and Forming								
01CTRA0100	Apply Road Marking	1	28%	0	14JUN05	14JUN05	18JUL05	18JUL06
01CTRA0200	Erect Signage	4	47%	0	18MAY05	22MAY05	14JUL05	18JUL06
01CTRA0300	Install Railing, Fencing & etc	6	45%	0	18MAY05	24MAY05	12JUL06	18JUL06

Section 2: Temporary Traffic Management Scheme



TTA Implementation	TTA No.	Description	Orig Dur	Total	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
02TTAS0100	01	Sul Cheung St. (S/B Slow Lane)	1	101%	0	15FEB06	15FEB06	16JUN06	16JUN06
02TTAS0200	02	Sul Cheung St. (S/B Fast Lane)	1	101%	0	26APR06	26APR06	26AUG06	26AUG06
02TTAS0300	03	Existing Ma Liu Shui Bridge	1	28%	0	14JUN05	14JUN05	19JUL05	19JUL06
02TTAS0400	04	Cycle Track	1	15%	0	14JUN05	14JUN05	03JUL06	03JUL06
02TTAS0500	05	Sul Cheung St. Roundabout	1	65%	0	14JUN06	14JUN06	23SEP06	23SEP06
02TTAS0600	06	Sul Cheung St. Roundabout	1	65%	0	10JUL06	10JUL06	19OCT06	19OCT06
02TTAS0700	07	Sul Cheung St. Roundabout	1	65%	0	29JUL06	29JUL06	09NOV06	09NOV06
02TTAS0800	08	Sul Cheung St. & EMLSB	1	15%	0	18AUG05	18AUG05	05SEP06	05SEP06
02TTAS0900	09	Sul Cheung St.	1	15%	0	18OCT05	18OCT05	08NOV06	08NOV06
02TTAS1000	10	Implement Permanent Traffic Scheme	1	15%	0	07DEC05	07DEC05	25DEC06	25DEC06

Proposed Ma Liu Shui Bridge

Utility Diversion at Sul Cheung Street	TTA No.	Description	Orig Dur	Total	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
02MUD0100	01	Final Pits	12	100%	100	18AUG04	06SEP04	18AUG04	06SEP04
02MUD0200	02	Liaison with CLP & WSD for Diversion Works	30	100%	100	23AUG04	17SEP04	23AUG04	17SEP04
02MUD0300	03	Submit TTA for Approval	24	100%	100	16SEP04	23SEP04	16SEP04	23SEP04
02MUD0400	04	Implement TTA	1	100%	100	08NOV04	08NOV04	08NOV04	08NOV04
02MUD0500	05	CLP 11kV Cables Diversion	24	100%	100	15JAN05	15JAN05	15JAN05	15JAN05
02MUD0600	06	CLP 132kV Cable Duct Diversion	12	100%	100	24DEC04	24DEC04	24DEC04	15JAN05
02MUD0700	07	Watermain Diversion & Advance Notice to WSD	36	100%	100	08NOV04	03JAN05	03NOV04	03JAN05
02MUD0800	08	Watermain Connection by WSD	18	100%	100	22JAN05	22JAN05	22JAN05	22JAN05

Existing Structure Survey

Activity	TTA No.	Description	Orig Dur	Total	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
02HES0100	01	Existing Bridge & Road Survey	12	100%	100	07JUL04	20JUL04	07JUL04	20JUL04
02HES0200	02	Submit Monitoring Proposal	12	100%	100	18AUG04	23AUG04	18AUG04	23AUG04
02HES0300	03	Engineer Approval of Monitoring Proposal	12	100%	100	24AUG04	30AUG04	24AUG04	30AUG04
Pre-drilling Works									
02HPP0100	01	Submit the Coordinates of Culvert	1	100%	100	18AUG04	18AUG04	18AUG04	18AUG04
02HPP0200	02	Pre-drilling (P1-P8)	45	100%	100	25SEP04	05NOV04	25SEP04	05NOV04
02HPP0300	03	Pre-drilling (PP-P11)	24	100%	100	26OCT04	04NOV04	26OCT04	04NOV04
02HPP0400	04	Pre-drilling (Par 1)	30	100%	100	25SEP04	23OCT04	25SEP04	23OCT04

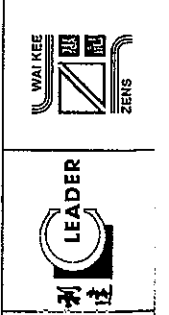
Leader - Wai Kee (C&T) Joint Venture
TP3703 - Initial Works Programme
 Updated to 28 January 2005

Scale: 1:500
 Date: 28JAN05
 Run: 5A
 Project name: TP03
 Page number: 5A

Legend:
 - Early start point
 - Early finish point
 - Target start point
 - Target finish point
 - Progress bar
 - Critical bar
 - Summary bar
 - Start/finish one point
 - Pushed/stop point

© Primavera Systems, Inc.

Act ID	Description	Orig Dur	Total Dur	Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
02ABPR0500	Predfiling (Pier 2)	30	100	27AUG04	24SEP04	27AUG04	24SEP04	27AUG04	24SEP04
02ABPR0600	Predfiling (North Abutment)	24	220d	0	0	02JAN05	26FEB05	23OCT05	18NOV05
02ABPR0700	Submit Proposed Founding Level (P1-P8)	12	100	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04
02ABPR0800	Engineer Approval of P1-P8 Founding Level	12	15d	99	08NOV04	27JAN05	08NOV04	17FEB05	08NOV04
02ABPR0900	Submit Proposed Founding Level (P9-P11)	6	100	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04
02ABPR1000	Engineer Approval of P9-P11 Founding Level	12	101d	99	08NOV04	27JAN05	08NOV04	20MAY05	08NOV04
02ABPR1100	Submit Proposed Founding Level (Pier 2)	6	100	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04
02ABPR1200	Engineer Approval of Pier 2 Founding Level	12	161d	99	08NOV04	27JAN05	08NOV04	10AUG05	08NOV04
02ABPR1300	Submit Proposed Founding Level (Pier 1)	6	100	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04	08NOV04
02ABPR1400	Engineer Approval of Pier 1 Founding Level	12	131d	99	08NOV04	27JAN05	08NOV04	05JUL05	08NOV04
02ABPR1500	Submit Proposed Founding Level (N-Abutment)	6	220d	0	01MAY05	07MAR05	18NOV05	28NOV05	18NOV05
02ABPR1600	Engineer Approval of N-Abutment Founding Level	12	220d	0	08MAR05	21MAR05	28NOV05	09DEC05	28NOV05
Piling Works									
02ABPW0100	Mobilization of Piling Plants	6	15d	0	28JAN05	05FEB05	18FEB05	24FEB05	18NOV05
02ABPW0200	Construct Pile P1 - P8	60	15d	0	04FEB05	12MAY05	25FEB05	30MAY05	30MAY05
02ABPW1000	Construct Pile P9 - P11	30	15d	0	13MAY05	17JUN05	31MAY05	05JUL05	05JUL05
02ABPW1300	Construct Pier 1 Piles	30	15d	0	16JUN05	23JUL05	07JUL05	10AUG05	10AUG05
02ABPW1400	Construct Pier 2 Piles	30	15d	0	25JUL05	27AUG05	11AUG05	14SEP05	14SEP05
02ABPW1500	Construct N-Abutment Piles	40	86d	0	29AUG05	17OCT05	10DEC05	25JAN06	25JAN06
Volves Abutment									
02ABVA0100	Construct Ground Beams (Stage 1)	12	57d	0	13MAY05	28MAY05	21JUL05	03AUG05	03AUG05
02ABVA0200	Construct Ground Beams (Stage 2)	12	57d	0	27MAY05	09JUN05	04AUG05	17AUG05	17AUG05
02ABVA0300	Construct Ground Beams (Stage 3)	12	84d	0	10JUN05	24JUN05	20SEP05	04OCT05	04OCT05
02ABVA0400	Construct Ground Beams (Stage 4)	12	84d	0	25JUN05	09JUL05	05OCT05	19OCT05	19OCT05
02ABVA0500	Construct Ground Beams (Stage 5)	12	84d	0	11JUL05	23JUL05	20OCT05	02NOV05	02NOV05
02ABVA0600	Construct Wall (Stage 1)	18	57d	0	01JUN05	02JUL05	18AUG05	07SEP05	07SEP05
02ABVA0700	Construct Wall (Stage 2)	15	57d	0	04JUL05	20JUL05	09SEP05	26SEP05	26SEP05
02ABVA0800	Construct Wall (Stage 3)	15	57d	0	21JUL05	08AUG05	27SEP05	16OCT05	16OCT05
02ABVA0900	Construct Wall (Stage 4)	15	57d	0	08AUG05	24AUG05	17OCT05	02NOV05	02NOV05
02ABVA1000	Construct Wall (Stage 5)	18	57d	0	25AUG05	14SEP05	09NOV05	23NOV05	23NOV05
02ABVA1100	Construct Slab	24	183d	0	15SEP05	15OCT05	29APR06	22MAY06	22MAY06
Pier 1									
02ABPA0100	Construct Pile Cap	8	76d	0	25JUL05	02AUG05	24OCT05	01NOV05	01NOV05
02ABPA0200	Construct Columns	12	75d	0	03AUG05	16AUG05	02NOV05	15NOV05	15NOV05
Pier 2									
02ABPB0100	Construct Pile Cap	8	65d	0	29AUG05	06SEP05	16NOV05	24NOV05	24NOV05
02ABPB0200	Construct Columns	12	65d	0	07SEP05	21SEP05	28NOV05	08DEC05	08DEC05
North Abutment									
02ABNA0100	Construct Pile Cap	18	86d	0	18OCT05	07NOV05	25JAN06	17FEB06	17FEB06
02ABNA0200	Construct Abutment Walls	24	85d	0	08NOV05	05DEC05	18FEB06	17MAR06	17MAR06
02ABNA0300	Construct Wing Walls	36	92d	0	06DEC05	16JAN06	27MAR06	09MAY06	09MAY06
Bridge Deck - Volves Abutment to Pier 1									
02ABDA0100	Erect Scaffolding	8	57d	0	15SEP05	24SEP05	28NOV05	02DEC05	02DEC05
02ABDA0200	Erect Formwork (Bottom Slab)	8	65d	0	28SEP05	05OCT05	17DEC05	28DEC05	28DEC05
02ABDA0300	Steel Fixing	8	69d	0	05OCT05	15OCT05	27DEC05	04JAN06	04JAN06
02ABDA0400	Erect Formwork (Kicker)	8	65d	0	17OCT05	25OCT05	05JAN06	13JAN06	13JAN06
02ABDA0500	Concreting	1	69d	0	28OCT05	28OCT05	14JAN06	14JAN06	14JAN06
02ABDA0600	Erect Formwork (Diaphragm & Top Slab)	8	69d	0	27OCT05	04NOV05	16JAN06	24JAN06	24JAN06
02ABDA0700	Steel Fixing	6	69d	0	05NOV05	11NOV05	25JAN06	02FEB06	02FEB06
02ABDA0800	Concreting	1	69d	0	12NOV05	12NOV05	03FEB06	03FEB06	03FEB06



Leader - Wai Kee (C&T) Joint Venture
 TP3703 - Initial Works Programme
 Updated to 28 January 2005

- Early bar
- Early start point
- Early finish point
- Target bar
- Target start point
- Target finish point
- Progress bar
- Critical bar
- Summary bar
- Start/finish point
- Relationship point

Act ID	Description	Orig Dur	Total	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	2004	2005	2006	2007
02ABDA000	Install, Stress Tendons & Grouting	42	684	0	02NOV05	03DEC05	14FEB06	24FEB06				
02ABDA100	Remove Formwork & Scaffolding	6	630	0	12DEC05	17DEC05	04MAR06	10MAR06				
02ABDA110	Construct Parapet	48	1414	0	05DEC05	26JAN06	23MAY06	19JUL06				
02ABDA120	Construct Centre Barrier	20	1414	0	01FEB06	23FEB06	20JUL06	11AUG06				
Bridge Deck - Pier 1 to Pier 2												
02ABDB010	Erect Scaffolding	8	574	0	03OCT05	12OCT05	09DEC05	17DEC05				
02ABDB020	Erect Formwork (Bottom Slab)	8	574	0	13OCT05	21OCT05	19DEC05	27DEC05				
02ABDB030	Steel Fixing	8	574	0	22OCT05	31OCT05	29DEC05	05JAN06				
02ABDB040	Erect Formwork (Kicker)	8	574	0	01NOV05	09NOV05	06JAN06	14JAN06				
02ABDB050	Concreting	1	574	0	01NOV05	10NOV05	16JAN06	16JAN06				
02ABDB060	Erect Formwork (Diaphragm & Top Slab)	8	574	0	11NOV05	19NOV05	17JAN06	25JAN06				
02ABDB070	Steel Fixing	6	574	0	21NOV05	28NOV05	26JAN06	03FEB06				
02ABDB080	Concreting	1	574	0	28NOV05	29NOV05	03FEB06	03FEB06				
02ABDB090	Install, Stress Tendons & Grouting	12	574	0	09DEC05	17DEC05	11FEB06	24FEB06				
02ABDB100	Remove Formwork & Scaffolding	6	574	0	02JAN06	07JAN06	11MAR06	17MAR06				
02ABDB110	Construct Parapet	36	1344	0	19DEC05	26JAN06	25MAY06	11JUL06				
02ABDB120	Construct Centre Barrier	27	1344	0	01FEB06	03MAR06	12JUL06	11AUG06				
Bridge Deck - Pier 2 to North Abutment												
02ABDC010	Erect Scaffolding	8	574	0	03JAN06	17JAN06	18MAR06	27MAR06				
02ABDC020	Erect Formwork (Bottom Slab)	8	574	0	13JAN06	26JAN06	28MAR06	06APR06				
02ABDC030	Steel Fixing	8	574	0	27JAN06	07FEB06	07APR06	15APR06				
02ABDC040	Erect Formwork (Kicker)	8	574	0	08FEB06	16FEB06	17APR06	25APR06				
02ABDC050	Concreting	1	574	0	17FEB06	17FEB06	26APR06	26APR06				
02ABDC060	Erect Formwork (Diaphragm & Top Slab)	6	574	0	18FEB06	27FEB06	27APR06	08MAY06				
02ABDC070	Steel Fixing	6	574	0	28FEB06	08MAR06	08MAY06	13MAY06				
02ABDC080	Concreting	1	574	0	07MAR06	07MAR06	15MAY06	15MAY06				
02ABDC090	Install, Stress Tendons & Grouting	12	574	0	16MAR06	28MAR06	23MAY06	06JUN06				
02ABDC100	Remove Formwork & Scaffolding	6	756	0	13APR06	19APR06	15JUL06	19JUL06				
02ABDC110	Construct Parapet	36	574	0	28MAR06	11MAY06	07JUN06	19JUL06				
02ABDC120	Construct Centre Barrier	30	714	0	13APR06	18MAY06	06JUL06	11AUG06				
Miscellaneous works												
02ABDW010	Install Drainage System	20	574	0	12MAY06	05JUN06	26JUL06	11AUG06				
02ABDW020	Install Aluminium Rail	20	574	0	12MAY06	05JUN06	20JUL06	11AUG06				
02ABDW030	Install Public Lighting Post	12	654	0	12MAY06	25MAY06	29JUL06	11AUG06				
02ABDW040	Soffit Lighting	6	684	0	06DEC05	10DEC05	25FEB06	03MAY06				
Roads and Pavement												
02ABEP010	North Abutment - Backfill to Formation	40	934	0	17JAN06	06MAR06	19MAY06	26JUN06				
02ABEP020	North Abutment - Lay Subbase	8	934	0	13APR06	21APR06	03AUG06	11AUG06				
02ABEP030	Road Pavement	18	294	0	10JUL06	29JUL06	12AUG06	01SEP06				
Road Marking, Traffic Sign and Fencing												
02ABFM010	Apply Road Marking	2	294	0	31JUL06	01AUG06	02SEP06	04SEP06				
02ABFM020	Erect Signage	12	294	0	17JUL06	29JUL06	19AUG06	01SEP06				
NOI												
02ABWA010	Bay 1	16	284	0	19AUG05	31AUG05	16SEP05	06OCT05				
02ABWA020	Bay 2	14	284	0	01SEP05	16SEP05	07OCT05	24OCT05				
02ABWA030	Bay 3	14	294	0	17SEP05	05OCT05	25OCT05	09NOV05				
02ABWA040	Bay 4	14	294	0	06OCT05	22OCT05	10NOV05	25NOV05				
02ABWA050	Bay 5	14	294	0	24OCT05	08NOV05	28NOV05	12DEC05				
02ABWA060	Bay 6	14	1074	0	09NOV05	24NOV05	16MAR06	31MAR06				

WAI KEE LEADER ZENS

Leader - Wai Kee (C&T) Joint Venture
 TP3703 - Initial Works Programme
 Updated to 28 January 2005

Site date: 10JUN05
 Drawn by: ZW/0307
 Scale: 1:100
 Project name: TP3703
 Page number: 7A

Legend:
 □ Early bar
 △ Early start point
 ▽ Early finish point
 ○ Target start point
 ○ Target finish point
 ▬ Progress bar
 ▬ Critical bar
 ▬ Summary bar
 ○ Start/finish point
 ○ Finish/extension point

© Primavera Systems, Inc.

Act ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
02REWA0700	Bay 7	14	1076	0	25NOV05	16DEC05	01APR06	16APR06
02REWA0800	Bay 8	14	1076	0	12DEC05	27DEC05	19APR06	09MAY06
02REWA0900	Bay 9	14	1144	0	12NOV05	28NOV05	28MAR06	15APR06
02REWA1000	Bay 10	14	1144	0	28NOV05	14DEC05	14APR06	25APR06
02REWA1100	Bay 11	14	1144	0	15DEC05	30DEC05	02MAY06	17MAY06
02REWA1200	Filling to Road Formation Levels	20	1076	0	28DEC05	19JAN06	06MAY06	28MAY06

Road D1

02RDWA0100	Decide Exact Location of Manholes & Catchpits	1	1656	0	13AUG05	13AUG05	28FEB06	28FEB06
02RDWA0200	S815 - S705	36	364	0	02JAN06	14FEB06	18FEB06	31MAR06
02RDWA0300	S826 - S829	31	934	0	07MAR06	12APR06	27JUN06	02AUG06
02RDWA0400	S698 - S710	27	964	0	04NOV05	09DEC05	01MAR06	31MAR06
02RDWA0500	S610A - S610 (TTA No. 01)	20	1016	0	16FEB06	10MAR06	17JUN06	11JUL06
02RDWA0600	S610 - S710 (TTA No. 04)	22	216	0	15JUN06	11JUL06	04AUG06	04AUG06
02RDWA0700	Replace 600 Pipe by 900 Pipe (TTA No. 04)	20	156	0	15JUN06	06JUL06	04JUL06	26JUL06
02RDWA0800	Reconstruct EX1 NCH w 1800 Chamber (TTA No. 08)	22	196	0	18AUG06	13SEP06	11SEP06	05OCT06
02RDWA0900	Construct Gullies to Existing Pipe (TTA No. 08)	8	166	0	08SEP06	18SEP06	27SEP06	06OCT06
02RDWA1000	Construct Gullies to Existing Pipe (TTA No. 09)	10	156	0	19OCT05	31OCT05	07NOV06	17NOV06

Utility Works

02RDUT0300	NWT & HGC - Laying Cable Duct	17	396	0	01MAR06	20MAR06	17APR06	06MAY06
02RDUT0310	NWT & HGC Cable Connection	27	1486	0	21MAR06	21APR06	14SEP06	16OCT06
02RDUT0400	WT&T - Laying Cable Duct	17	396	0	21MAR06	10APR06	28MAY06	26MAY06
02RDUT0410	WT&T - Cable Connection	26	1326	0	11APR06	11MAY06	15SEP06	16OCT06
02RDUT0500	PCCW - Laying Cable Duct	40	386	0	11APR06	27MAY06	27MAY06	14JUL06
02RDUT0510	PCCW - Cable Connection	39	446	0	28MAY06	14JUL06	04SEP06	04SEP06
02RDUT0600	Watermain - Laying FW Main Crossing (TTA No. 04)	12	396	0	15FEB06	28FEB06	01APR06	15APR06
02RDUT0700	Watermain - Replace Fresh Main (TTA No. 01)	8	156	0	10JUL06	18JUL06	27AUG06	04AUG06
02RDUT0800	Watermain - Replace Fresh Main (TTA No. 01)	18	1016	0	11MAR06	31MAR06	12JUL06	01AUG06
02RDUT0900	Watermain - Replace Fresh Main (TTA No. 08)	18	1016	0	19AUG06	08SEP06	05SEP06	26SEP06
02RDUT1000	Install Public Lighting Post (TTA No. 04)	8	216	0	02AUG06	10AUG06	26AUG06	04SEP06
02RDUT1100	Install Public Lighting Post (TTA No. 09)	8	256	0	15NOV06	23NOV06	19DEC06	23DEC06

Public Lighting, Duct and Kerb

02RDPK0100	Lay Kerb	14	364	0	20JUN06	06JUL06	05AUG06	21AUG06
02RDPK0200	Lay Kerb (TTA No. 04)	6	156	0	26JUL06	01AUG06	12AUG06	18AUG06
02RDPK0300	Lay Kerb (TTA No. 09)	6	156	0	08NOV06	14NOV06	25NOV06	01DEC06
02RDPK0400	Construct Central Divider	24	436	0	29MAY06	26JUN06	20JUL06	16AUG06
02RDPK0500	Construct Central Divider (TTA No. 08)	12	156	0	19SEP06	02OCT06	06OCT06	26OCT06
02RDPK0600	Construct CPB	24	436	0	29MAY06	26JUN06	20JUL06	16AUG06
02RDPK0700	Lighting Drapeil & Cable Duct	18	386	0	29MAY06	26JUN06	20JUL06	16AUG06
02RDPK0800	Lighting Drapeil & Cable Duct (TTA No. 04)	6	156	0	19JUL06	25JUL06	05AUG06	11AUG06
02RDPK0900	Lighting Drapeil & Cable Duct (TTA No. 09)	6	156	0	01NOV06	07NOV06	18NOV06	24NOV06

Roads and Pavement

02RDPR0100	Trim Formation & Lay Subbase	20	396	0	20JUN06	13JUL06	05AUG06	28AUG06
02RDPR0200	Trim Formation & Lay Subbase (TTA No. 01)	10	1016	0	01APR06	02APR06	02AUG06	12AUG06
02RDPR0300	Trim Formation & Lay Subbase (TTA No. 02)	6	1016	0	27APR06	04MAY06	01SEP06	01SEP06
02RDPR0400	Trim Formation & Lay Subbase (TTA No. 04)	6	156	0	23JUL06	03AUG06	15AUG06	21AUG06
02RDPR0500	Trim Formation & Lay Subbase (TTA No. 08)	6	156	0	28SEP06	04OCT06	17OCT06	23OCT06
02RDPR0600	Trim Formation & Lay Subbase (TTA No. 09)	6	156	0	15NOV06	21NOV06	02DEC06	08DEC06
02RDPR0700	Road Pavement - WC	6	396	0	14JUL06	20JUL06	28AUG06	04SEP06

Decide Exact Location of Manholes & Catchpits

S815 - S705

S826 - S829

S698 - S710

S610A - S610 (TTA No. 01)

S610 - S710 (TTA No. 04)

Replace 600 Pipe by 900 Pipe (TTA No. 04)

Reconstruct EX1 NCH w 1800 Chamber (TTA No. 08)

Construct Gullies to Existing Pipe (TTA No. 08)

Construct Gullies to Existing Pipe (TTA No. 09)

NWT & HGC - Laying Cable Duct

NWT & HGC Cable Connection

WT&T - Laying Cable Duct

WT&T - Cable Connection

PCCW - Laying Cable Duct

PCCW - Cable Connection

Watermain - Laying FW Main Crossing (TTA No. 04)

Watermain - Replace Fresh Main (TTA No. 01)

Watermain - Replace Fresh Main (TTA No. 08)

Install Public Lighting Post (TTA No. 04)

Install Public Lighting Post (TTA No. 09)

Lay Kerb

Lay Kerb (TTA No. 04)

Lay Kerb (TTA No. 09)

Construct Central Divider

Construct Central Divider (TTA No. 08)

Construct CPB

Lighting Drapeil & Cable Duct

Lighting Drapeil & Cable Duct (TTA No. 04)

Lighting Drapeil & Cable Duct (TTA No. 09)

Trim Formation & Lay Subbase

Trim Formation & Lay Subbase (TTA No. 01)

Trim Formation & Lay Subbase (TTA No. 02)

Trim Formation & Lay Subbase (TTA No. 04)

Trim Formation & Lay Subbase (TTA No. 08)

Trim Formation & Lay Subbase (TTA No. 09)

Road Pavement - WC

Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Initial Works Programme
Updated to 28 January 2005

WAI KEE

LEADER

ZENS

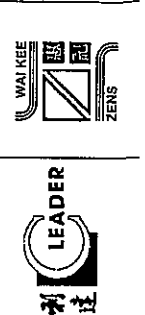
Start date	10JUN04
Finish date	28NOV07
On-site date	28JAN05
Run date	28JAN05
Project name	TP37
Page number	34

Legend:

- Empty bar
- Early start point
- Early finish point
- Target start point
- Target finish point
- Approved bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

© Primavera Systems, Inc.

Act ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	
02RDRP0800	Road Pavement - W/C (TTA No. 01)	10	10	100%	01/04/06	25/04/06	14/05/06	24/04/06	
02RDRP0900	Road Pavement - B/C (TTA No. 02)	2	10	0%	01/04/06	06/04/06	02/05/06	04/05/06	
02RDRP1000	Road Pavement - W/C (TTA No. 04)	12	15	0%	01/04/06	17/04/06	22/04/06	04/05/06	
02RDRP1100	Road Pavement - W/C (TTA No. 08)	10	15	0%	05/05/06	17/05/06	24/05/06	04/06/06	
02RDRP1200	Road Pavement - W/C (TTA No. 09)	12	15	0%	22/05/06	09/06/06	22/06/06	22/06/06	
02RDRP1300	Construct Footpath between CT & D1	35	73	0%	01/04/06	28/09/06	14/10/06	25/09/06	
Road Marking, Traffic Signs and Fencing									
02RDRM0100	Apply Road Marking (TTA No. 04)	4	15	0%	01/04/06	17/04/06	31/04/06	04/05/06	
02RDRM0200	Apply Road Marking (TTA No. 08)	1	15	0%	17/05/06	17/05/06	04/06/06	04/06/06	
02RDRM0300	Apply Road Marking (TTA No. 09)	1	15	0%	06/06/06	23/06/06	23/06/06	23/06/06	
02RDRM0400	Erect Signs	8	19	0%	04/06/06	12/06/06	28/06/06	04/07/06	
02RDRM0500	Erect Signs (TTA No. 08)	6	19	0%	05/07/06	12/07/06	28/07/06	04/08/06	
02RDRM0600	Install Railing, Fencing & etc	6	19	0%	04/06/06	12/06/06	28/06/06	04/07/06	
02RDRM0700	Install Railing, Fencing & etc (TTA No. 08)	6	19	0%	05/07/06	12/07/06	28/07/06	04/08/06	
Road SL3									
Earthworks									
02RSEA0100	Excavate to +4.5 mPD	12	13	0%	01/04/06	26/04/06	25/04/06	09/05/06	
02RSEA0200	Fill to Road Formation	24	13	0%	02/04/06	24/05/06	10/05/06	09/04/06	
Drainage Works									
02RSDA0100	Decide Exact Location of Manholes & Catchpits	1	17	0%	01/04/06	13/04/06	09/04/06	09/04/06	
02RSDA0200	S647 - Existing Box Culvert	29	13	0%	31/05/06	10/06/06	13/06/06	13/06/06	
02RSDA0300	S633 - Existing Box Culvert	29	13	0%	08/06/06	10/06/06	21/06/06	29/06/06	
02RSDA0400	F301 - F302	18	13	0%	12/06/06	31/06/06	16/07/06	16/07/06	
02RSDA0500	S633 - S629	36	10	0%	02/07/06	04/07/06	30/07/06	06/08/06	
02RSDA0600	S695 - S635	21	13	0%	02/07/06	25/07/06	17/08/06	12/09/06	
Utility Works									
02RSUT0200	NWT & HGC - Laying Cable Duct	18	14	0%	02/07/06	11/07/06	14/07/06	03/08/06	
02RSUT0300	NWT & HGC - Cable Connection	27	14	0%	15/07/06	15/07/06	04/08/06	04/08/06	
02RSUT0400	NWT - Laying Cable Duct	18	17	0%	03/08/06	04/08/06	03/09/06	03/09/06	
02RSUT0500	PCOW - Laying Cable Duct	36	17	0%	19/08/06	27/08/06	16/09/06	27/09/06	
02RSUT0600	Install Public Lighting Post	8	17	0%	02/09/06	29/09/06	19/10/06	23/10/06	
Public Lighting, Duct and Kerb									
02RSPK0100	Construct Dwarf Wall	34	10	0%	05/08/06	14/08/06	13/08/06	21/08/06	
02RSPK0200	Lay Kerb	9	12	0%	10/08/06	19/08/06	08/09/06	17/09/06	
02RSPK0300	Laying Drapert & Cable Duct	20	12	0%	15/08/06	09/09/06	13/09/06	06/10/06	
Roads and Pavings									
02RSPF0100	Trim Formation & Lay Subbase	16	12	0%	02/09/06	10/09/06	18/09/06	08/10/06	
02RSPF0200	Road Pavement	18	12	0%	12/09/06	03/10/06	09/10/06	28/10/06	
02RSPF0300	Construct Footpath between CT and RW no. 1	24	17	0%	02/09/06	26/09/06	28/09/06	25/10/06	
Road Marking, Traffic Signs and Fencing									
02RSPM0100	Apply Road Marking	3	12	0%	02/09/06	27/09/06	21/10/06	23/10/06	
02RSPM0200	Erect Signs	12	12	0%	01/11/06	24/11/06	07/12/06	20/12/06	
02RSPM0300	Install Railing, Fencing & etc	12	12	0%	01/11/06	24/11/06	07/12/06	20/12/06	
Existing Sul Cheung Street									
Drainage Works									
02SDCW0100	Decide Exact Location of Manholes & Catchpits	1	29	0%	01/04/06	13/04/06	02/04/06	02/04/06	
02SDCW0200	S654 - S647 (TTA No. 04)	42	41	0%	01/05/06	03/05/06	03/05/06	20/05/06	
02SDCW0300	Construct Gullies (TTA No. 08)	4	42	0%	01/05/06	23/05/06	09/06/06	12/06/06	
02SDCW0400	Watermain - Replace SWM (TTA No. 04)	24	41	0%	04/06/06	31/06/06	21/07/06	19/07/06	
02SDCW0500	Watermain - Lay FWM Crossing (TTA No. 04)	19	47	0%	04/06/06	24/06/06	28/06/06	19/07/06	
02SDCW0600	Watermain - Lay FWM Crossing (TTA No. 08)	6	42	0%	02/06/06	30/06/06	13/07/06	19/07/06	
Utility Works									
02SDCU0100	Excavate to +4.5 mPD	12	13	0%	01/04/06	26/04/06	25/04/06	09/05/06	
02SDCU0200	Fill to Road Formation	24	13	0%	02/04/06	24/05/06	10/05/06	09/04/06	



Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Initial Works Programme
Updated to 28 January 2005

Act ID	Description	Orig Dur	Total	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
02SCUT0300	Watermain - Lay PWD Chasing (TTA No. 03)	18	15d	0	19OCT05	08NOV05	07NOV05	27NOV05
02SCUT1000	Install Public Lighting Post	9	15d	0	24NOV05	02DEC06	15DEC06	23DEC06
Roads and Pavement								
02SCRP0100	Lay Kerb (TTA No. 04 & 08)	8	41d	0	11SEP05	19SEP05	31OCT05	09NOV05
02SCRP0200	Lay Kerb (TTA No. 09)	8	15d	0	17NOV05	23NOV05	05DEC05	11DEC05
02SCRP0300	Lighting Drawpit & Cable Duct (TTA No. 04 & 08)	8	41d	0	01SEP05	05SEP05	20OCT05	28OCT05
02SCRP0400	Lighting Drawpit & Cable Duct (TTA No. 09)	6	15d	0	10NOV05	16NOV05	28NOV05	04DEC05
Roads and Pavement								
02SCRP0500	Trim Formwork & Lay Subbase (TTA No. 04 & 08)	12	41d	0	20SEP05	03OCT05	08NOV05	22NOV05
02SCRP0600	Road Pavement (TTA No. 04 & 08)	12	41d	0	04OCT05	18OCT05	23NOV05	05DEC05
02SCRP0700	Road Pavement (TTA No. 09)	8	15d	0	24NOV05	02DEC05	12DEC05	20DEC05
Road Marking, Traffic Signs and Fencing								
02SCRM0100	Apply Road Marking	3	15d	0	04DEC05	06DEC05	21DEC05	23DEC05
02SCRM0200	Erect Signage	12	41d	0	19OCT05	02NOV05	07DEC05	20DEC05
02SCRM0300	Install Railing, Fencing & etc	12	41d	0	19OCT05	02NOV05	07DEC05	20DEC05
Existing Sul Chasing Street Roundabout								
02SRPK0100	Laying Lighting Cross Road Duct (TTA No. 05)	4	86d	0	24JUN05	28JUN05	04OCT05	09OCT05
02SRPK0200	Laying Lighting Cross Road Duct (TTA No. 06)	4	86d	0	13JUL05	17JUL05	23OCT05	28OCT05
Roads and Pavement								
02SRPP0100	Demolish Existing Island (TTA No. 05)	8	86d	0	15JUN05	23JUN05	25SEP05	03OCT05
02SRPP0200	Construct Proposed Island (TTA No. 05)	8	86d	0	29JUN05	05JUL05	10OCT05	16OCT05
02SRPP0300	Demolish Existing Kerb (TTA No. 06)	2	86d	0	11JUL05	12JUL05	20OCT05	21OCT05
02SRPP0400	Lay Kerb (TTA No. 06)	8	86d	0	18JUL05	26JUL05	27OCT05	06NOV05
02SRPP0500	Demolish Existing Roundabout (TTA No. 07)	8	86d	0	31JUL05	08AUG05	10NOV05	18NOV05
02SRPP0600	Reconstruct Roundabout (TTA No. 07)	8	86d	0	09AUG05	17AUG05	20NOV05	28NOV05
02SRPP0700	Reinstate Road Pavement (TTA No. 05)	2	86d	0	27JUL05	28JUL05	07NOV05	08NOV05
02SRPP0800	Resurfacing Wearing Course	8	86d	0	18AUG05	26AUG05	28NOV05	07DEC05
Road Marking, Traffic Signs and Fencing								
02SRMA0100	Apply Road Marking	2	86d	0	11SEP05	12SEP05	22DEC05	23DEC05
02SRMA0200	Erect Signage	12	86d	0	28AUG05	05SEP05	08DEC05	21DEC05
02SRMA0300	Install Railing, Fencing & etc	12	86d	0	28AUG05	05SEP05	08DEC05	21DEC05
Existing Ma Liu Shui Bridge								
Utility Works								
02EBUT0100	Install Public Lighting Post	8	21d	0	30SEP05	10OCT05	26OCT05	04NOV05
Roads and Pavement								
02EBPK0100	Lay Kerb (TTA No. 03)	6	40d	0	29JUN05	06JUL05	16AUG05	24AUG05
02EBPK0200	Cable Duct Laying on Island (TTA No. 03)	6	36d	0	24AUG05	30AUG05	10OCT05	16OCT05
02EBPK0300	Cable Duct Laying on Reserve (TTA No. 03)	6	21d	0	02SEP05	06SEP05	27SEP05	03OCT05
Roads and Pavement								
02EBRP0100	Demolish Existing Parapet (TTA No. 03)	12	29d	0	16JUN05	26JUN05	20JUL05	02AUG05
02EBRP0200	Demolish Island & Paved Area (TTA No. 03)	12	40d	0	16JUN05	26JUN05	02AUG05	15AUG05
02EBRP0300	Road Pavement (TTA No. 03)	8	40d	0	10JUL05	16JUL05	25AUG05	02SEP05
02EBRP0400	Construct Roundabout on V-Abutment (TTA No. 03)	8	29d	0	23JUN05	08JUL05	03AUG05	11AUG05
02EBRP0500	Remove Pavement at Proposed Island (TTA No. 08)	4	39d	0	19AUG05	22AUG05	04OCT05	09OCT05
02EBRP0600	Construct Traffic Island (TTA No. 08)	8	39d	0	31AUG05	08SEP05	17OCT05	25OCT05
02EBRP0700	Construct Remaining Roundabout (TTA No. 08)	12	87d	0	19AUG05	01SEP05	23NOV05	08DEC05
02EBRP0800	Demolish Existing Central Reserve (TTA No. 03)	12	21d	0	19AUG05	01SEP05	13SEP05	26SEP05
02EBRP0900	Construct New Central Reserve (TTA No. 03)	18	21d	0	08SEP05	29SEP05	04OCT05	25OCT05
Road Marking, Traffic Signs and Fencing								
02EBRM0100	Apply Road Marking (TTA No. 03)	1	40d	0	19JUL05	19JUL05	04SEP05	04SEP05
02EBRM0200	Apply Road Marking (TTA No. 08)	1	56d	0	16OCT05	16OCT05	23DEC05	23DEC05

Start date: 19JUN05
 Finish date: 20NOV05
 Date date: 25JAN05
 Run rate: 25JAN05
 Project name: IP05
 Page number: 10A

Early bar
 Early finish point
 Target start point
 Target finish point
 Target bar
 Progress bar
 Checker bar
 Summary bar
 Start time point
 Finish time point

WAI KEE
 LEADER
 ZENS

Leader - Wai Kee (C&T) Joint Venture
 TP3703 - Initial Works Programme
 Updated to 28 January 2005

Act ID	Description	Orig Dur	Total Percent Complete	Start	Early Finish	Late Start	Late Finish
02EBR04000	Erect Signage	12	56%	0 30SEP06	14OCT06	09DEC06	22DEC06
02EBR04000	Install Railing, Fencing & etc	12	56%	0 30SEP06	14OCT06	09DEC06	22DEC06
Car Park and Access Road							
02CPDW1200	S682 - Existing Culvert	21	16%	0 26JAN05	24FEB05	18AUG06	11SEP06
02CPDW1300	CP632 - S684	16	16%	0 22FEB06	11MAR06	12SEP06	29SEP06
Utility Works							
02CPTU0500	Install Public Lighting Post	8	187%	0 08MAY06	16MAY06	16DEC06	25DEC06
Public Lighting, Road and Kerb							
02CPRK0100	Construct Dwarf Wall	23	16%	0 13MAR06	08APR06	30SEP06	27OCT06
02CPRK0200	Lay Kerb	6	16%	0 27APR06	06MAY06	16NOV06	24NOV06
02CPRK0300	Public Lighting Controller	10	200%	0 10APR06	20APR06	05DEC06	15DEC06
02CPRK0400	Lighting Drawpit & Cable Duct	15	15%	0 10APR06	26APR06	29OCT06	15NOV06
Road and Paving							
02CPRP0100	Trim Formwork & Lay Subbase	6	177%	0 08MAY06	16MAY06	05DEC06	13DEC06
02CPRP0200	Road Pavement	6	177%	0 17MAY06	25MAY06	14DEC06	23DEC06
02CPRP0300	Construct Footpath	16	16%	0 08MAY06	27MAY06	25NOV06	15DEC06
Road Marking & Traffic Sign and Fencing							
02CPRM0100	Apply Road Marking	2	16%	0 06JUN06	07JUN06	23DEC06	25DEC06
02CPRM0200	Erect Signage	6	16%	0 20MAY06	06JUN06	18DEC06	22DEC06
02CPRM0300	Install Railing, Fencing & etc	6	16%	0 20MAY06	06JUN06	18DEC06	22DEC06
Amenity Area							
02AMU0100	Construct U-Channels	10	16%	0 15APR06	08MAY06	05DEC06	25DEC06
Water Meter							
02AMUT0100	Water Point WP1-3 to Water Meter No.1	18	72%	0 25AUG05	14SEP06	21NOV06	11DEC06
02AMUT0200	Water Point WP2-3 to Water Meter No.2	17	104%	0 04AUG06	23AUG06	06DEC06	25DEC06
02AMUT0300	Water Point WP3-5 to Water Meter No.3	26	167%	0 22MAY06	21JUN06	28NOV06	25DEC06
02AMUT0400	Water Point WP8-2 to Water Meter No.8	12	73%	0 16SEP06	28SEP06	12DEC06	25DEC06
Station 3							
Ma Liu Shui Subway							
Ramp Base Construction							
03MSPH0100	Construct Base Slab	8	3%	0 17SEP05	27SEP05	05NOV05	14NOV05
03MSPH0200	Construct Wall upto Barrat Base Slab	6	3%	0 28SEP05	07OCT05	15NOV05	22NOV05
03MSPH0300	Construct Wall up to Top Slab	12	3%	0 31OCT05	12NOV05	15DEC05	20DEC05
03MSPH0400	Construct Top Slab	12	3%	0 28NOV05	10DEC05	12JAN06	25JAN06
03MSPH0500	Install Hoisting Beam	6	3%	0 21NOV05	28NOV05	05JAN06	11JAN06
Subway Barrel Construction							
03MSSB0100	Excavation	30	15%	0 13AUG05	18SEP05	03AUG05	06OCT05
03MSSB0200	Construct Subway #1 Base Slab	9	16%	0 31AUG05	09SEP05	20SEP05	24SEP05
03MSSB0300	Construct Subway #2 Base Slab	9	4%	0 10SEP05	21SEP05	10NOV05	19NOV05
03MSSB0400	Construct Subway #3 Base Slab	9	4%	0 22SEP05	03OCT05	21NOV05	30NOV05
03MSSB0500	Construct Subway #4 Base Slab	12	3%	0 17OCT05	29OCT05	10DEC05	14DEC05
03MSSB0600	Construct Subway #1 Wall + Top Slab	12	55%	0 10SEP05	24SEP05	17NOV05	30NOV05
03MSSB0700	Construct Subway #2 Wall + Top Slab	12	51%	0 14NOV05	26NOV05	12JAN06	25JAN06
03MSSB0800	Construct Subway #3 Wall + Top Slab	12	4%	0 04OCT05	16OCT05	01DEC05	14DEC05
03MSSB0900	Construct Subway #4 Wall + Top Slab	12	51%	0 31OCT05	12NOV05	29DEC05	11JAN06
03MSSB1000	Backfilling	18	3%	0 12DEC05	31DEC05	26JAN06	17FEB06
Subway East Ramp Construction							
03MSE0100	Excavation	44	15%	0 31AUG05	24OCT05	17SEP05	16NOV05
03MSE0200	Construct E1 Ramp Base Slab	6	43%	0 27OCT05	02NOV05	16DEC05	22DEC05
03MSE0300	Construct E2 Ramp Base Slab	6	41%	0 20OCT05	28OCT05	07DEC05	13DEC05

Start Date 10JUL05
Finish date 28OCT07
Date date 28JAN05
2-Digit date 050505
2-Digit number 11A

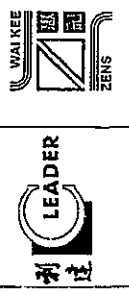
Early bar
 Early start point
 Early finish point
 Target start point
 Target finish point
 Critical bar
 Summary bar
 Start milestone point
 Finish milestone point

WAI KEE
LEADER
ZENS

**Leader - Wai Kee (C&T) Joint Venture
 TP37/03 - Initial Works Programme
 Updated to 28 January 2005**

Act ID	Description	Orig Dur	Total	Percent	Early Finish	Early Start	Late Start	Late Finish	
03MSSE0400	Construct E3 Ramp Base Slab	6	276	0	27/0CT05	02NOV05	28NOV05	03DEC05	
03MSSE0500	Construct E4 Ramp Base Slab	6	274	0	28/0CT05	26NOV05	21NOV05	26NOV05	
03MSSE0600	Construct E5 Ramp Base Slab	6	274	0	13/0CT05	19NOV05	14NOV05	19NOV05	
03MSSE0700	Construct E6 Ramp Base Slab	6	274	0	05/0CT05	12NOV05	07NOV05	12NOV05	
03MSSE0800	Construct E7 Ramp Base Slab	6	276	0	27/SEP05	04OCT05	31OCT05	05NOV05	
03MSSE0900	Construct E8 Ramp Base Slab	6	174	0	20/SEP05	26SEP05	12OCT05	18OCT05	
03MSSE1000	Construct E9 Ramp Base Slab	6	154	0	12/SEP05	17SEP05	30SEP05	07OCT05	
03MSSE1100	Construct E10 Ramp Base Slab	6	154	0	20/SEP05	26SEP05	08OCT05	16OCT05	
03MSSE1200	Construct E11 Ramp Base Slab	8	314	0	25/SEP05	08OCT05	07NOV05	15NOV05	
03MSSE1300	Construct E12 Ramp Base Slab	8	314	0	10/OCT05	18NOV05	18NOV05	24NOV05	
03MSSE1400	Construct E1 Ramp Walls	6	194	0	01/DEC05	09DEC05	23DEC05	31DEC05	
03MSSE1500	Construct E2 Ramp Walls	6	194	0	22/NOV05	30NOV05	14DEC05	22DEC05	
03MSSE1600	Construct E3 Ramp Walls	6	194	0	12/NOV05	21NOV05	05DEC05	13DEC05	
03MSSE1700	Construct E4 Ramp Walls	6	154	0	24/NOV05	02DEC05	12DEC05	20DEC05	
03MSSE1800	Construct E5 Ramp Walls	6	154	0	15/NOV05	23NOV05	02DEC05	10DEC05	
03MSSE1900	Construct E6 Ramp Walls	6	154	0	05/NOV05	14NOV05	29NOV05	07DEC05	
03MSSE2000	Construct E7 Ramp Walls	10	154	0	25/OCT05	04NOV05	11NOV05	22NOV05	
03MSSE2100	Construct E8 Ramp Walls	10	154	0	13/OCT05	24OCT05	31OCT05	10NOV05	
03MSSE2200	Construct E9 Ramp Walls	10	154	0	28/SEP05	12OCT05	19OCT05	29OCT05	
03MSSE2300	Construct E10 Ramp Walls	10	194	0	13/OCT05	24OCT05	04NOV05	15NOV05	
03MSSE2400	Construct E11 Ramp Walls	8	194	0	28/OCT05	02NOV05	15NOV05	24NOV05	
03MSSE2500	Construct E12 Ramp Walls	6	190	0	03/NOV05	11NOV05	25NOV05	03DEC05	
03MSSE2600	Backfilling	20	154	0	03/DEC05	26DEC05	25NOV05	03DEC05	
03MSSE2700	Install Roof Steel Posts	18	924	0	27/DEC05	15JAN06	17APR06	08MAY06	
03MSSE2800	Construct Roof Slab E6, E8	12	924	0	17/JAN06	01FEB06	09MAY06	22MAY06	
03MSSE2900	Construct Roof Slab E5, E7	12	924	0	02/FEB06	18FEB06	23MAY06	05JUN06	
03MSSE3000	Construct Roof Slab E4, E9	12	924	0	16/FEB06	01MAR06	07JUN06	20JUN06	
03MSSE3100	Construct Roof Slab E3, E10	12	924	0	02/MAR06	15MAR06	21JUN06	05JUL06	
03MSSE3200	Construct Roof Slab E2, E11	12	924	0	16/MAR06	29MAR06	06JUL06	19JUL06	
03MSSE3300	Construct Roof Slab E1, E12	12	924	0	30/MAR06	12APR06	20JUL06	02AUG06	
Stairway West Ramp Construction									
03MSSV0100	Excavation (Western Ramp)	41	484	0	25/OCT05	10DEC05	21DEC05	08FEB06	
03MSSV0200	Construct W1 Ramp Base Slab	8	754	0	13/DEC05	21DEC05	13MAR06	21MAR06	
03MSSV0300	Construct W2 Ramp Base Slab	8	734	0	03/DEC05	12DEC05	01MAR06	09MAR06	
03MSSV0400	Construct W3 Ramp Base Slab	8	714	0	24/NOV05	02DEC05	17FEB06	25FEB06	
03MSSV0500	Construct W4 Ramp Base Slab	8	494	0	15/NOV05	23NOV05	11JAN06	19JAN06	
03MSSV0600	Construct W5 Ramp Base Slab	8	494	0	05/NOV05	14NOV05	02JAN06	10JAN06	
03MSSV0700	Construct W6 Ramp Base Slab	8	494	0	15/NOV05	23NOV05	11JAN06	19JAN06	
03MSSV0800	Construct W7 Ramp Base Slab	8	914	0	24/NOV05	02DEC05	13MAR06	21MAR06	
03MSSV0900	Construct W1 Ramp Walls	10	354	0	09/FEB06	20FEB06	22MAR06	01APR06	
03MSSV1000	Construct W2 Ramp Walls	10	354	0	26/JAN06	06FEB06	10MAR06	21MAR06	
03MSSV1100	Construct W3 Ramp Walls	10	354	0	14/JAN06	25JAN06	27FEB06	08MAY06	
03MSSV1200	Construct W4 Ramp Walls	10	354	0	03/JAN06	15FEB06	25FEB06	07FEB06	
03MSSV1300	Construct W5 Ramp Walls	20	354	0	10/DEC05	02JAN06	20JAN06	14FEB06	
03MSSV1400	Construct W6 Ramp Walls	20	454	0	03/JAN06	25JAN06	27FEB06	21MAY06	
03MSSV1500	Construct W7 Ramp Walls	10	454	0	26/JAN06	06FEB06	22MAR06	01APR06	
03MSSV1600	Backfilling	20	354	0	21/FEB06	15MAR06	03APR06	26APR06	
03MSSV1700	Install Roof Posts	18	504	0	16/MAR06	06APR06	19MAY06	06JUN06	

- Construct E3 Ramp Base Slab
- Construct E4 Ramp Base Slab
- Construct E5 Ramp Base Slab
- Construct E6 Ramp Base Slab
- Construct E7 Ramp Base Slab
- Construct E8 Ramp Base Slab
- Construct E9 Ramp Base Slab
- Construct E10 Ramp Base Slab
- Construct E11 Ramp Base Slab
- Construct E12 Ramp Base Slab
- Construct E1 Ramp Walls
- Construct E2 Ramp Walls
- Construct E3 Ramp Walls
- Construct E4 Ramp Walls
- Construct E5 Ramp Walls
- Construct E6 Ramp Walls
- Construct E7 Ramp Walls
- Construct E8 Ramp Walls
- Construct E9 Ramp Walls
- Construct E10 Ramp Walls
- Construct E11 Ramp Walls
- Construct E12 Ramp Walls
- Backfilling
- Install Roof Steel Posts
- Construct Roof Slab E6, E8
- Construct Roof Slab E5, E7
- Construct Roof Slab E4, E9
- Construct Roof Slab E3, E10
- Construct Roof Slab E2, E11
- Construct Roof Slab E1, E12
- Excavation (Western Ramp)
- Construct W1 Ramp Base Slab
- Construct W2 Ramp Base Slab
- Construct W3 Ramp Base Slab
- Construct W4 Ramp Base Slab
- Construct W5 Ramp Base Slab
- Construct W6 Ramp Base Slab
- Construct W7 Ramp Base Slab
- Construct W1 Ramp Walls
- Construct W2 Ramp Walls
- Construct W3 Ramp Walls
- Construct W4 Ramp Walls
- Construct W5 Ramp Walls
- Construct W6 Ramp Walls
- Construct W7 Ramp Walls
- Backfilling
- Install Roof Posts



Leader - Wai Kee (C&T) Joint Venture
 TP37/03 - Initial Works Programme
 Updated to 28 January 2005

Start date: 10/JUL/04
 Finish date: 26/NOV/07
 DWS job: 28/JAN/05
 Run date: 28/JAN/05
 Project name: TP37
 Page number: 12/4

Legend:
 ▲ Early start point
 ▼ Early finish point
 ▲ Target start point
 ▼ Target finish point
 ○ Progress bar
 ○ Critical bar
 ○ Summary bar
 ○ Start milestone point
 ○ Finish milestone point

© Primavera Systems, Inc.

Act ID	Description	Orig Dur	Total Dur	Percent Complete	Start	Early Finish	Late Finish	2004	2005	2006	2007
03ASW1800	Construct Road Slab W4	12	504	0	07APR06	20APR06	07JUN06				20JUN06
03ASW1900	Construct Road Slab W3, W5	12	550	0	21APR06	05MAY06	21JUN06				05JUL06
03ASW2000	Construct Road Slab W2, W6	12	506	0	06MAY06	19MAY06	05JUL06				19JUL06
03ASW2100	Construct Road Slab W1, W7	12	504	0	20MAY06	03JUN06	20JUL06				02AUG06
Pumping and Drainage System											
03ASPD0100	Pumping System Installation	30	1984	0	21FEB06	27MAR06	16OCT06				20NOV06
03ASPD0200	Drainage System Installation	20	504	0	05JUN06	27JUN06	03AUG06				25AUG06
Miscellaneous Works											
03ASMD0100	Miscellaneous Metal Works	24	564	0	21SEP06	19OCT06	28NOV06				25DEC06
Finishing Works											
03ASFV0100	Finishing Works at Barrel	24	504	0	28JUN06	26JUL06	28AUG06				25SEP06
03ASFV0200	Finishing Works at East Ramp	24	500	0	27JUL06	23AUG06	23SEP06				21OCT06
03ASFV0300	Finishing Works at West Ramp	24	500	0	24AUG06	20SEP06	23OCT06				20NOV06
Electrical Works											
03ASEM0100	Electrical Installation at Barrel & Pump House	24	984	0	27JUL06	29AUG06	21NOV06				18DEC06
03ASEM0200	Electrical Installation at East Ramp	24	744	0	24AUG06	20SEP06	21NOV06				18DEC06
03ASEM0300	Electrical Installation at West Ramp	24	504	0	21SEP06	18OCT06	21NOV06				18DEC06
Testing and Commissioning											
03ASTC0100	Pumping System & Electrical Installation	6	500	0	20OCT06	26OCT06	19DEC06				25DEC06
Loading and Unloading Area											
Drainage Works											
03LDW0100	Decide Location of Manholes & Catchpits	1	2134	0	13AUG05	13AUG05	26APR06				26APR06
03LDW0200	F302 - F306	26	354	0	19MAY06	19JUN06	30JUN06				31JUL06
03LDW0300	Trial Pit for F306 - F306A	10	274	0	13AUG05	24AUG05	24JUL06				24JUL06
03LDW0400	F306 - F306A	11	274	0	07NOV05	18NOV05	03OCT06				16OCT06
03LDW0500	F306A - Existing Sewer Manhole	11	184	0	19OCT06	01NOV06	31NOV06				23NOV06
03LDW0600	F306A - Existing Sewer Manhole	21	274	0	19NOV05	15DEC05	17OCT06				10NOV06
03LDW0700	S712 - S822	21	354	0	18MAR06	10APR06	27APR06				22MAY06
03LDW0800	S817 - S818	11	354	0	11APR06	22APR06	23MAY06				05JUN06
03LDW0900	S876 - S824	21	354	0	24APR06	16MAY06	06JUN06				28JUN06
03LDW1000	S878 - S823 (TTA no. 04)	25	584	0	20JUN06	20JUL06	28AUG06				28SEP06
03LDW1100	S713 - S824	21	354	0	20JUN06	14JUL06	01AUG06				24AUG06
Utility Works											
03LUU0100	CLP - Laying LV Cable	5	354	0	18AUG06	23AUG06	26SEP06				03OCT06
03LUU0200	CLP - Construct Pillar Box	5	1584	0	16MAR06	21MAR06	22SEP06				27SEP06
03LUU0300	Install Public Lighting Post	6	264	0	18NOV05	24NOV06	18DEC06				26DEC06
Public Lighting, Duct and Kerbs											
03LUP0100	Construct Dwarf Wall	50	354	0	20JUN05	17AUG06	01AUG06				27SEP06
03LUP0200	Construct Dwarf Wall (TTA No. 04)	6	584	0	21JUL06	27JUL06	27SEP06				03OCT06
03LUP0300	Lay Kerbs (TTA No. 04)	12	354	0	14SEP06	27SEP06	28OCT06				09NOV06
03LUP0400	Lay Kerbs (TTA No. 09)	6	194	0	09NOV05	15NOV05	01DEC06				07DEC06
03LUP0500	Lighting Driveway & Cable Duct (TTA No. 04)	18	354	0	24AUG06	13SEP06	04OCT06				25OCT06
03LUP0600	Lighting Driveway & Cable Duct (TTA No. 09)	6	154	0	02NOV06	08NOV06	24NOV06				30NOV06
Roads and Pavement											
03LUR0100	Trim Formation & Lay Subbase (TTA No. 09)	6	184	0	11NOV05	20NOV06	10DEC06				12DEC06
03LUR0200	Road Pavement (TTA No. 09)	8	154	0	21NOV05	29NOV06	13DEC06				21DEC06
03LUR0300	Construct Footpath (TTA No. 04)	24	354	0	26SEP06	26OCT06	10NOV06				07DEC06
03LUR0400	Construct Footpath (TTA No. 09)	6	154	0	16NOV06	23NOV06	08DEC06				14DEC06
Road Markings, Traffic Signs and Fencing											
03LURM0100	Apply Road Marking	2	184	0	30NOV05	01DEC06	22DEC06				23DEC06
03LURM0200	Erect Signage	6	154	0	23NOV05	29NOV05	15DEC06				21DEC06
03LURM0300	Install Fencing, Fencing & etc	6	194	0	23NOV06	29NOV06	15DEC06				21DEC06

Wai Kee LEADER

Apply Road Marking
Erect Signage
Install Fencing, Fencing & etc

Decide Location of Manholes & Catchpits
Trial Pit for F306 - F306A
F306 - F306A
F306A - Existing Sewer Manhole
S712 - S822
S817 - S818
S876 - S824
S878 - S823 (TTA no. 04)
S713 - S824
CLP - Laying LV Cable
CLP - Construct Pillar Box
Install Public Lighting Post
Construct Dwarf Wall
Construct Dwarf Wall (TTA No. 04)
Lay Kerbs (TTA No. 04)
Lay Kerbs (TTA No. 09)
Lighting Driveway & Cable Duct (TTA No. 04)
Lighting Driveway & Cable Duct (TTA No. 09)
Trim Formation & Lay Subbase (TTA No. 09)
Road Pavement (TTA No. 09)
Construct Footpath (TTA No. 04)
Construct Footpath (TTA No. 09)
Apply Road Marking
Erect Signage
Install Fencing, Fencing & etc

**Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Initial Works Programme
Updated to 28 January 2005**

Site name: 2010NOV07
Data date: 22JAN05
Run date: 22JAN05
Project name: IP05
Page number: 13A
ZZZ Progress bar
ZZZ Scaled bar
ZZZ Start/finish point
ZZZ Finish mid-station point

© Primavera Systems, Inc

Activity Area	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Amenity Area	03AMDW100 Construct U-Channels	36	73d	0	18AUG06	28SEP06	14NOV06	25DEC06
	03AMJU100 Utility Works	16	63d	0	25AUG06	12SEP06	09NOV06	27NOV06
	03AMJU0200 Water Point WP5-2 to Water Meter No.5	10	63d	0	13SEP06	23SEP06	28NOV06	08DEC06
	03AMJU0300 Water Point WP6-2 to Water Meter No.6	14	63d	0	23SEP06	11OCT06	09DEC06	25DEC06
Section 4								
Public Toilet No. 2								
Foundation Construction								
04PTFC0100	Excavation to Formation Level	6	15d	0	28AUG05	03SEP05	15SEP05	22SEP05
04PTFC0200	Subsoil Inspection by Structural Engineer	1	15d	0	05SEP05	05SEP05	23SEP05	23SEP05
04PTFC0300	Blinding	1	15d	0	06SEP05	06SEP05	24SEP05	24SEP05
04PTFC0400	Steel Fixing for Footing	6	15d	0	07SEP05	13SEP05	26SEP05	03OCT05
04PTFC0500	Formwork	4	15d	0	14SEP05	17SEP05	04OCT05	07OCT05
04PTFC0600	Concreting	3	15d	0	20SEP05	20SEP05	08OCT05	08OCT05
04PTFC0700	Steel Fixing for Walls & Columns	3	15d	0	21SEP05	23SEP05	10OCT05	13OCT05
04PTFC0800	Formwork	4	15d	0	24SEP05	28SEP05	14OCT05	16OCT05
04PTFC0900	Concreting	1	15d	0	29SEP05	29SEP05	19OCT05	19OCT05
04PTFC1000	Remove Formwork	8	15d	0	03OCT05	07OCT05	20OCT05	26OCT05
04PTFC1100	Backfilling	12	15d	0	09OCT05	22OCT05	27OCT05	09NOV05
Ground Floor Slab Construction								
04PTGF0100	Erect Propping & Formwork	6	15d	0	24OCT05	29OCT05	10NOV05	16NOV05
04PTGF0200	Ground Slab Steel Fixing	3	15d	0	31OCT05	02NOV05	17NOV05	19NOV05
04PTGF0300	Formwork	2	15d	0	03NOV05	04NOV05	21NOV05	22NOV05
04PTGF0400	Concreting	1	15d	0	05NOV05	05NOV05	23NOV05	23NOV05
04PTGF0500	Erect Scaffolding	3	15d	0	07NOV05	09NOV05	24NOV05	26NOV05
04PTGF0600	Walls & Columns Formwork	3	15d	0	10NOV05	12NOV05	28NOV05	30NOV05
04PTGF0700	Steel Fixing for Walls & Columns	3	15d	0	14NOV05	16NOV05	01DEC05	03DEC05
04PTGF0800	Formwork	3	15d	0	17NOV05	19NOV05	05DEC05	07DEC05
04PTGF0900	Concreting	1	15d	0	21NOV05	21NOV05	08DEC05	09DEC05
04PTGF1000	Remove Formwork & Propping	12	15d	0	03NOV05	13DEC05	17DEC05	30DEC05
Mezzanine Floor Slab Construction								
04PTMF0100	Erect Propping & Formwork	6	15d	0	14DEC05	20DEC05	31DEC05	06JAN06
04PTMF0200	Mezzanine Slab Steel Fixing	3	15d	0	21DEC05	23DEC05	07JAN06	10JAN06
04PTMF0300	Formwork	2	15d	0	24DEC05	26DEC05	11JAN06	12JAN06
04PTMF0400	Concreting	1	15d	0	27DEC05	27DEC05	13JAN06	13JAN06
04PTMF0500	Walls & Columns Formwork	3	15d	0	30DEC05	30DEC05	14JAN06	17JAN06
04PTMF0600	Steel Fixing for Walls & Columns	3	15d	0	31DEC05	05JAN06	18JAN06	20JAN06
04PTMF0700	Formwork	3	15d	0	04JAN06	05JAN06	21JAN06	24JAN06
04PTMF0800	Concreting	1	15d	0	07JAN06	07JAN06	25JAN06	25JAN06
04PTMF0900	Remove Formwork & Propping	12	15d	0	17JAN06	01FEB06	06FEB06	18FEB06
Upper Mezzanine Floor Slab Construction								
04PTUF0100	Erect Propping & Formwork	6	15d	0	02FEB06	08FEB06	20FEB06	25FEB06
04PTUF0200	Upper Mezzanine Slab Steel Fixing	3	15d	0	08FEB06	11FEB06	27FEB06	01MAR06
04PTUF0300	Formwork	2	15d	0	13FEB06	14FEB06	03MAR06	03MAR06
04PTUF0400	Concreting	1	15d	0	18FEB06	19FEB06	04MAR06	04MAR06
04PTUF0500	Remove Formwork & Propping	12	15d	0	24FEB06	09MAR06	14MAR06	27MAR06
Structural Steelworks								
04PTSS0100	Prepare & Submit Shop Drawings	30	24d	0	02MAY05	04JUN05	30MAY05	03JUL05
04PTSS0200	Engineer Approval of Shop Drawings	12	24d	0	06JUN05	20JUN05	06JUL05	19JUL05

Start date: 10/JUN/04
 Finish date: 28/NOV/07
 Drawn by: ZJAN05
 Run date: ZJAN05
 Project name: IP06
 Page number: 124

Wai Kee
 LEADER
 ZENS

Leader - Wai Kee (C&T) Joint Venture
 TP37/03 - Initial Works Programme
 Updated to 28 January 2005

Early bar
 Early finish point
 Target start point
 Target finish point
 Together
 Summed bar
 Start milestone point
 Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	2004	2005	2006	2007
04PTSS0300	Procurement of Structural Steel	120	244	0	02/JUN/05	11/NOV/05	20/JUL/05	09/DEC/05				
04PTSS0400	Delivery of Structural Steel Materials	12	247	0	12/NOV/05	25/NOV/05	10/DEC/05	23/DEC/05				
04PTSS0500	Inspection & Testing	19	244	0	26/NOV/05	16/DEC/05	24/DEC/05	13/JAN/06				
04PTSS0600	Fabrication & Painting of Steelsworks	48	240	0	17/DEC/05	13/FEB/06	14/JAN/06	13/MAR/06				
04PTSS0700	Delivery of Prefabricated Steelsworks	12	244	0	14/FEB/06	27/FEB/06	14/MAR/06	27/MAR/06				
04PTSS0800	Erection of Steelsworks	36	159	0	10/MAR/06	21/APR/06	28/MAR/06	10/MAY/06				
04PTSS0900	Touch Up Painting	12	154	0	22/APR/06	06/MAY/06	11/MAY/06	24/MAY/06				
Architectural Building Works and Finishes												
04PTAB0100	Solid Concrete Block Work Wall	36	150	0	08/MAY/06	19/JUN/06	25/MAY/06	07/JUL/06				
04PTAB0200	Internal Wall Tie	24	150	0	20/JUN/06	18/JUL/06	08/AUG/06	04/AUG/06				
04PTAB0300	External Wall Tie	24	154	0	12/JUL/06	08/AUG/06	29/JUL/06	26/AUG/06				
04PTAB0400	Tenail Accessories Installation	24	154	0	09/AUG/06	05/SEP/06	26/AUG/06	22/SEP/06				
04PTAB0500	Floor Tile	24	154	0	30/AUG/06	26/SEP/06	16/SEP/06	14/OCT/06				
04PTAB0600	Roof Cladding	24	154	0	20/JUN/06	18/JUL/06	08/AUG/06	04/AUG/06				
Plumbing Works												
04PTPL0100	Plumbing Works	24	152	0	20/SEP/06	18/OCT/06	09/OCT/06	06/NOV/06				
E & M Works												
04PTEL0100	Electrical & Mechanical Installations	48	150	0	12/OCT/06	07/DEC/06	31/OCT/06	29/DEC/06				
Section 5												
Road L4												
Drainage Works												
05RLDW0100	Decide Exact Location of Manholes & Catchlights	1		100	29/JUL/04 A	29/JUL/04 A	29/JUL/04 A	29/JUL/04 A				
05RLDW0200	S413 - S407 (2x2500)	84	-216	80	10/SEP/04 A	19/FEB/05	10/SEP/04 A	22/JAN/05				
05RLDW0300	S407 - S407A (2x2500)	24	-184	50	03/JAN/05 A	14/FEB/05	03/JAN/05 A	22/JAN/05				
05RLDW0400	Sewerage to F404 (In Zone ZC)	31	-216	90	10/SEP/04 A	31/JAN/05	10/SEP/04 A	06/JAN/05				
05RLDW0500	Sewerage to F405 (In Zone ZC)	23	138	70	16/DEC/04 A	04/FEB/05	16/DEC/04 A	23/FEB/05				
05RLDW0600	F405 - F404	20	8464	0	28/JAN/05	23/FEB/05	14/NOV/07	06/DEC/07				
05RLDW0700	S44-022a - S413	16	8464	0	24/FEB/05	14/MAR/05	07/DEC/07	26/DEC/07				
05RLDW0800	S44-019a - S44-017a	23	60	30	16/JAN/05 A	18/FEB/05	18/JAN/05 A	25/FEB/05				
05RLDW0900	Penal Interceptor - S4017a	16	60	0	18/FEB/05	09/MAR/05	28/FEB/05	16/MAR/05				
05RLDW1000	CP#4 - S44 - 009a	16	64	0	18/FEB/05	09/MAR/05	28/FEB/05	16/MAR/05				
05RLDW1100	S408 - S407 (1800)	21	-44	5	28/JAN/05 A	23/FEB/05	26/JAN/05 A	18/FEB/05				
05RLDW1200	S44-010a - S407	14	-164	0	21/MAR/05	06/APR/05	03/MAR/05	18/MAR/05				
05RLDW1300	S410 - S407 (1800)	12	-216	0	21/FEB/05	05/MAR/05	24/JAN/05	05/FEB/05				
05RLDW1400	CP#5 - S408	20	-44	0	24/FEB/05	19/MAR/05	19/FEB/05	14/MAR/05				
05RLDW1500	CP#6 - S408	10	-48	0	24/FEB/05	07/MAR/05	19/FEB/05	02/MAR/05				
05RLDW1700	Existing Drain - S413 (2x2500)	33	1004	80	22/NOV/04 A	04/FEB/05	22/NOV/04 A	19/JUN/05				
05RLDW1800	S44-025a - S412a	16	1004	0	05/FEB/05	01/MAR/05	07/JUN/05	28/JUN/05				
05RLDW1900	Sewerage (In Zone ZP)	16	476	0	07/APR/05	27/APR/05	01/JUN/05	22/JUN/05				
05RLDW2000	S44-017a - S412a	16	476	0	28/APR/05	18/MAY/05	23/JUN/05	14/JUL/05				
05RLDW2100	Terminal Manhole - Sewerage System	12	1004	0	02/MAR/05	15/MAR/05	25/JUN/05	13/JUL/05				
05RLDW2200	S44-007a - S44-001b	41	1004	0	16/MAR/05	03/MAY/05	14/JUL/05	30/AUG/05				
05RLDW2300	CP#1 - S44-015a	16	476	0	19/MAY/05	06/JUN/05	15/JUL/05	02/AUG/05				
05RLDW2400	300UC - CP#2	8	476	0	07/JUN/05	16/JUN/05	03/AUG/05	11/AUG/05				
05RLDW2500	375UC - CP#3	8	476	0	17/JUN/05	25/JUN/05	12/AUG/05	20/AUG/05				
05RLDW2600	315UC - CP#4	8	476	0	27/JUN/05	06/JUL/05	22/AUG/05	30/AUG/05				
05RLDW2700	375UC - CP#5	8	476	0	07/JUL/05	15/JUL/05	31/AUG/05	08/SEP/05				
05RLDW2800	375UC - CP#6	4	476	0	16/JUL/05	20/JUL/05	08/SEP/05	13/SEP/05				
05RLDW2900	Demolish Existing S25 & 1050 Drimpipe	30	476	0	21/JUL/05	24/AUG/05	14/SEP/05	21/OCT/05				

Legend

- Start date
- Finish date
- Early finish point
- Target start point
- Target finish point
- Progress bar
- Critical path
- Start milestone point
- Finish milestone point



WAI KEE

LEADER

ZENS

Leader - Wai Kee (C&T) Joint Venture
TP3703 - Initial Works Programme
Updated to 28 January 2005


Act ID	Description	Orig Dur	Total Float	Percent Complete	Start	Early Start	Start	Early Finish	Late Start	Late Finish	
06CTU100	Watermain - Lay Fresh & Salt Main (In ZJ)	35	-54	0	17FEB05	20APR05	08FEB05	24MAR05	19FEB05	24MAR05	
06CTU1020	Watermain - Lay Fresh & Salt Main (In ZG1)	14	249	0	07APR05	22APR05	05MAY05	20MAY05	15MAY05	20MAY05	
06CTU10300	CLP - Lay 132kV Cable (In ZJ)	55		100	15DEC04 A	12JAN05 A	15DEC04 A	12JAN05 A	14JUN05	14JUN05	
06CTU10400	CLP - Lay 132kV Cable (In ZG1)	22	244	0	21APR05	30MAY05	15JUN05	28JUN05	15JUN05	28JUN05	
06CTU10500	CLP - Cable Joining	18	609	0	03MAR05	05APR05	13MAY05	15JUN05	13MAY05	15JUN05	
06CTU10600	CLP - Lay 11kV Cable (In ZJ)	11	254	0	17MAY05	28MAY05	16JUN05	28JUN05	16JUN05	28JUN05	
06CTU10700	CLP - Lay 11kV Cable (In ZG1)	29	604	0	03MAR05	05APR05	13MAY05	15JUN05	13MAY05	15JUN05	
06CTU10800	CLP - Lay LV Cable (In ZJ)	11	259	0	17MAY05	28MAY05	16JUN05	28JUN05	16JUN05	28JUN05	
06CTU1400	HKCG - Lay 250 Gas Main (In ZJ) (DELETED)	35		100	20DEC04 A	20DEC04 A	20DEC04 A	20DEC04 A	20DEC04 A	20DEC04 A	
06CTU1500	HKCG - Lay 250 Gas Main (In ZG1) (DELETED)	14		100	20DEC04 A	20DEC04 A	20DEC04 A	20DEC04 A	20DEC04 A	20DEC04 A	
06CTP0100	Public Lighting, Dust and Kerb	24	-54	0	22APR05	19MAY05	16APR05	13MAY05	14MAY05	13MAY05	
06CTP0200	Lay Kerb (In ZJ)	12	178	0	20MAY05	07JUN05	15JUN05	28JUN05	15JUN05	28JUN05	
06CTP0300	Lay Kerb (In ZG1)	12	178	0	20MAY05	07JUN05	15JUN05	28JUN05	15JUN05	28JUN05	
06CTR0100	Lay Cycle Track Pavement (In ZJ)	38	-54	0	20MAY05	05JUL05	14MAY05	28JUN05	14MAY05	28JUN05	
06CTR0200	Lay Cycle Track Pavement (In ZG1)	15	-54	0	06JUL05	23JUL05	23JUN05	16JUL05	23JUN05	16JUL05	
06CTM0100	Road Marking & Traffic Sign and Fencing	4	-34	0	23JUL05	27JUL05	20JUL05	23JUL05	20JUL05	23JUL05	
06CTM0200	Apply Road Marking	12	-59	0	18JUL05	29JUL05	11JUL05	23JUL05	11JUL05	23JUL05	
06CTM0300	Erect Signage	21	-56	0	05JUL05	29JUL05	23JUN05	23JUL05	23JUN05	23JUL05	
06CTM0400	Construct Fence	46	-54	0	03MAY05	26APR05	25FEB05	20APR05	25FEB05	20APR05	
06CTV0100	Construct Planter Wall (In ZJ)	18	184	0	27APR05	17MAY05	19MAY05	08JUN05	19MAY05	08JUN05	
06CTV0200	Construct Planter Wall (In ZG1)	18	184	0	27APR05	17MAY05	19MAY05	08JUN05	19MAY05	08JUN05	
Temporary Traffic Management Scheme											
07TMS0100	Implement TTA No. 10	1	-154	0	26JAN05	26JAN05	11JAN05	11JAN05	11JAN05	11JAN05	
07TMS0200	Implement TTA No. 11	1	-154	0	26FEB05	26FEB05	05FEB05	05FEB05	05FEB05	05FEB05	
07TMS0300	Implement TTA No. 12	1	-150	0	24MAR05	24MAR05	07MAR05	07MAR05	07MAR05	07MAR05	
07TMS0400	Implement TTA No. 13	1	-150	0	27APR05	27APR05	05APR05	05APR05	05APR05	05APR05	
Landscape Works											
07LNS0100	Drilling (Two Drilling)	16		100	26SEP04 A	30SEP04 A	26SEP04 A	30SEP04 A	26SEP04 A	30SEP04 A	
07LNS0200	Removal of Existing Armour & Underlayer	6		100	25OCT04 A	05NOV04 A	25OCT04 A	05NOV04 A	25OCT04 A	05NOV04 A	
07LNS0300	Demolish Existing Outfall Units & Toe Blocks	25		100	24NOV04 A	22NOV04 A	21NOV04 A	22NOV04 A	21NOV04 A	22NOV04 A	
07LNS0400	Remove Existing 2800 Dia. Concrete Pipe	12		100	30DEC04 A	13JAN05 A	30DEC04 A	13JAN05 A	30DEC04 A	13JAN05 A	
07LNS0500	Removal of Existing Rubble	20	1604	70	14JAN05 A	03FEB05	14JAN05 A	16AUG05	14JAN05 A	16AUG05	
07LNS0600	Block Wall Construction	33	1604	0	04FEB05	17MAR05	17AUG05	24SEP05	07OCT05	20OCT05	
07LNS0700	Backfill Rubble Behind	10	1604	0	19MAR05	29MAR05	28SEP05	07OCT05	28SEP05	07OCT05	
07LNS0800	Reinstate 2800 Dia. Concrete Pipe	12	1604	0	30MAR05	13APR05	08OCT05	20OCT05	11AUG05	22OCT05	
07LNS0900	Fabrication of Box Culvert Outfalls	60	1604	0	29JAN05	13APR05	11AUG05	22OCT05	24OCT05	08NOV05	
07LNS1000	Install Box Culvert Units	12	1604	0	14APR05	27APR05	21OCT05	08NOV05	07NOV05	08NOV05	
07LNS1100	Install Remaining Blocks for Both Side Outfall	2	1602	0	20APR05	29APR05	07NOV05	08NOV05	07NOV05	08NOV05	
07LNS1200	Reinstate Armour & Underlayer	5	1602	0	30APR05	05MAY05	09NOV05	14NOV05	09NOV05	14NOV05	
Waterfront Promenade											
07WPF0100	Construct Irrigation Pump House	46	84	0	03OCT05	28NOV05	14OCT05	08DEC05	14OCT05	08DEC05	
Drainage Works											
07WPD0100	Excise Exact Location of Manholes & Catchpits	1		100	28JUL04 A	29JUL04 A	29JUL04 A	29JUL04 A	29JUL04 A	29JUL04 A	
07WPD0200	S708 - S715	50	-110	50	13OCT04 A	01MAR05	13OCT04 A	16FEB05	13OCT04 A	16FEB05	
07WPD0300	S701 - S705	46		100	13OCT04 A	14DEC04 A	13OCT04 A	14DEC04 A	13OCT04 A	14DEC04 A	


Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Initial Works Programme
 Updated to 28 January 2005

Start date	10JUN04
Finish date	20JUN07
On site date	28JAN05
Run date	28JAN05
Project name	TP05
Page number	1/1
Scale	As per drawings
Drawn by	Wai Kee
Checked by	Wai Kee
Approved by	Wai Kee
Summary by	Wai Kee
Start milestone point	Start milestone point
Finish milestone point	Finish milestone point


Act ID	Description	Orig Dur	Total Float	Percent	Early Start	Early Finish	Late Start	Late Finish	2004	2005	2006	2007
07WPDW0400	3715 - Existing Box Culvert	30	1664	0	28APR05	01JUN05	07NOV05	10DEC05				
07WPDW0500	F901 - F902 (TTA No. 10)	12	-154	0	28JAN05	11JAN05	24JAN05	24JAN05				
07WPDW0600	F901 - F902 (TTA No. 11)	12	-154	0	28FEB05	14MAR05	05FEB05	22FEB05				
07WPDW0700	F902 - F903 (TTA No. 12)	16	-154	0	24MAR05	12APR05	07MAR05	24MAR05				
07WPDW0800	F903 - Existing Manhole (TTA No. 13)	16	-154	0	27APR05	14MAY05	09APR05	27APR05				
07WPDW0900	S770 - S771	25	-154	0	16MAY05	14JUN05	28APR05	28MAY05				
07WPDW1000	CP102 - CP104 (In ZU)	20	1004	0	15JUN05	08JUL05	14OCT05	05NOV05				
07WPDW1100	3715 - Existing Box Culvert	22	1004	0	09JUL05	03AUG05	07NOV05	10DEC05				
07WPDW1200	225 Dia. Perforated Drain (In ZS)	51	-44	0	12APR05	08JUN05	07APR05	04JUN05				
07WPDW1300	225HR & Catchpit with 2000L along Parapet Wall	50	414	0	11JUL05	06SEP05	27AUG05	27OCT05				
07WPDW1400	225UC along Planter Wall	50	-40	0	10JUN05	08AUG05	06JUN05	04AUG05				
07WPDW1500	225UC (In ZU)	11	246	0	28OCT05	08NOV05	25NOV05	07DEC05				
07WPDW1600	300UC (In ZU)	25	249	0	10NOV05	08DEC05	08DEC05	05JAN06				
07WPDW1700	225Dia. Perforated Drain (In ZU)	21	249	0	09OCT05	27OCT05	01NOV05	24NOV05				
07WPDW1800	300 CUC (In ZUS)	18	-154	0	15JUN05	06JUL05	27MAY05	17JUN05				
07WPDW1900	225 Perforated Drain (In ZUS)	18	-154	0	02JUL05	22JUL05	18JUN05	09JUL05				
Utility Works												
07WPU0100	Watermain - Lay S&L Main (TTA No. 10)	10	-154	0	15FEB05	25FEB05	25JAN05	04FEB05				
07WPU0200	Watermain - Lay S&L Main (TTA No. 11)	10	-154	0	12MAR05	23MAR05	23FEB05	03MAR05				
07WPU0300	Watermain - Lay S&L Main (TTA No. 12)	12	-154	0	13APR05	26APR05	25MAR05	03APR05				
07WPU0400	Watermain - Lay S&L Main (TTA No. 13)	12	244	0	16MAY05	25JUN05	25JUN05	08JUL05				
07WPU0500	CLP - Lay LV Cable	12	294	0	15FEB05	28FEB05	21MAR05	02APR05				
07WPU0600	PCCW - Lay Cable	67	294	0	04JUN05	23AUG05	11JUL05	27SEP05				
07WPU0700	Watermain (In ZUS)	18	-154	0	28JUL05	17AUG05	11JUL05	30JUL05				
Public Lighting, Signage & Road												
07WPL0100	Public Lighting (In ZU)	60	214	0	03OCT05	12DEC05	28OCT05	05JAN06				
07WPL0200	Public Lighting (In ZS)	60	-114	0	29AUG05	08NOV05	16AUG05	27OCT05				
Road and Parking												
07WPR0100	Lay Paving Block (In ZU)	30	-114	0	19JAN06	24FEB06	05JAN06	11FEB06				
07WPR0200	Lay Paving Block (In ZS)	60	-114	0	10NOV05	15JAN06	28OCT05	05JAN06				
Finishing Works												
07WPF0100	Finishing Works (In ZU)	30	-84	0	23JAN06	28FEB06	13JAN06	16FEB06				
07WPF0200	Finishing Works (In ZS)	55	644	0	24AUG05	29OCT05	10NOV05	12JAN06				
E&M Works												
07WPE0500	Irrigation System (In ZU)	30	94	0	25NOV05	02JAN06	09DEC05	12JAN06				
07WPE0600	Irrigation System (In ZS)	32	694	0	18JUL05	23AUG05	28SEP05	07NOV05				
07WPE0700	E&M Works	30	274	0	13DEC05	16JAN06	13JAN05	16FEB06				
Testing and Commissioning												
07WPT0100	Testing & Commissioning	30	94	0	03JAN06	08FEB06	13JAN06	18FEB06				
Road Marking, Traffic Sign and Fencing												
07WPR0300	Erect Signage	30	-54	0	19JAN06	24FEB06	13JAN06	18FEB06				
07WPR0400	Apply Road Marking	12	-114	0	18FEB06	03MAR06	08FEB06	18FEB06				
Landscaping Handovers												
07WPH0100	Planter Wall (In ZS, South End - 100m)	20	-114	0	12MAY05	03JUN05	28APR05	21MAY05				
07WPH0200	Planter Wall (In ZS, 100 - 200m)	20	-114	0	19APR05	11MAY05	06APR05	28APR05				
07WPH0300	Planter Wall (In ZS, 200 - 300m)	20	-114	0	25MAR05	16APR05	12MAY05	05APR05				
07WPH0400	Planter Wall (In ZS, 300 - 400m)	20	-114	0	02MAY05	24MAY05	17FEB05	11MAY05				
07WPH0500	Planter Wall (In ZS, 400 - North End)	20	1004	0	04AUG05	26AUG05	02DEC05	20DEC05				
07WPH0600	Planter Wall (In ZU)	28	-84	0	25AUG05	30SEP05	19AUG05	21SEP05				
07WPH0700	Parapet Wall along Sewer	60	-114	0	18JUN05	27AUG05	04JUN05	15AUG05				
07WPH0800	Construct Curve Trellis (In ZU)	60	-84	0	03OCT05	12DEC05	23SEP05	02DEC05				



WAI KEE



LEADER





ZENS

Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Initial Works Programme
 Updated to 28 January 2005

Start date	10JUL04	Early bar
Finish date	20NOV07	Early start point
2005 08	23AUG05	Early finish point
2005 09	23AUG05	Target start point
Source name	BOB	Target finish point
Project name	18A	Progress bar
Parent number	18A	Critical bar
		Summary bar
		Star milestone point
		Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	
07WPHL0800	Construct Pergola (In ZU)	47	-64	0	13DEC05	07FEB06	30DEC05	25JAN06	
07WPHL1000	Construct Pergola (In ZS)	24	286	0	24AUG05	21SEP05	28SEP05	27OCT05	
07WPHL1100	Water Point WP28-1 to 28-8 (In ZU)	30	272	0	08NOV05	12DEC05	09DEC05	12JAN06	
07WPHL1200	Water Point WP27-2 to 27-4 (In ZS)	15	764	0	30APR05	17MAY05	03AUG05	19AUG05	
07WPHL1300	Water Point WP26-1 to 26-2 (In ZS)	15	794	0	18MAY05	03JUN05	20AUG05	08SEP05	
07WPHL1400	Water Point WP25-2 to 25-4 (In ZS)	15	590	0	29JUN05	16JUL05	07SEP05	24SEP05	
07WPHL1600	Public Toilet & Pavilion by ASD's Contractor	303	-709	0	28DEC04 A	25JAN06	24DEC04 A	05NOV05	
Section 8									
Landscape Node No. 1									
Landscape Nodes Structure									
08LANS0100	Drilling (Two Drillingholes)	16		100	23SEP04 A	04OCT04 A	23SEP04 A	01OCT04 A	
08LANS0200	Removal of Existing Armour & Underlayer	6		100	28OCT04 A	05NOV04 A	28OCT04 A	06NOV04 A	
08LANS0300	Demolish Existing Outfall Units & Tee Blocks	15		100	13NOV04 A	16NOV04 A	16NOV04 A	16NOV04 A	
08LANS0400	Remove Existing 5 Cells Box Culvert Units	18	904	0	21FEB05	18MAY05	07JUN05	07JUN05	
08LANS0500	Removal of Existing Rubble	19	907	80	19JAN05 A	25FEB05	13JUN05	13JUN05	
08LANS0600	Block Wall Construction	31	904	0	26FEB05	02APR05	14JUN05	20JUL05	
08LANS0700	Backfill Rubble Behind	10	504	0	05APR05	15APR05	21JUL05	01AUG05	
08LANS0800	Reinstate 5 Cells Box Culvert Units	18	904	0	16APR05	08MAY05	02AUG05	22AUG05	
08LANS0900	Install 5 Cells Box Culvert Outfalls	60	904	0	25FEB05	06MAY05	13JUN05	22AUG05	
08LANS1000	Install Box Culvert Units	12	904	0	07MAY05	20MAY05	28AUG05	05SEP05	
08LANS1100	Install Remaining Blocks for Both Side Outfall	2	181d	0	21MAY05	28MAY05	24DEC05	26DEC05	
08LANS1200	Reinstate Armour & Underlayer	5	181d	0	24MAY05	28MAY05	27DEC05	31DEC05	
Landscape Node No. 2									
Landscape Nodes Structure									
08LBN0100	Drilling (Two Drillingholes)	15		100	27SEP04 A	16OCT04 A	27SEP04 A	18OCT04 A	
08LBN0200	Removal of Existing Armour & Underlayer	6		100	06NOV04 A	05JAN05 A	06NOV04 A	08NOV04 A	
08LBN0300	Demolish Existing Outfall Units & Tee Blocks	25		100	17NOV04 A	20NOV04 A	17NOV04 A	20NOV04 A	
08LBN0400	Remove Existing 2500 Dia. Concrete Pipe	12	48d	0	02FEB05	18FEB05	05APR05	18APR05	
08LBN0500	Removal of Existing Rubble	19	48d	80	13NOV04 A	23FEB05	15NOV04 A	22APR05	
08LBN0600	Block Wall Construction	33	48d	0	24FEB05	02APR05	23APR05	31MAY05	
08LBN0700	Backfill Rubble Behind	10	48d	0	05APR05	15APR05	01JUN05	13JUN05	
08LBN0800	Reinstate Box Culvert Units	12	48d	0	16APR05	29APR05	14JUN05	27JUN05	
08LBN0900	Fabrication of Box Culvert Outfalls	60	48d	0	18FEB05	29APR05	18APR05	27JUN05	
08LBN1000	Install Box Culvert Units	12	48d	0	30APR05	13MAY05	23JUN05	27JUN05	
08LBN1100	Install Remaining Blocks for Both Side Outfall	2	92d	0	14MAY05	16MAY05	01SEP05	02SEP05	
08LBN1200	Reinstate Armour & Underlayer	5	92d	0	17MAY05	21MAY05	03SEP05	04SEP05	
Spawall Adjacent to Landing Step									
Landscape Nodes Structure									
08ALMA0100	Removal of Armour & Underlayer (First 2 Bays)	4		100	10NOV04 A	12DEC04 A	10NOV04 A	12DEC04 A	
08ALMA0200	Removal of Existing Rubble (First 2 Bays)	9	9d	60	01DEC04 A	01FEB05	01DEC04 A	15FEB05	
08ALMA0300	Placing of Rubble Foundation (First 2 Bays)	5	-13d	0	23MAR05	26MAR05	07MAR05	11MAR05	
08ALMA0400	Block Wall Construction (First 2 Bays)	17	-15d	0	10MAY05	28MAY05	25APR05	13MAY05	
08ALMA0500	Backfill the Rubble Behind (First 2 Bays)	1	-13d	0	22JUN05	22JUN05	06JUN05	06JUN05	
08ALMA0600	Backfill the G200 Rockfill Behind (First 2 Bays)	1	-13d	0	27JUN05	27JUN05	10JUN05	10JUN05	
08ALMA0700	Removal of Armour & Underlayer (Second 2 Bays)	4		100	09NOV04 A	04DEC04 A	09NOV04 A	04DEC04 A	
08ALMA0800	Removal of Existing Rubble (Second 2 Bays)	9	9d	60	17NOV04 A	05FEB05	17NOV04 A	19FEB05	
08ALMA0900	Placing of Rubble Foundation (Second 2 Bays)	5	-13d	0	26MAR05	01APR05	12MAR05	17MAR05	
08ALMA1000	Block Wall Construction (Second 2 Bays)	17	-13d	0	30MAY05	18JUN05	14MAY05	02JUN05	
08ALMA1100	Backfill the Rubble Behind (Second 2 Bays)	1	-13d	0	25JUN05	23JUN05	07JUN05	07JUN05	
08ALMA1200	Backfill the G200 Rockfill Behind (Second 2 Bays)	1	-13d	0	26JUN05	26JUN05	13JUN05	13JUN05	

Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Initial Works Programme
Updated to 28 January 2005

Start date	10JUN04		Early start point
Finish date	28NOV07		Early finish point
Roll over	26JAN05		Trigger point
Project name	TP03		Target bar
Page number	18A		Progress bar
			Critical bar
			Summary bar
			Start milestone point
			Finish milestone point

Act ID	Description	Orig Dur	Total Percent Complete	Early Start	Early Finish	Late Start	Late Finish
06WPHR020	Reinstate Cycle Track	30	126%	01AUG05	03SEP05	29DEC05	03FEB06
06WPHR030	Finishing Works	60	74%	02MAY06	08AUG06	25AUG06	04NOV06
06WPHL020	Plaster Wall (in ZK)	26	94%	01SEPT05	11SEP05	06SEP05	04NOV06
06WPHL030	Plaster Wall (in ZL6)	13	60%	02SEP05	10OCT05	02JAN06	16JAN06
06WPHL040	Plaster Wall (in ZL5)	8	-13%	017SEP05	27SEP05	02SEP05	10SEP06
06WPHL050	Plaster Wall (ZJ - Landscape Nodes 1 South)	40	50%	01MAR06	06MAY06	17MAY06	04JUL06
06WPHL060	Plaster Wall (ZK, ZL, ZJ)	90	46%	01AUG06	26NOV06	06OCT06	19JAN06
06WPHL070	Parapet Wall along Seawall (in ZR)	47	46%	03MAR06	27APR06	27APR06	22JUN06
06WPHL080	Parapet Wall along Seawall (in ZK)	22	46%	02MAY06	17JUN06	18JUL06	11AUG06
06WPHL090	Parapet Wall along Seawall (in ZL6)	12	46%	01MAY06	22MAY06	04JUL06	17JUL06
06WPHL1000	Parapet Wall along Seawall (in ZL5)	8	46%	02MAY06	08MAY06	23JUN06	03JUL06
06WPHL1100	Parapet Wall along Seawall (in ZL1, ZL2)	72	74%	03MAR06	27MAY06	20JAN06	28APR06
06WPHL1200	Parapet Wall along Seawall (in ZJ, ZM, ZL1)	15	126%	01DEC05	17DEC05	29APR06	17MAY06
06WPHL1300	Construct Parapet (3 nos.)	18	125%	01DEC05	07JAN06	16MAY06	08JUN06
06WPHL1400	Water Point WP23-3 to 22-1	12	126%	09JAN06	21JAN06	06JUN06	22JUN06
06WPHL1500	Water Point WP21-3 to 21-1	21	45%	02APR06	24MAY06	23JUN06	18JUL06
06WPHL1600	Water Point WP20-6 to 20-1	15	204%	05AUG06	22AUG06	12APR06	28APR06
06WPHL1700	Water Point WP19-4 to 19-1	12	45%	02MAY06	08JUN06	19JUL06	01AUG06
06WPHL1800	Water Point WP18-3 to 18-2	18	45%	09JUN06	29JUN06	02AUG06	22AUG06
06WPHL1900	Water Point WP17-5 to 17-1	18	45%	03JUL06	14JUL06	23AUG06	05SEP06
06WPHL2000	Water Point WP16-3 to 16-1	12	45%	03JUL06	21JUL06	23JUL06	22JUL06
06WPHL2300	ASD's Contractor Works	304	1%	022JUL05	21JUL06	01DEC05	22APR06

Public Landing Step

Act ID	Description	Orig Dur	Total Percent Complete	Early Start	Early Finish	Late Start	Late Finish
09LSMA0100	Propose Monitoring Plan for OSD's Submarine Pipe	30	100%	01SEP04	06SEP04	01SEP04	06SEP04
09LSMA0200	Engineer & OSD Approval of Monitoring Plan	35	134%	0907SEP04	27JAN05	07SEP04	12JAN05
09LSMA0300	Setup Monitoring for OSD's Submarine Pipeline	30	133%	02JAN05	07MAR05	13JAN05	19FEB05
09LSMA0400	Drawings & CPPT	30	100%	11SEP04	11OCT04	11SEP04	11OCT04
09LSMA0500	Removal of Existing Armour & Underlayer	5	100%	05NOV04	20DEC04	06NOV04	20DEC04
09LSMA0600	Removal of Existing Rubble	12	133%	17NOV04	30DEC04	17NOV04	30DEC04
09LSMA0700	Dredging of Marine Rubble	7	133%	08MAR05	15MAR05	21FEB05	28FEB05
09LSMA0800	Piling of Rubble Foundation	5	133%	01MAR05	21MAR05	01MAR05	08MAR05
09LSMA0900	Block Wall Construction	31	133%	02APR05	09MAY05	01MAR05	23APR05
09LSMA1000	Backfill the Rubble Behind	2	133%	02JUN05	27JUN05	03JUN05	04JUN05
09LSMA1100	Backfill the G200 Rockfill Behind	2	133%	02JUN05	25JUN05	08JUN05	09JUN05
09LSMA1200	Reinstatement of Armour & Underlayer	10	133%	02JUN05	14JUL05	14JUN05	24JUN05
09LSMA1300	Submit Shop Drawings & Calculation of Roof Cover	30	115%	02JAN05	09MAR05	18JUN05	23JUL05
09LSMA1400	Engineer Approval of Shop Drawings & Calculation	72	115%	09MAR05	07JUN05	25JUL05	19OCT05
09LSMA1510	Submit 4 copies of Roof Cover Proposal	6	151%	02JUN05	08JUN05	01DEC05	07DEC05
09LSMA1500	Procurement of Pyramed Skylight	120	151%	02JUN05	25OCT05	01DEC05	22APR06

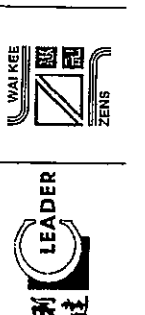
Plaster Wall (in ZR)
 Plaster Wall (in ZK)
 Plaster Wall (in ZL6)
 Plaster Wall (in ZL5)
 Plaster Wall (ZJ - Landscape Node 1 South)
 Parapet Wall along Seawall (in ZR)
 Parapet Wall along Seawall (in ZK)
 Parapet Wall along Seawall (in ZL6)
 Parapet Wall along Seawall (in ZL5)
 Parapet Wall along Seawall (in ZJ, ZM, ZL1)
 Construct Parapet (3 nos.)
 Water Point WP24-4 to 24-1
 Water Point WP23-3 to 22-1
 Water Point WP21-3 to 21-1
 Water Point WP20-6 to 20-1
 Water Point WP19-4 to 19-1
 Water Point WP18-3 to 18-2
 Water Point WP17-5 to 17-1
 Water Point WP16-3 to 16-1
 ASD's Contractor Works

Propose Monitoring Plan for OSD's Submarine Pipe
 Engineer & OSD Approval of Monitoring Plan
 Setup Monitoring for OSD's Submarine Pipeline
 Drawing & CPPT
 Removal of Existing Armour & Underlayer
 Removal of Existing Rubble
 Dredging of Marine Rubble
 Piling of Rubble Foundation
 Block Wall Construction
 Backfill the Rubble Behind
 Backfill the G200 Rockfill Behind
 Reinstatement of Armour & Underlayer
 Submit Shop Drawings & Calculation of Roof Cover
 Engineer Approval of Shop Drawings & Calculation
 Submit 4 copies of Roof Cover Proposal
 Procurement of Pyramed Skylight

Start date: 10JUL04
 Finish date: 20NOV07
 Gate date: 26JAN05
 Run date: 28JAN05
 Target start point: P05
 Target finish point: P06
 Target bar: Z1A
 Critical bar: Z1A

Early bar
 Early start point
 Target start point
 Target finish point
 Target bar
 Critical bar
 Summary bar
 Start milestone point
 Finish milestone point

© Primavera Systems, Inc.
 Leader - Wai Kee (C&T) Joint Venture
 TP37/03 - Initial Works Programme
 Updated to 28 January 2005



Act ID	Description	Dur	Total	Percent	Early Finish	Early Start	Late Start	Late Finish
09LSMA1600	Procurement of Structural Steel	120	15%	0	02JUN05	25OCT03	20OCT05	10MAR06
09LSMA1700	Delivery of Pyramid Skylight	30	15%	0	25OCT05	28NOV05	24APR06	23MAY06
09LSMA1800	Delivery of Structural Steel	30	15%	0	25OCT05	28NOV05	11MAR06	16APR06
09LSMA1900	Inspection & Testing	30	15%	0	30NOV05	03JAN06	17APR06	22MAY06
09LSMA2000	Fabrication & Painting of Steel Works	48	12%	0	04JAN06	02MAY06	30MAY06	26JUL06
09LSMA2100	Concrete Coping with 10 tonne Ballard & Handrail	30	11%	0	03NOV05	03JAN06	17APR06	23MAY06
09LSMA2200	Construct Shelter Footing	24	11%	0	04JAN06	02FEB06	23MAY06	20JUN06
09LSMA2300	Construct Shelter Column	30	11%	0	03FEB06	09MAR06	21JUN06	26JUL06
09LSMA2400	Construct Shelter Roof	24	11%	0	10MAR06	07APR06	27JUL06	23AUG06
09LSMA2500	Public Lighting	8	11%	0	08APR06	17APR06	24AUG06	01SEP06
09LSMA2600	Rubber, Slip & Land Strip Fender	18	11%	0	18APR06	09MAY06	02SEP06	22SEP06
09LSMA2700	Surface Mounted Seals	18	11%	0	18MAY06	30MAY06	23SEP06	14OCT06

Section 10

Act ID	Description	Dur	Total	Percent	Early Finish	Early Start	Late Start	Late Finish
10RWMA0100	Et to Demolish HY9802 CRE Office	1	7%	0	03MAR06	03MAR06	03JUN06	03JUN06
10RWMA0200	Demolish HY9802 CRE Office (P1)	30	7%	0	28MAR06	28APR06	28JUN06	31JUL06
10RWMA0300	Et to Demolish HY9802 Contractor's Office	1	12%	0	03MAR06	03MAR06	31JUL06	31JUL06
10RWMA0400	Demolish HY9802 Contractor's Office (P1)	30	7%	0	02MAY06	06JUN06	01AUG06	04SEP06
10RWMA0500	Et to Remove Run-in & Reinstate FP/CT	1	9%	0	07JUN06	07JUN06	28SEP06	28SEP06
10RWMA0600	Remove Run-in & Reinstate FP/CT (P1)	18	7%	0	21JUL06	10AUG06	21OCT06	11NOV06
10RWMA0700	Et to Demolish Existing Paving	1	7%	0	07JUN06	07JUN06	05SEP06	05SEP06
10RWMA0800	Demolish Existing Paving (P1)	18	7%	0	29JUL06	20JUL06	27SEP06	18OCT06
10RWMA0900	Et to Fencing Around LO Site	1	7%	0	11AUG06	11AUG06	18NOV06	18NOV06
10RWMA1000	Fencing Around LO Site (P1)	15	7%	0	02SEP06	22SEP06	05DEC06	25DEC06

Section 11

Act ID	Description	Dur	Total	Percent	Early Finish	Early Start	Late Start	Late Finish
11AASL0100	Soil Mix (Section 5)	24	2%	0	03JUL05	05AUG05	05AUG05	01SEP05
11AASL0200	Soil Mix (In Z3, South End - 100m)	10	5%	0	04JUN05	16JUN05	16AUG05	25AUG05
11AASL0300	Soil Mix (In Z5, 100 - 200m)	10	11%	0	12MAY05	23MAY05	28MAY05	04JUN05
11AASL0400	Soil Mix (In Z5, 200 - 300m)	10	7%	0	10APR05	29APR05	22JUL05	02AUG05
11AASL0500	Soil Mix (In Z5, 300 - 400m)	10	11%	0	25MAR05	06APR05	09AUG05	18AUG05
11AASL0600	Soil Mix (In Z5, 400 - North End)	10	5%	0	17JUN05	28JUN05	29AUG05	06SEP05
11AASL0700	Soil Mix (In ZU, 300m)	30	2%	0	03OCT05	07NOV05	01NOV05	05DEC05
11AASL0800	Planting Works	110	-4%	0	27MAY05	06OCT05	23MAY05	30SEP05
11AASL0900	Groundcovers Works	60	-4%	0	07OCT05	16DEC05	03OCT06	12DEC05

Section 12

Act ID	Description	Dur	Total	Percent	Early Finish	Early Start	Late Start	Late Finish
12ABSL0100	Soil Mix (In ZR, 395m)	47	8%	0	21JUN05	15AUG05	05OCT05	28NOV05
12ABSL0200	Soil Mix (In ZK, 180m)	24	-13%	0	17FEB06	16MAR06	02FEB06	01MARG06
12ABSL0300	Soil Mix (In ZJ5, 85m)	12	-13%	0	03FEB06	16FEB06	17JAN06	01FEB05
12ABSL0400	Soil Mix (In ZJ5, 50m)	7	-13%	0	24JAN05	02FEB06	05JAN06	16JAN05
12ABSL0500	Soil Mix (ZJ - Landscape Node 1 South, 260m)	30	50%	0	12APR05	15MAY05	30JUN05	15JUL05
12ABSL0600	Soil Mix (ZM, ZL1, ZJ)	71	53%	0	24NOV05	16FEB06	23JAN06	20APR06
12ABSL0700	Planting Works	127	-7%	0	22APR06	20SEP06	07APR06	05SEP06
12ABSL0800	Groundcovers Works	50	-13%	0	21SEP06	28NOV06	08SEP06	04NOV06

Section 13

Act ID	Description	Dur	Total	Percent	Early Finish	Early Start	Late Start	Late Finish
13PMA0100	Procurement of Structural Steel	120	15%	0	02JUN05	25OCT03	20OCT05	10MAR06
13PMA0200	Delivery of Pyramid Skylight	30	15%	0	25OCT05	28NOV05	24APR06	23MAY06
13PMA0300	Delivery of Structural Steel	30	15%	0	25OCT05	28NOV05	11MAR06	16APR06
13PMA0400	Inspection & Testing	30	15%	0	30NOV05	03JAN06	17APR06	22MAY06
13PMA0500	Fabrication & Painting of Steel Works	48	12%	0	04JAN06	02MAY06	30MAY06	26JUL06
13PMA0600	Concrete Coping with 10 tonne Ballard & Handrail	30	11%	0	03NOV05	03JAN06	17APR06	23MAY06
13PMA0700	Construct Shelter Footing	24	11%	0	04JAN06	02FEB06	23MAY06	20JUN06
13PMA0800	Construct Shelter Column	30	11%	0	03FEB06	09MAR06	21JUN06	26JUL06
13PMA0900	Construct Shelter Roof	24	11%	0	10MAR06	07APR06	27JUL06	23AUG06
13PMA1000	Public Lighting	8	11%	0	08APR06	17APR06	24AUG06	01SEP06
13PMA1100	Rubber, Slip & Land Strip Fender	18	11%	0	18APR06	09MAY06	02SEP06	22SEP06
13PMA1200	Surface Mounted Seals	18	11%	0	18MAY06	30MAY06	23SEP06	14OCT06

Act ID	Description	Orig Dur	Total Percent Complete	Early Start	Early Finish	Late Start	Late Finish
13ACSL0100	Soil Mix (Area SA1 - South Section)	30	100%	014APR06	19MAY06	22AUG06	25SEP06
13ACSL0200	Soil Mix (Area SA1 - North Section)	30	98%	0126APR06	01JUN06	22AUG06	25SEP06
13ACSL0300	Soil Mix (Area SA1 - North Section)	6	63%	018AUG06	24AUG06	02NOV06	09NOV06
13ACSL0400	Soil Mix (Car Park, Loading & Unloading Area)	30	107%	015APR06	20MAY06	22AUG06	25SEP06
13ACSL0500	Planting Works	60	96%	0102JUN06	11AUG06	28SEP06	06DEC06
13ACSL0500	Planting Works (Car Park, Loading & Unloading Area)	6	97%	0125AUG06	31AUG06	19DEC06	25DEC06
Area SA8, SA9, SA15, SA16, SA17 & SA18							
Landscape Softworks							
13ACSL0100	Planting Works	45	76%	0125JUN06	21AUG06	27SEP06	20NOV06
13ADSL0200	Groundcovers Works	30	76%	0122AUG06	25SEP06	21NOV06	25DEC06
Section 14							
Area SA6, SA11B & SA14							
Establishment Works							
14AAEW0100	Establishment Works	300	4%	0102MAR06	24FEB07	25FEB06	17FEB07
Section 15							
Area SA7, SA10, SA11A, SA12 & SA13							
Establishment Works							
15ABEW0100	Establishment Works	300	13%	0125NOV06	20NOV07	10NOV06	05NOV07
Section 16							
Area SA1, SA2, SA3, SA4 & SA5							
Establishment Works							
16ACEW0200	Establishment Works	320	88%	0112AUG06	29AUG07	07DEC06	25DEC07
Area SA6, SA8, SA15, SA16, SA17 & SA18							
Establishment Works							
16ADW0100	Establishment Works	300	80%	0126SEP06	19SEP07	30DEC06	25DEC07

Soil Mix (Area SA1 - South Section)

Soil Mix (Area SA1 - North Section)

Soil Mix (Car Park, Loading & Unloading Area)

Soil Mix (Area Adjacent Road SL3)

Planting Works

Planting Works (Car Park, Loading & Unloading Area)

Planting Works

Groundcovers Works

Establishment Works

Establishment Works

Establishment Works

Establishment Works

Establishment Works

Establishment Works

Establishment Works

Establishment Works

Establishment Works

Establishment Works

Establishment Works

Start date: 10-JUN-04
 End date: 30-NOV-07
 Client: Wai Kee
 Project name: TP37/03 - Initial Works Programme
 Page number: 23A

Legend:
 □ Early bar
 △ Early start point
 ▽ Early finish point
 ▽ Right start point
 ▽ Right finish point
 ▽ Target bar
 ▽ Progress bar
 ▽ Summary bar
 ◆ Start relations point
 ◇ Finish relations point

© Primavera Systems, Inc

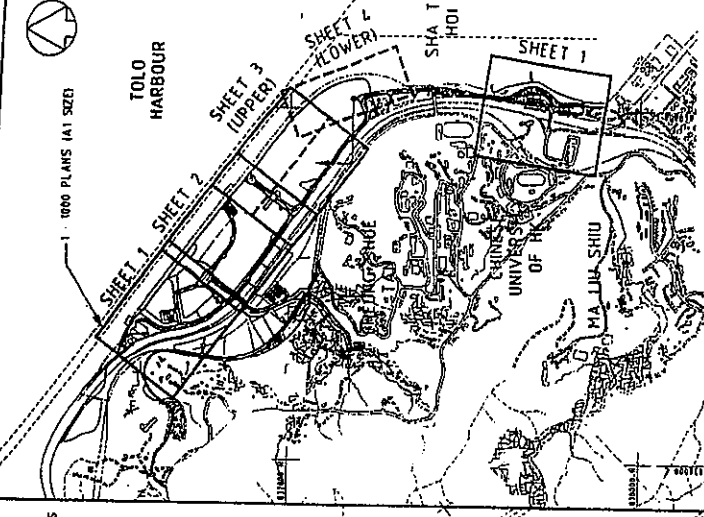
Leader - Wai Kee (C&T) Joint Venture
 TP37/03 - Initial Works Programme
 Updated to 28 January 2005



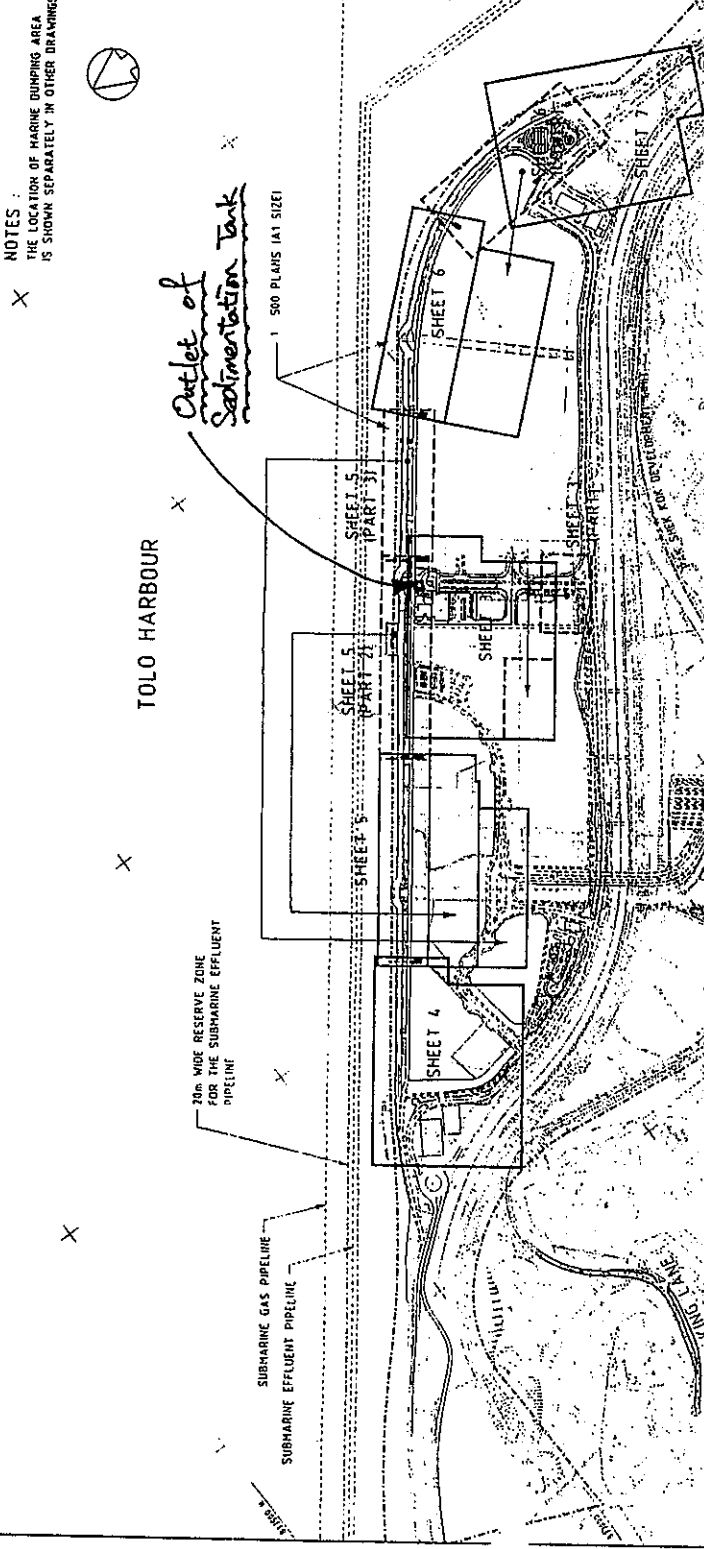


Appendix G

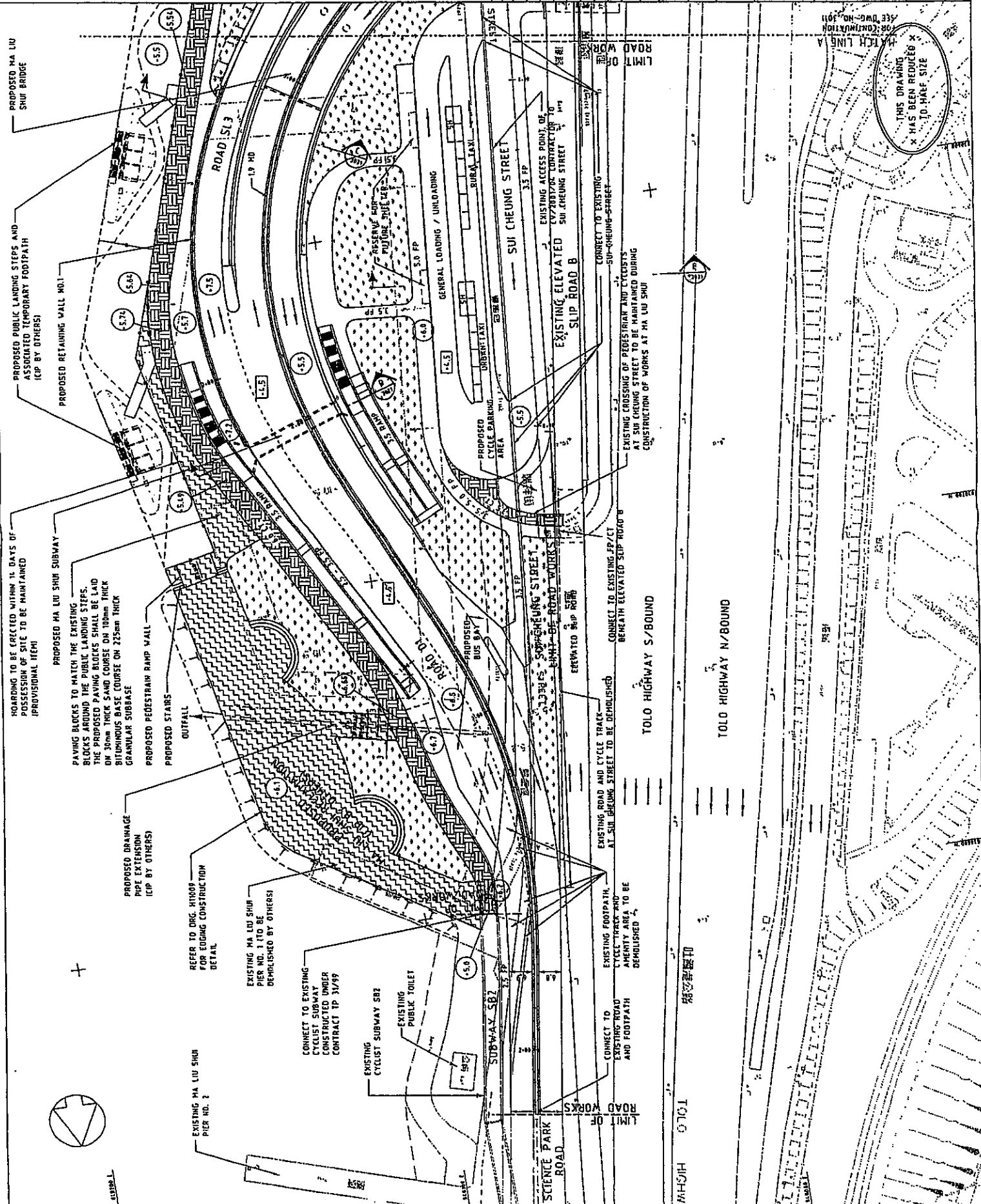
Construction Site Area



PROJECT INFORMATION		DATE							
PROJECT NO.	TP 37/03	DATE	10/05/24						
PROJECT NAME	REMAINING ENGINEERING INFRASTRUCTURE REMAINING FOR PAK SHEK KOK DEVELOPMENT, PACKAGE 2A	DATE	10/05/24						
CLIENT	Government of the Hong Kong Special Administrative Region	DATE	10/05/24						
DESIGNER	Hyder Consulting	DATE	10/05/24						
CHECKED BY		DATE							
APPROVED BY		DATE							
<p>TERMS OF REFERENCE</p> <p>1. GENERAL / PROJECT</p> <p>2. DESIGN</p> <p>3. CONTRACT ADMINISTRATION</p> <p>4. CONSTRUCTION SUPERVISION</p> <p>5. OPERATION AND MAINTENANCE</p> <p>6. DECOMMISSIONING</p>									
<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ISSUE FOR TENDER</td> <td>10/05/24</td> </tr> </tbody> </table>				NO.	DESCRIPTION	DATE	1	ISSUE FOR TENDER	10/05/24
NO.	DESCRIPTION	DATE							
1	ISSUE FOR TENDER	10/05/24							
<p>PROJ. NO. TP 37/03</p> <p>CONTRACT NO. TP 37/03</p> <p>HYDER CONSULTING</p> <p>LOCATION AND KEY PLAN</p> <p>WORKING DRAWING</p> <p>Sheet A</p>									



NOTES:
FOR NOTES AND LEGEND,
SEE GENERAL LAYOUT SHEET 1 -
DRG. NO. 727/D/H/L/3011.



NO.	REV.	DESCRIPTION	DATE	BY	CHECKED
1		ISSUED FOR TENDER	10/11/11	HYDER	HYDER
2		REVISION	11/11/11	HYDER	HYDER
3		REVISION	11/11/11	HYDER	HYDER
4		REVISION	11/11/11	HYDER	HYDER
5		REVISION	11/11/11	HYDER	HYDER

Contracting
Hyder
GENERAL LAYOUT

CONTRACT NO. TP 37/03

REPAIRING ENGINEERING INFRASTRUCTURE
WORKS FOR PAK SHEK KOK DEVELOPMENT,
PACKAGE 2A

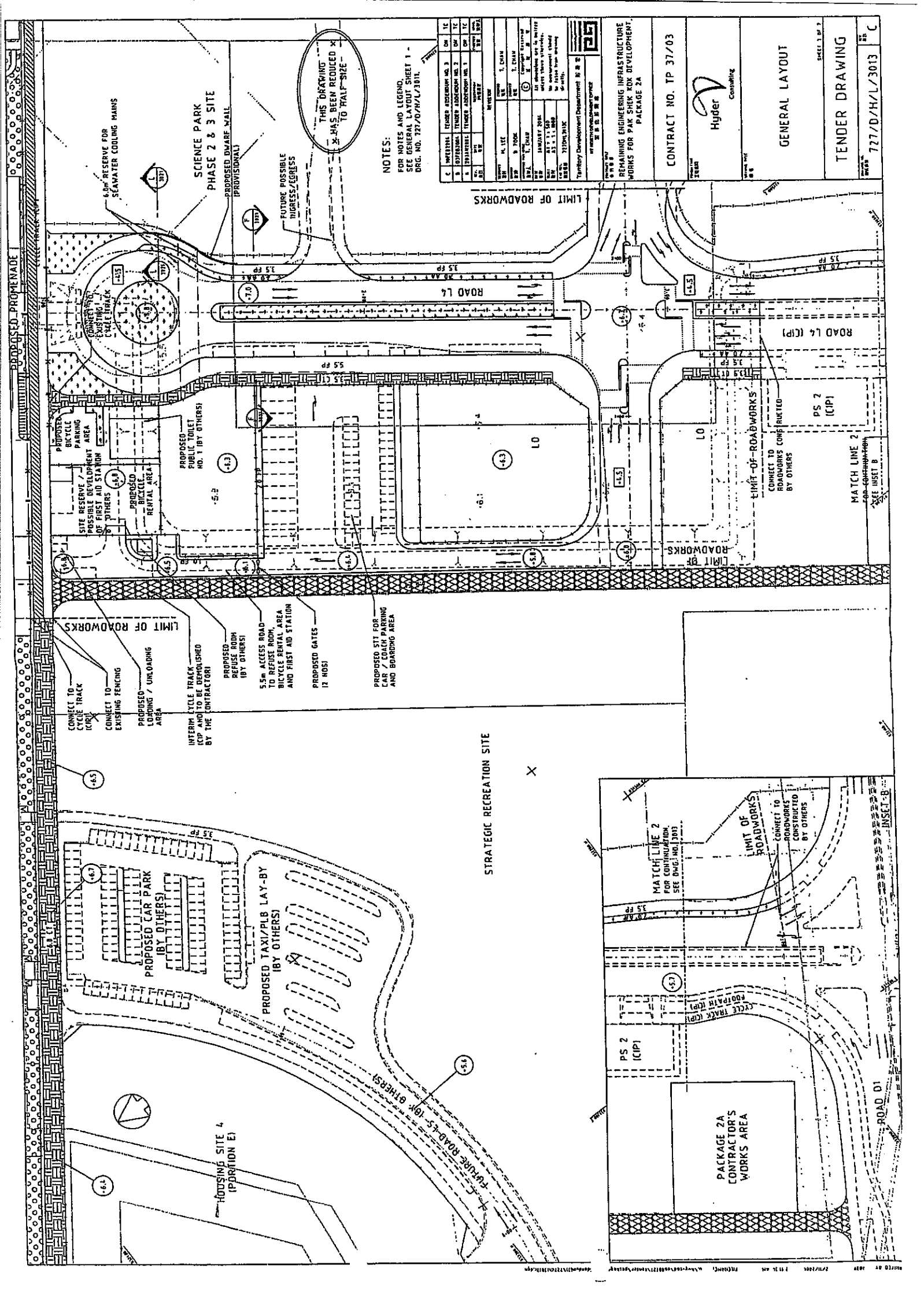
GENERAL LAYOUT

TENDER DRAWING

SHEET 1 OF 2

727/D/H/L/3012

THIS DRAWING
HAS BEEN REDUCED
TO HALF SIZE



NOTES:
 FOR NOTES AND LEGEND,
 SEE GENERAL LAYOUT SHEET 1 -
 DRG. NO. 727/D/H/L/3013.

THIS DRAWING
 HAS BEEN REDUCED TO
 HALF-SIZE

1	INTERIOR	TENDER ADDENDUM NO. 3	DM	12
2	EXTERIOR	TENDER ADDENDUM NO. 2	DM	12
3	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
4	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
5	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
6	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
7	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
8	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
9	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
10	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
11	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
12	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
13	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
14	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
15	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
16	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
17	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
18	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
19	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
20	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
21	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
22	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
23	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
24	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
25	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
26	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
27	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
28	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
29	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
30	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
31	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
32	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
33	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
34	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
35	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
36	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
37	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
38	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
39	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
40	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
41	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
42	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
43	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
44	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
45	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
46	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
47	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
48	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
49	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
50	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
51	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
52	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
53	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
54	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
55	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
56	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
57	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
58	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
59	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
60	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
61	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
62	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
63	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
64	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
65	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
66	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
67	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
68	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
69	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
70	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
71	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
72	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
73	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
74	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
75	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
76	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
77	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
78	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
79	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
80	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
81	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
82	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
83	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
84	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
85	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
86	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
87	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
88	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
89	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
90	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
91	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
92	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
93	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
94	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
95	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
96	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
97	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
98	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
99	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12
100	EXTERIOR	TENDER ADDENDUM NO. 1	DM	12

Contractor's Name: T. CHAN
 Project Name: SCIENCE PARK PHASE 2 & 3
 Drawing Title: GENERAL LAYOUT
 Drawing No: 727/D/H/L/3013
 Date: 2013/07/10
 Scale: 1:1000
 Author: T. CHAN
 Checker: T. CHAN
 Approver: T. CHAN
 Project Location: SCIENCE PARK PHASE 2 & 3
 Project Description: REMAINING ENGINEERING INFRASTRUCTURE WORKS FOR PARK SHEK KOK DEVELOPMENT, PACKAGE 2A

CONTRACT NO. TP 37/03

Hyder Consulting

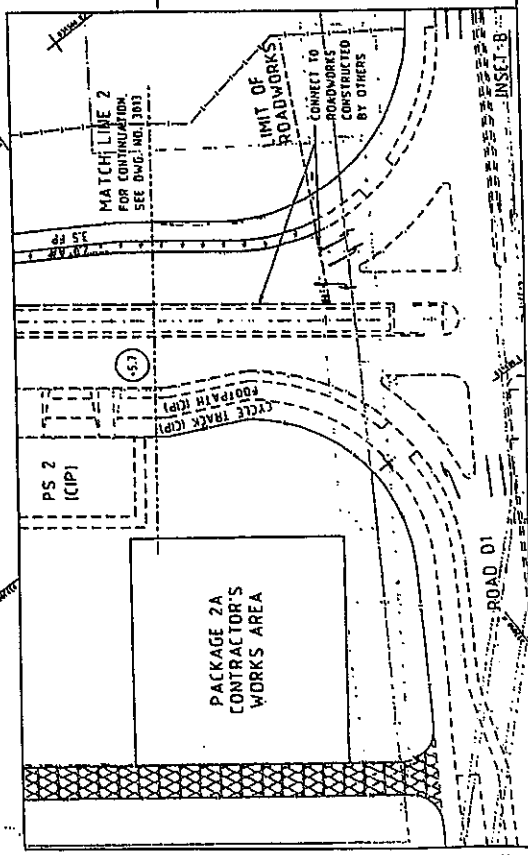
GENERAL LAYOUT

TENDER DRAWING

727/D/H/L/3013

SHEET 1 OF 2

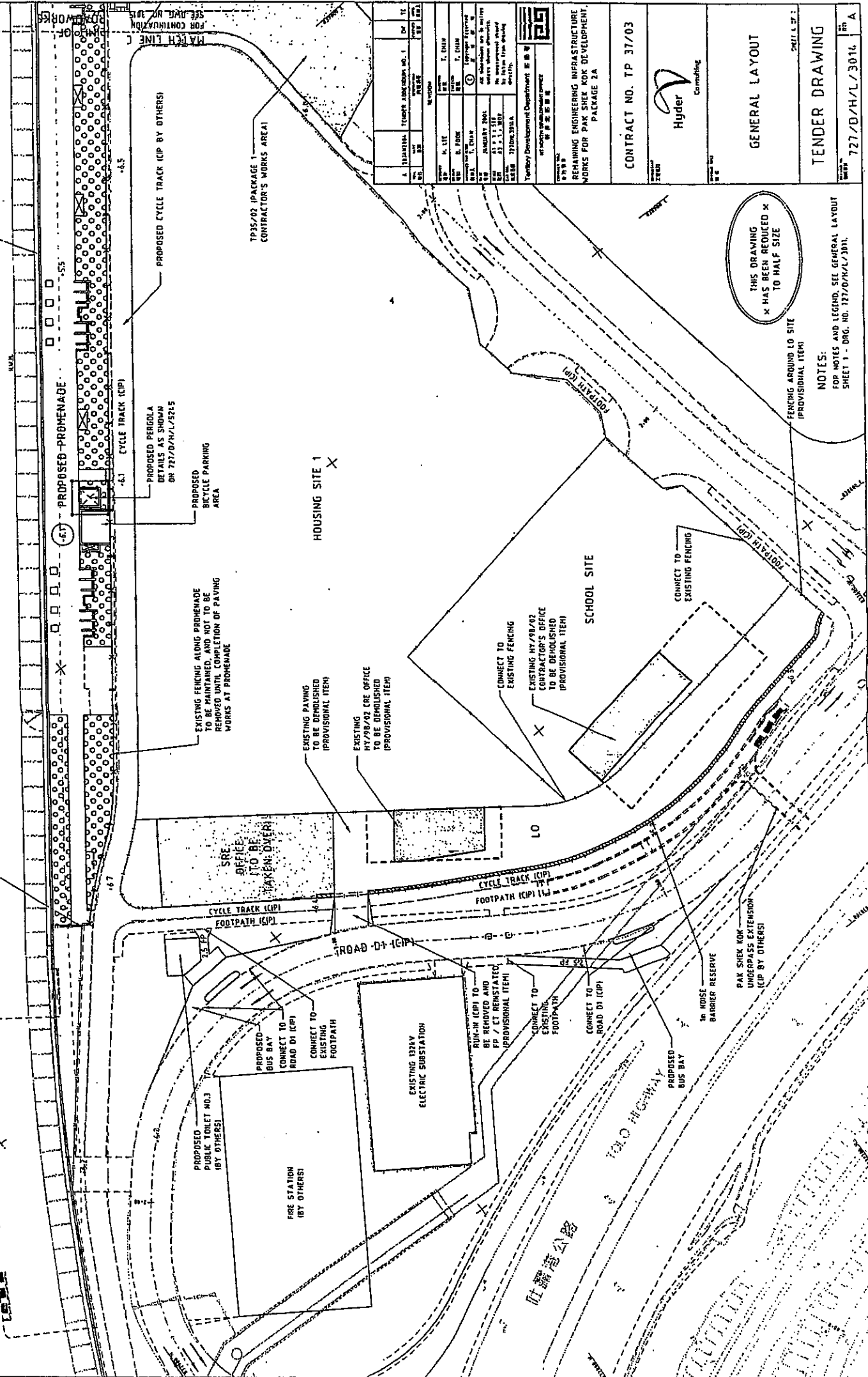
STRATEGIC RECREATION SITE



INSET B



PROPOSED PARAPET WALL



A. JIANSHAN TENDER ADMIN. NO. 1		Date		15.11.2014	
B. DATE		No.		15.11.2014	
C. NAME		No.		15.11.2014	
D. NAME		No.		15.11.2014	
E. NAME		No.		15.11.2014	
F. NAME		No.		15.11.2014	
G. NAME		No.		15.11.2014	
H. NAME		No.		15.11.2014	
I. NAME		No.		15.11.2014	
J. NAME		No.		15.11.2014	
K. NAME		No.		15.11.2014	
L. NAME		No.		15.11.2014	
M. NAME		No.		15.11.2014	
N. NAME		No.		15.11.2014	
O. NAME		No.		15.11.2014	
P. NAME		No.		15.11.2014	
Q. NAME		No.		15.11.2014	
R. NAME		No.		15.11.2014	
S. NAME		No.		15.11.2014	
T. NAME		No.		15.11.2014	
U. NAME		No.		15.11.2014	
V. NAME		No.		15.11.2014	
W. NAME		No.		15.11.2014	
X. NAME		No.		15.11.2014	
Y. NAME		No.		15.11.2014	
Z. NAME		No.		15.11.2014	

CONTRACT NO. TP 37/03



GENERAL LAYOUT

TENDER DRAWING

727/D/H/L/3014

THIS DRAWING
X HAS BEEN REDUCED X
TO HALF SIZE

NOTES:
FOR NOTES AND LEGEND, SEE GENERAL LAYOUT
SHEET 1 - DRG. NO. 727/D/H/L/3014.

FENCING AROUND LO SITE
(PROVISIONAL ITEM)

吐露港公路

TOLO HIGHWAY

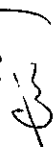




Appendix H

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

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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 30 April 2005 Inspected by Name : (RSS) Eric Leung (LWKJM) Bao Jing (ET) H.T. Chow
 Time : 09:50 Signature :   
 Weather Condition : Sunny / Overcast / Drizzle / Rain / Storm / Hazy Temperature : 30°C
 Wind : Calm / Light / Breeze / Strong Humidity : High / Moderate / Low

	Implementation Stages*		Remark
	Yes	No / N/A	
Mitigation Measures on Waste Management			
Air Quality			
▪ 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.	✓		
Noise			
▪ 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 on direction, should, where possible, be orientated so that the noise is directed away from nearby NSRPs.	✓		
▪ 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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
Water Quality				
General Construction Activities				
▪ Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	✓			# 1
▪ 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 ³ 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.	✓			①
▪ 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.	✓			
Dredging Activities				
▪ 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

	Implementation Stages*		Remark
	Yes	No	
Mitigation Measures on Waste Management			
Filling Activities			
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.	✓		
Waste Management			
Marine Dredged Sediment			
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 ³ 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.	✓		
Construction and Demolition (C&D) Waste			
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 protect 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 from 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	✓		



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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Implementation Stages*			Remark
	Yes	No	N/A	
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 compiled 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			✓	①
• 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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
• 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 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 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.	✓			



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

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 16-4-05	Follow up the site inspection on 16 April 2005, The sedimentation at Road L4 was still not operating.	Road L4 Sedimentation Tank	The contractor was reminded to treatment the wastewater before discharge	7-5-05
#2 23-4-05	Follow up the site inspection on 23 April 2005, The curtain was repaired by contractor.	Public Landing Step	Follow up action was completed, no further action to be taken.	N/A
#3 23-4-05	Follow up the site inspection on 23 April 2005, The fuel tank was removed.	Science Park Road Additional Area	Follow up action was completed, no further action to be taken.	N/A
Remark ①	Chemicals were exposed on contractor's site office.	Contractor's Site Office	Any unused chemicals should be store at appropriate storage area.	7-5-05
Remark ②	Pending water was accumulated at SA 14	SA 14	The contractor was reminded to pumping out the water to prevent mosquito breeding.	7-5-05

Signature:	RSS	LWKJV	ET
Name:	Eric Hung	Po-Tse	H.T. Chow
Date:	30-4-05	30/4/05	30-4-2005

Contract No.: TP 3703 Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 7 - May - 2008 Inspected by : (RSS) *Reeds Co* Name : (ET) *H.T. Chow*
 Time : 10:00 Signature : *[Signature]*
 Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy Temperature : 29°C
 Wind : Calm / Light / Breeze / Strong Humidity : High / Moderate / Low

	Implementation Stages*		Remark
	Yes	No / N/A	
Mitigation Measures on Waste Management			
Air Quality			
▪ 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.	✓	✓	(2)
▪ 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.	✓		
Noise			
▪ 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 on direction, should, where possible, be orientated so that the noise is directed away from nearby NSRFs.	✓		
▪ 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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
Water Quality				
General Construction Activities				
▪ 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.		✓		#2
▪ 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 ² 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.	✓			
Dredging Activities				
▪ 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

	Implementation Stages*		Remark
	Yes	No / N/A	
Mitigation Measures on Waste Management			
Filling Activities			
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.	✓		
Waste Management			
Marine Dredged Sediment			
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 ³ 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.	✓		
Construction and Demolition (C&D) Waste			
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 protect 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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
• 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.	✓			Review LO
• 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.	✓			Review LO
• 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 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.	✓			

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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 14 May 2015
 Time : 10:15
 Inspected by : Eric Leung (LWKJM) (ET) H.T. Chow
 Name : (RSS)
 Signature :  
 Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 31°C
 Humidity : High / Moderate / Low

	Implementation Stages*		Remark
	Yes	No / N/A	
Air Quality			
• 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 stockpile 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"/>		
Noise			
• The constructions 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 on direction, should, where possible, be orientated so that the noise is directed away from nearby NSRFs.	<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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
Water Quality				
General Construction Activities				
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.	✓			②
Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	✓			
Open stockpiles of more than 50m ³ 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.	✓			①
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.	✓			
Dredging Activities				
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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
Filling Activities				
• 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.	✓			
Waste Management				
Marine Dredged Sediment				
• 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 ³ 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.	✓			
Construction and Demolition (C&D) Waste				
• 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

	Implementation Stages*			Remark
	Yes	No	N/A	
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				✓

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
• 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 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 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 the site inspection on 30 April 2005, temporary ditches for discharge runoff was provided.	SA 14	Follow up action was completed, no further action to be taken.	N/A
#2	Follow up the site inspection on 7 May 2005, the rubbish was clear out from the skip.	Road L4	Follow up action was completed, no further action to be taken.	N/A
#3	Follow up the site inspection on 7 May 2005, stockpile at Science Park Road Additional Area was covered.	Science Park Road Additional Area	Follow up action was completed, no further action to be taken.	N/A
Remark ①	Flammable chemical was exposed on storage area.	Contractor's Storage Area	The contractor was reminded to cover the chemical to prevent sunlight shining directly.	21-5-2005
Remark ②	Discharge pit at SA13 was not controlled, release of rainflows adequately.	SA13 (Between Node 2 & Node 3)	The contractor should be adequate for controlled release of storm flows.	21-5-2005

Signature:	RSS	LWKJV	ET
Name:	Eric Leung	Ben 14/5/05	H. T. Chow
Date:	14-5-05		14-5-2005

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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 21 May 2007
 Time : 10 : 30
 Weather : Sunny / Fine / ~~Overcast~~ / Drizzle / Rain / Storm / Hazy
 Condition : Calm / ~~Light~~ / Breeze / Strong
 Inspected by : Name : (ASS) *Reeds Co*
 Signature : *[Signature]*
 (LWKJM) *Reeds Co*
 (ET) *H.-T. Chow*
 Temperature : 29 °C
 Humidity : ~~High~~ / Moderate / Low

	Implementation Stages*		Remark
	Yes	No / N/A	
Air Quality			
• 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.	✓		
Noise			
• 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 on 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

		Implementation Stages*			Remark
Mitigation Measures on Waste Management					
Water Quality					
General Construction Activities					
	Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	✓			①
	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 ² 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.	✓			
Dredging Activities					
	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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
Filling Activities				
• 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.	✓			
Waste Management				
Marine Dredged Sediment				
• 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 ³ 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.	✓			
Construction and Demolition (C&D) Waste				
• 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 protect 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

	Implementation Stages*		Remark
	Yes	No	
Mitigation Measures on Waste Management			
• Proper storage will minimize the damage and thus the wastage of the materials	✓	N/A	
• 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

	Implementation Stages*			Remark
	Yes	No	N/A	
Mitigation Measures on Waste Management				
• 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 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 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, surps and oil interceptors are cleaned and maintained regularly.				

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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 28 May 2015
 Time : 10:35
 Inspected by : (RSS) Sunny Young (LWKJM) Ben Yap
 Name :
 Signature :
 (ET) H.T. Chow
 Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 28°C
 Humidity : High / Moderate / Low

	Implementation Stages*			Remark
	Yes	No	N/A	
Air Quality				
▪ 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 stockpile 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"/>			
Noise				
▪ The constructions 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 on direction, should, where possible, 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

	Implementation Stages*		Remark
	Yes	No / N/A	
Mitigation Measures on Waste Management			
Water Quality			
General Construction Activities			
Temporary ditches shall be provided to facilitate runoff discharge into appropriate watercourses, via a sediment trap / sedimentation tanks, prior to discharge.	✓		①
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.	✓		①
Minimizing of exposed soil areas to reduce the potential for increased siltation and contamination of runoff.	✓		
Open stockpiles of more than 50m ³ 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.	✓		
Dredging Activities			
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

	Implementation Stages*		Remark
	Yes	No	
Mitigation Measures on Waste Management			
Filling Activities			
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.	✓		
Waste Management			
Marine Dredged Sediment			
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 ³ 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.		✓	
Construction and Demolition (C&D) Waste			
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

	Implementation Stages*		Remark
	Yes	No	
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			



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 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 recycling 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, surmps and oil interceptors are cleaned and maintained regularly.					



Appendix I

Wastewater Monitoring

—

Test Report of Wastewater Sample from Discharge Point



ENVIRO LABS LIMITED

環境化驗有限公司

TEST REPORT

JOB NO. : A-05173-1A

DATE OF ISSUE : 6 Jun 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

Leader-Wai Kee (C & T) Joint Venture

RECEIVED

- 6 JUN 2005

LETTER REF. NO. PK 02740
V.O./S.I. NO.

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 : 27 May 2005 10:30

Received Date & Time : 27 May 2005 12:00

3. Test Method

Parameter	Reference Method	Testing Period
(i) Total Suspended Solids (TSS) Dried at 103-105°C	APHA ¹ 17e 2540 D	27 May 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
Pak Shek Kok	Total Suspended Solids	505177	9.2	≤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).

5. Remark

This report supersedes test report job number A-05173-1 dated 30 May 05.

--- END OF REPORT ---



APPROVED SIGNATORY:

Kenneth Lam
(Laboratory Manager)

Rm 611-612, Hong Leong Plaza, 33 Lok Yip Road,
Fanling, N.T., Hong Kong

Tel. (852) 2676 2853
Fax (852) 2676 2860

http://www.envirolabs.com.hk
e-mail: ell@envirolabs.com.hk



ENVIRO LABS LIMITED

環境化驗有限公司

TEST REPORT

JOB NO. : A-05173-2A
DATE OF ISSUE : 6 Jun 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
COD: conc. H₂SO₄ was added to pH < 2
Sampling Date & Time : 27 May 2005 10:30
Received Date & Time : 27 May 2005 12:00

3. Test Method

Parameter	Reference Method	Testing Period
(i) pH	APHA ¹ 20e 4500 H ⁺ B	On-site
(ii) Chemical Oxygen Demand (COD)	APHA ¹ 20e 5220 C	27 May 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
Pak Shek Kok	pH at 20 °C	-	7.7	6-9	-
	Chemical Oxygen Demand	EQ5178	< 60	≤ 80	mgO ₂ /L

* Test results relate only to the items received.

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

5. Remark

This report supersedes test report job number A-05173-2 dated 31 May 05.



— END OF REPORT —

APPROVED SIGNATORY:

Kenneth Lam
(Laboratory Manager)

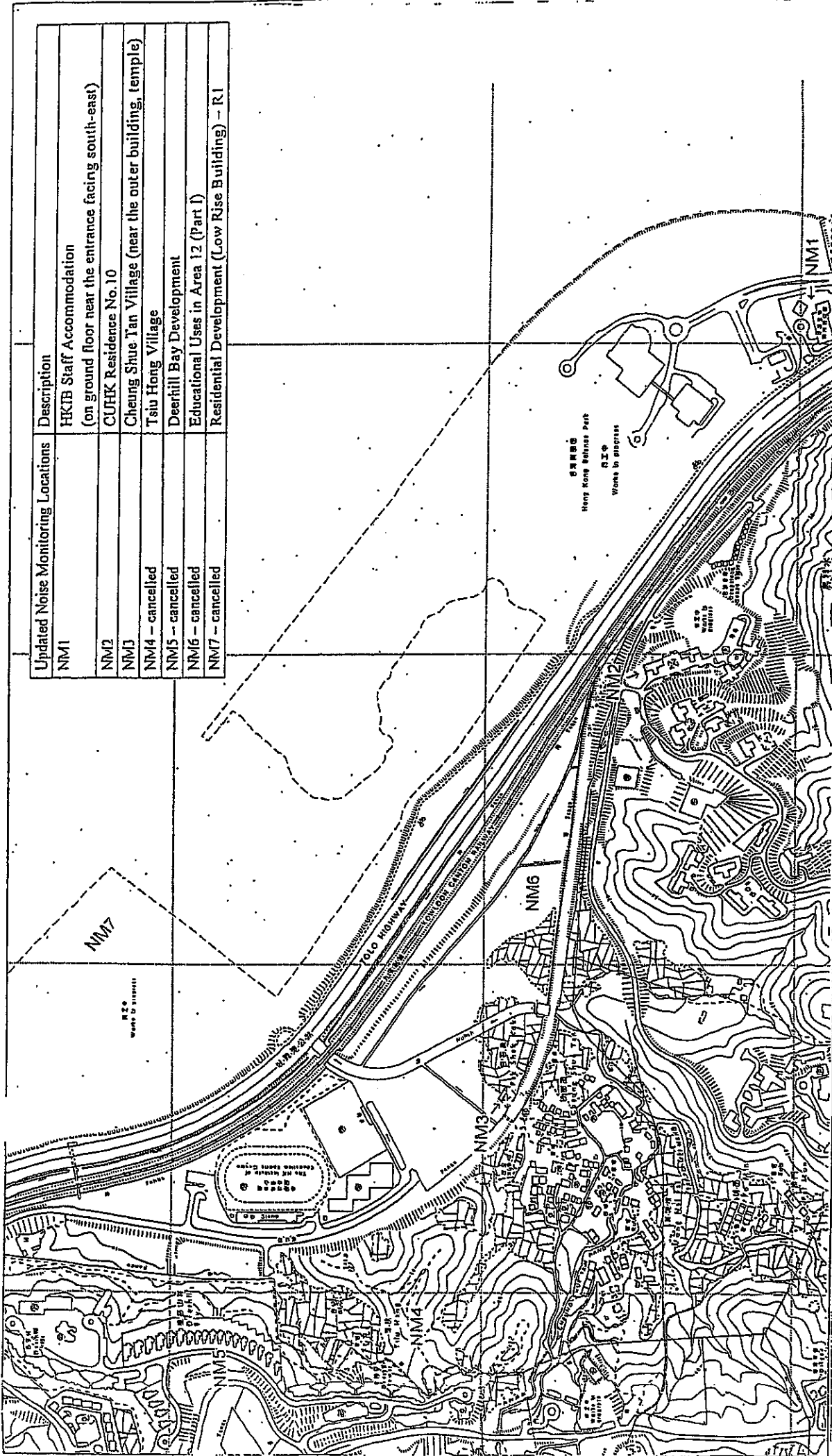
Rm 811-812, Hong Leong Plaza, 39 Lok Yip Road,
Panling, N.T., Hong Kong

Tel: (852) 2676 2883
Fax: (852) 2676 2880

http://www.envirolabs.com.hk
e-mail: ell@envirolabs.com.hk



Figures



Updated Noise Monitoring Locations	Description
NM1	HKTB 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, temple)
NM4 - cancelled	Tsui Hong Village
NM5 - cancelled	Deerhill Bay Development
NM6 - cancelled	Educational Uses in Area 12 (Part I)
NM7 - cancelled	Residential Development (Low Rise Building) - R1

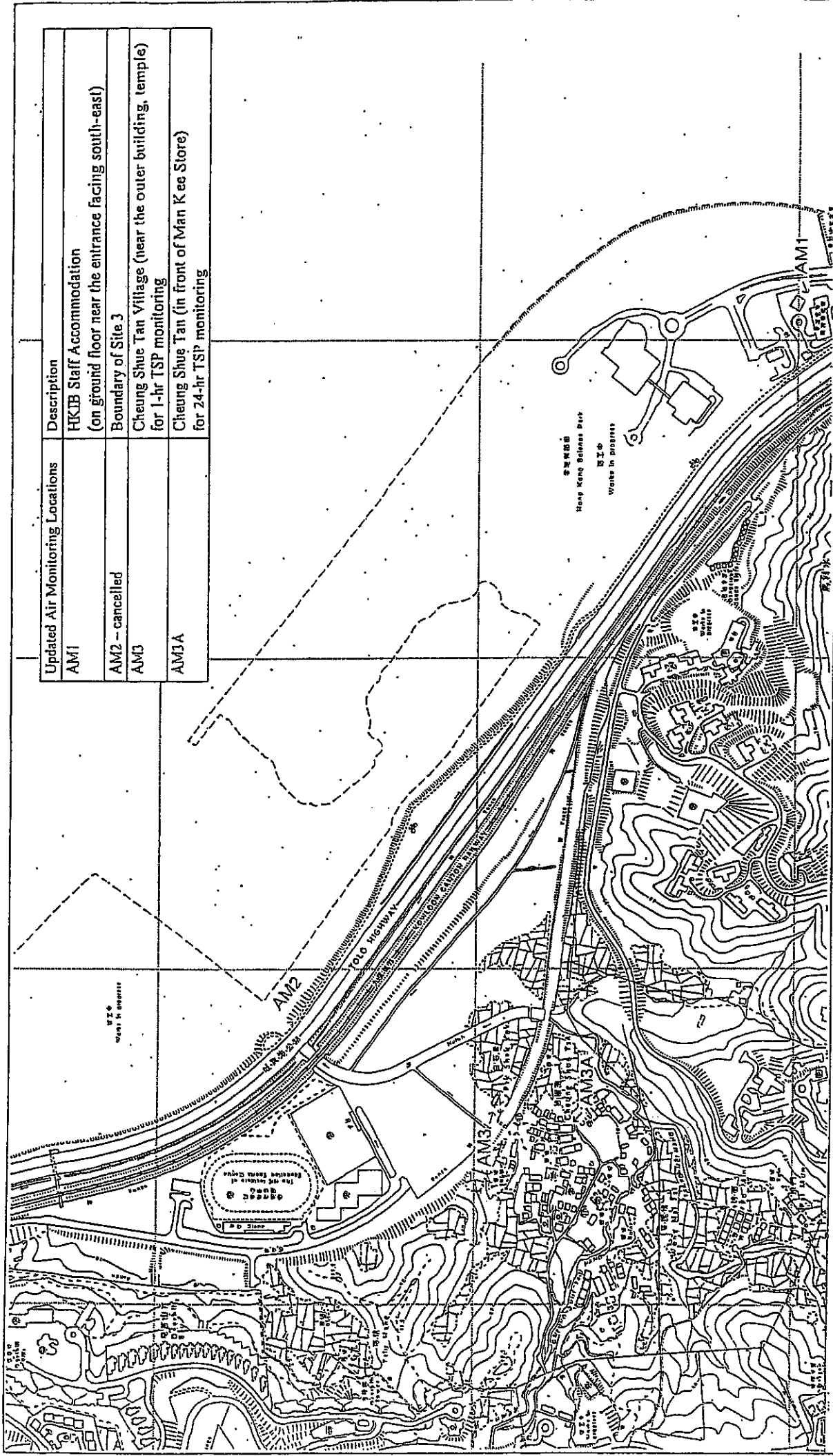
Scale : ---

Revised Date: June 2004



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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



Updated Air Monitoring Locations	Description
AM1	HKIB 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
AM3A	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 : ---

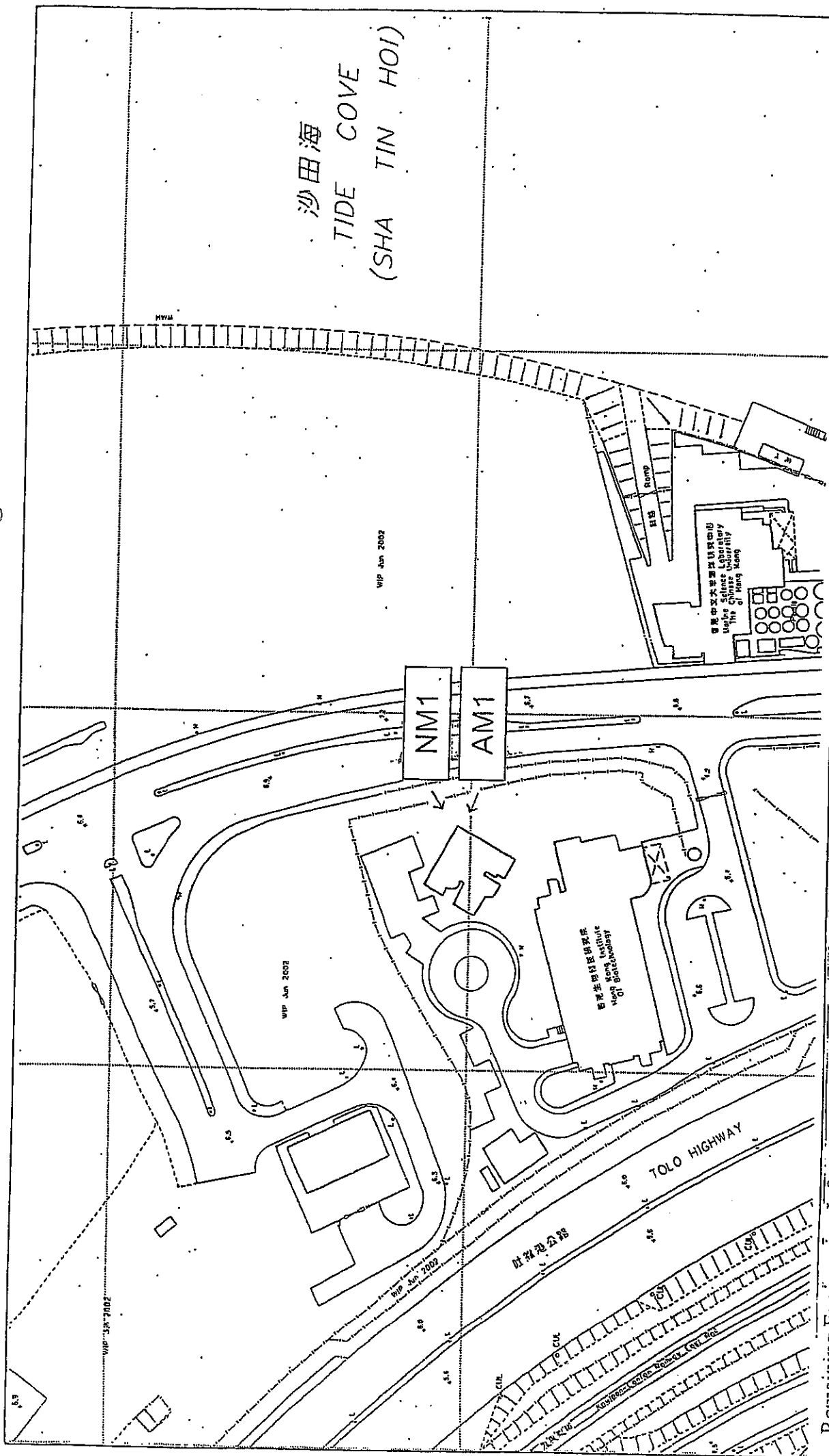
Revised Date:

June 2004



東業德勁測試顧問有限公司
 ETS-TESTCONSULT LIMITED

沙田海
TIDE COVE
(SHA TIN HOI)



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

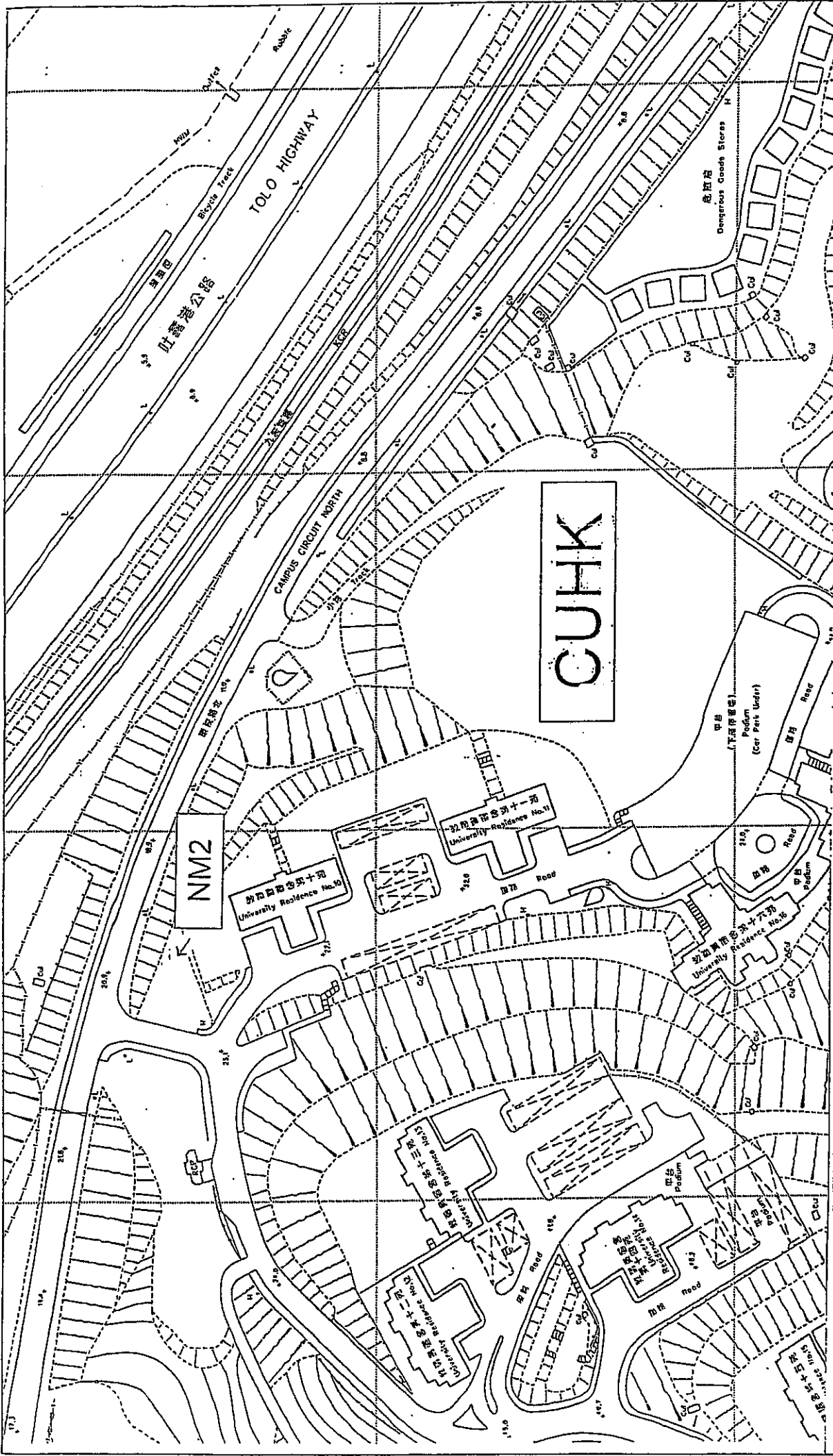
Scale : ---

Revised Date:

June 2004



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED



專業儀器測試顧問有限公司
ETS-TESTCONSULT LIMITED

CUHK

NM2

第四宿舍第十號
University Residence No.10

第四宿舍第十一號
University Residence No.11

第四宿舍第十六號
University Residence No.16

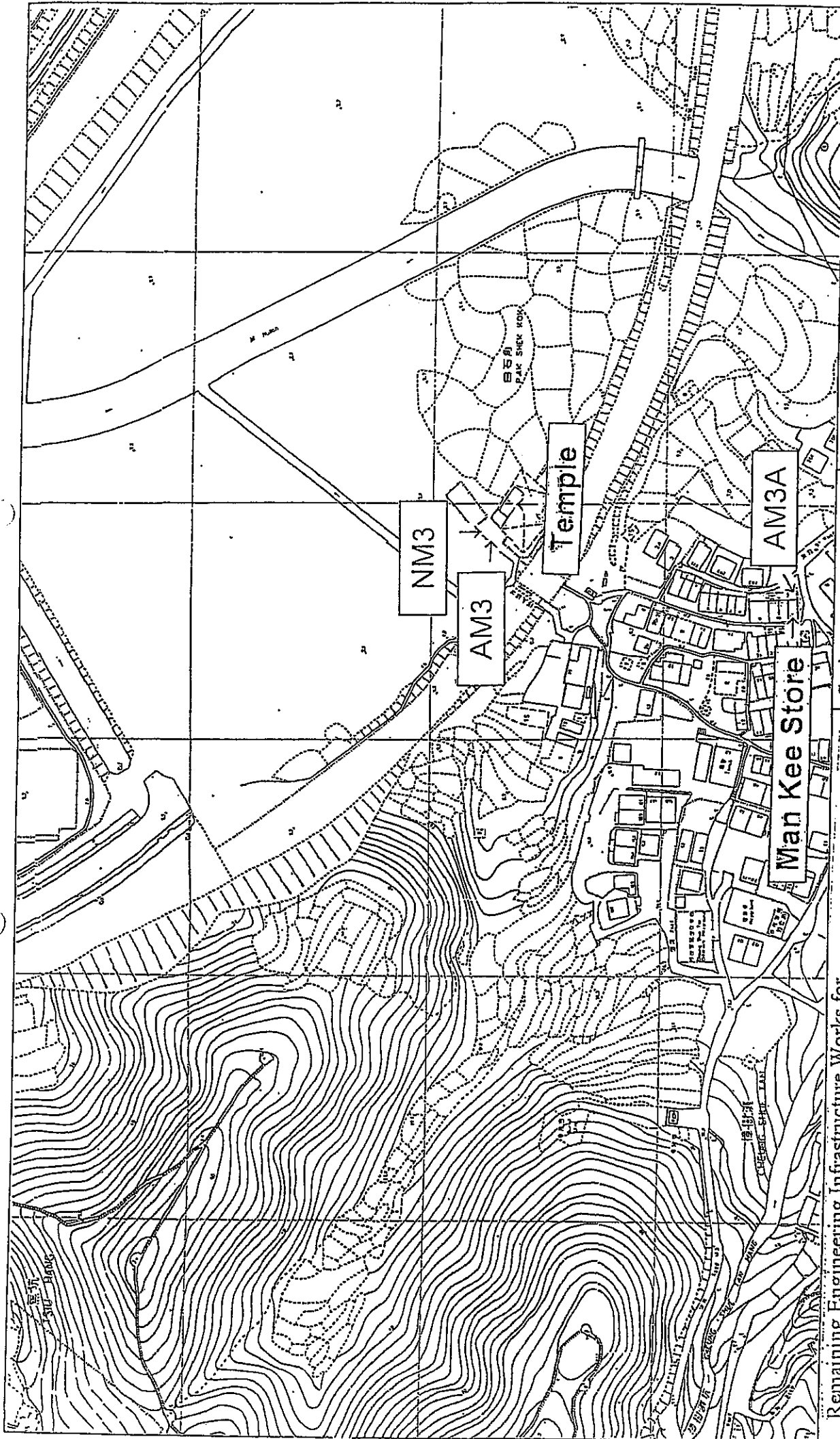
平台 (下層停車場)
Podium (Car Park User)

Scale : ---

Revised Date:

June 2004

Remaining Engineering Infrastructure Works for
Pak Shek Kok Development Package 2A
Contract No. TP 37/03
Figure 4 Location of Noise Monitoring Station at CUHK Residence No.10



Remaining Engineering Infrastructure Works for
 Pak Shek Kok Development Package 2 A
 Contract No. TP 37/03
 Figure 5 Location of Air and Noise Monitoring Stations
 at Cheung Shue Tan Village

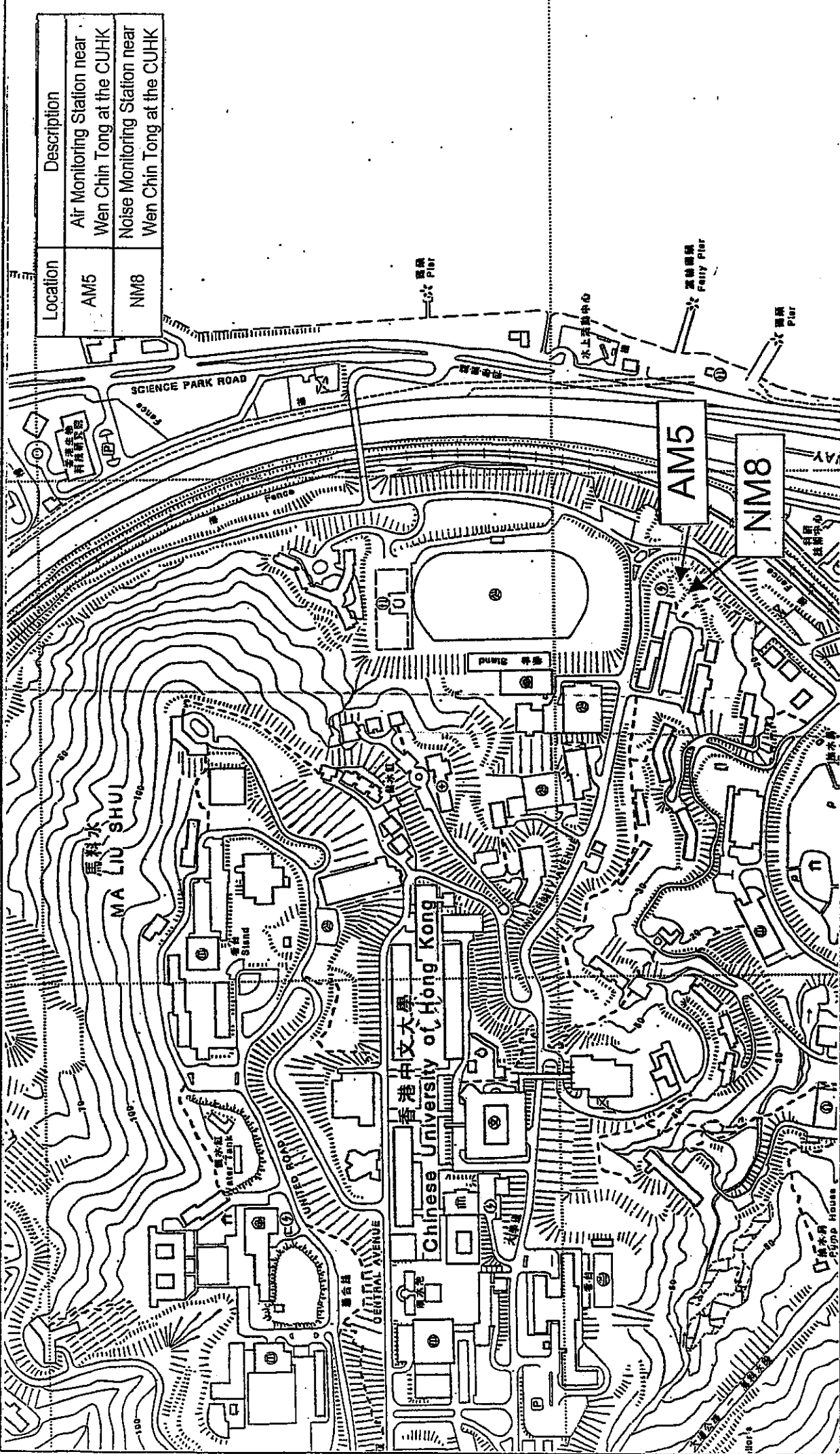
Scale: ---

Revised Date:

June 2004



專業測試顧問有限公司
 ETS-TESTCONSULT LIMITED



Location	Description
AM5	Air Monitoring Station near Wen Chin Tong at the CUHK
NM8	Noise Monitoring Station near Wen Chin Tong at the CUHK

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

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

Revised Date :
 October 2004



東業德動測試顧問有限公司
 ETS-TESTCONSULT LIMITED