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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

(JANUARY 2008)

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EXECUTIVE SUMMARY

This monthly EM&A report (No.33) has been prepared to document the impact monitoring works conducted for the Contract of the Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 2A (Contract No: TP 37/03) during the reporting period from 01 to 31 January 2008.

Construction Progress

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

<i>Item</i>	<i>Construction Works</i>
1	Construction of fire hydrant and cycle track reinstatement works at cycle track under Section 1
2	Roadwork at void abutment and existing MLS Bridge
3	Construction works for relocating central reserve at the existing MLS Bridge
4	Installation of movement joint at MLS Bridge
5	Paving slab construction works and top soil mixing under Section 3 and remedial works for MLS Subway
6	CCTV inspection for Section 2 and Section 3
7	Outstanding works and defect rectification works for Toilet No.2
8	Landscape softworks at Section 13
9	Outstanding works at works areas previously possessed by CWJV at Section 5 (Road L4)
10	Construction of crossing at Section 5
11	Drainage pipe rectification works for Section 6
12	Outstanding works at Section 7, 8, 9, and 10

Environmental Monitoring Progress

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

- Noise Monitoring (Day-time): 4 Occasion at 4 designated locations
- 24-hour TSP Monitoring: 5 Occasions at 3 designated locations
- 1-hour TSP Monitoring: 17 Occasions at 3 designated locations
- Weekly-site inspection: 4 Occasions

Noise Monitoring

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

Air Monitoring

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

Wastewater Monitoring

No wastewater monitoring was carried out in this reporting month since the effluent discharge point had been removed.

Site Inspection

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

<i>Concerned Parties</i>	<i>Dates of Audit / Inspection in January 2008</i>
<i>Weekly site inspection (ET)</i>	<i>05, 12, 19, 25</i>
<i>Monthly site inspection (IEC/LWKJV/RE)</i>	<i>25</i>



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

Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
1	Water	Stagnant water was noted in wheel washing bay at Void Abutment during the site inspections on 05/01/08 and 12/01/08.	LWKJV replied to apply pesticide to avoid mosquito breeding.	During the subsequent site inspection on 19/01/08, pesticide was used and hence no further verification was required.
2	Water	Rain water was accumulated inside the drainage channel at Avid Abutment during the site inspection on 25/01/08.	LWKJV replied to drain the rain water or apply pesticide to avoid mosquito breeding.	Since the finding was noted at the last site inspection in this reporting month, it will be verified in the coming month.
3	Site Practice	Rubbish such as lunch boxes were disposed of on the ground near the Container at Void Abutment during the weekly site inspection on 12/01/08.	LWKJV replied to collect and dispose the rubbish properly.	During the subsequent site inspection on 19/01/08, the rubbish was cleaned up and hence no further verification was required.

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. 120m³ inert C&D materials and 42020kg general refuse were generated in this reporting month. 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;
- Maintain good site practice and waste management to minimize environmental impacts at the site;
- Follow-up improvements on waste management issues.

1.0 INTRODUCTION

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

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

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

This monthly EM&A report summarizes the impact monitoring results and audit findings of the EM&A program during the reporting period from 01 to 31 January 2008.

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. Joe Yip	Site Representative	2442 1123	2442 9733
Hyder	Mr. Alexi Bhanja	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

Item	Construction Activities
1	Construction of fire hydrant and cycle track reinstatement works at cycle track under Section 1
2	Roadwork at void abutment and existing MLS Bridge
3	Construction works for relocating central reserve at the existing MLS Bridge
4	Installation of movement joint at MLS Bridge
5	Paving slab construction works and top soil mixing under Section 3 and remedial works for MLS Subway
6	CCTV inspection for Section 2 and Section 3
7	Outstanding works and defect rectification works for Toilet No.2
8	Landscape softworks at Section 13
9	Outstanding works at works areas previously possessed by CWJV at Section 5 (Road L4)
10	Construction of crossing at Section 5
11	Drainage pipe rectification works for Section 6
12	Outstanding works at Section 7, 8, 9, and 10

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; • 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.
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4.0 AIR QUALITY MONITORING

4.1 Monitoring Requirement

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

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

4.2 Monitoring Equipment

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

Table 4.1 Air Quality Monitoring Equipment

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

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

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

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

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

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	Date	Start	Finish		
AM1	HKIB Staff Accommodation					02/01/08	16:45	17:45
						03/01/08	10:00	11:00
						04/01/08	13:45	14:45
						05/01/08	15:47	16:47
						08/01/08	09:00	10:00
						10/01/08	09:50	10:50
						12/01/08	11:00	12:00
						15/01/08	13:00	14:00
						16/01/08	16:00	17:00
						17/01/08	14:30	15:30
						19/01/08	13:30	14:30
						22/01/08	09:00	10:00
						24/01/08	09:17	10:17
						26/01/08	14:10	15:10
						28/01/08	13:00	14:00
						29/01/08	08:47	09:47
				31/01/08	10:20	11:20		
AM3	Cheung Shue Tan Village (Near the outer building, temple)					02/01/08	13:30	14:30
						03/01/08	15:20	16:20
						04/01/08	16:20	17:20
						05/01/08	08:23	09:23
						08/01/08	10:30	11:30
						10/01/08	15:07	16:07
						12/01/08	16:00	17:00
						15/01/08	15:26	16:26
						16/01/08	13:30	14:30
						17/01/08	15:50	16:50
						19/01/08	17:45	18:45
						22/01/08	10:20	11:20
						24/01/08	15:00	16:00
						26/01/08	13:00	14:00
						28/01/08	14:20	15:20
						29/01/08	13:00	14:00
				31/01/08	08:00	09:00		
AM5	Near Wen Chih Tang at the CUHK					02/01/08	14:45	15:45
						03/01/08	16:40	17:40
						04/01/08	15:05	16:05
						05/01/08	17:04	18:04
						08/01/08	14:00	15:00
						10/01/08	10:58	11:58
						12/01/08	17:15	18:15
						15/01/08	14:11	15:11
						16/01/08	14:45	15:45
						17/01/08	17:05	18:05
						19/01/08	16:30	17:30
						22/01/08	14:45	15:45
						24/01/08	10:30	11:30
						26/01/08	16:30	17:30
						28/01/08	17:40	18:40
						29/01/08	10:04	11:04
				31/01/08	09:10	10:10		
AM1	HKIB Staff Accommodation	04/01/08	14:50	05/01/08	14:06			
		10/01/08	10:27	11/01/08	10:00			
		16/01/08	16:10	17/01/08	15:26			
		22/01/08	09:17	23/01/08	08:32			
		28/01/08	13:05	29/01/08	12:16			

Air quality monitoring stations	Location	Monitoring Period						
		24-hr TSP				1-hr TSP		
		Start		Finish		Date	Start	Finish
		Date	Time	Date	Time			
AM3A	Cheung Shue Tan (in front of Man Kee Store)	04/01/08	16:25	05/01/08	16:52		---	
		10/01/08	10:35	11/01/08	10:01			
		16/01/08	13:35	17/01/08	13:15			
		22/01/08 *	---	---	---			
		28/01/08	18:00	29/01/08	17:45			
AM5	Near Wen Chih Tang at the CUHK	04/01/08	15:10	05/01/08	14:46		---	
		10/01/08	10:15	11/01/08	09:58			
		16/01/08	14:50	17/01/08	14:39			
		22/01/08	09:00	23/01/08	08:32			
		28/01/08	17:45	29/01/08	17:13			

Remark (*): The 24-hr TSP monitoring was cancelled due to no power supply.

4.5 Monitoring Methodology

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.

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.

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

Table 5.3 Noise Monitoring Locations

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

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

Table 5.4 Monitoring Periods for noise monitoring stations

Monitoring stations	Monitoring Period							
	Day-time		Evening-time		Holiday		Night-time	
NM1	02/01/08	16:50	---	---	---	---	---	---
	08/01/08	09:02	---	---	---	---	---	---
	15/01/08	13:08	---	---	---	---	---	---
	22/01/08	09:07	---	---	---	---	---	---
	29/01/08	09:00	---	---	---	---	---	---
NM2	02/01/08	15:55	---	---	---	---	---	---
	08/01/08	17:20	---	---	---	---	---	---
	15/01/08	08:21	---	---	---	---	---	---
	22/01/08	14:00	---	---	---	---	---	---
	29/01/08	11:20	---	---	---	---	---	---
NM3	02/01/08	13:45	---	---	---	---	---	---
	08/01/08	10:32	---	---	---	---	---	---
	15/01/08	15:36	---	---	---	---	---	---
	22/01/08	10:22	---	---	---	---	---	---
	29/01/08	13:45	---	---	---	---	---	---
NM8	02/01/08	14:50	---	---	---	---	---	---
	08/01/08	14:02	---	---	---	---	---	---
	15/01/08	14:20	---	---	---	---	---	---
	22/01/08	14:47	---	---	---	---	---	---
	29/01/08	10:21	---	---	---	---	---	---

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

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

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

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

5.7 Event-Action Plans

Please refer to the Appendix E for details.

5.8 Results

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

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

6.0 WASTEWATER MONITORING

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

During this reporting month, no wastewater monitoring was required to be carried out since the wastewater monitoring had been carried out on 18 June 2007 and the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly.

No wastewater monitoring was carried out in this reporting month since the effluent discharge point had been removed.

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.

No wastewater monitoring was carried out in this reporting month since the effluent discharge point had been removed.

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 (05, 12, 19 and 25 January 2008). Monthly joint site inspection at 25 January 2008 was carried out by Engineer's Representative, IEC and LWKJV. The implementation status of the mitigation measures on site inspections in this reporting month is presented in Appendix H.

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

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

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

Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
1	Water	Stagnant water was noted in wheel washing bay at Void Abutment during the site inspections on 05/01/08 and 12/01/08.	LWKJV replied to apply pesticide to avoid mosquito breeding.	During the subsequent site inspection on 19/01/08, pesticide was used and hence no further verification was required.
2	Water	Rain water was accumulated inside the drainage channel at Avid Abutment during the site inspection on 25/01/08.	LWKJV replied to drain the rain water or apply pesticide to avoid mosquito breeding.	Since the finding was noted at the last site inspection in this reporting month, it will be verified in the coming month.
3	Site Practice	Rubbish such as lunch boxes were disposed of on the ground near the Container at Void Abutment during the weekly site inspection on 12/01/08.	LWKJV replied to collect and dispose the rubbish properly.	During the subsequent site inspection on 19/01/08, the rubbish was cleaned up and hence no further verification was required.

8.2 Status of Environmental Licensing and Permitting

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

Table 8.2 Summary of environmental licensing and permit status

Description	Permit No.	Valid Period		Section
		From	To	
Construction Noise Permit for the Construction Site at Pak Shek Kok Development Package 2A, Tai Po / Ma Liu Shui, N.T.	GW-RN0559-07	06/01/08	29/06/08	<p><u>Group A</u> Two Poker, vibratory, hand-held (CNP170) Two Concrete lorry mixer (CNP044) One Excavator, tracked (CNP081)</p> <p><u>Group B</u> One Asphalt Paver (CNP004) One Roller, Vibratory (CNP186) One Road Roller (CNP185) One Dump Truck (CNP067)</p> <p><u>Group C</u> One Dump Truck (CNP067) One Excavator, tracked (CNP081) One Crane, mobile (diesel) (CNP048) One Lorry with crane</p>

Description	Permit No.	Valid Period		Section
		From	To	
Wastewater Discharge License	3246 – Part A	01/11/06	31/12/09	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.
Chemical Waste Producer	5113-729-LL 1113-01	24/09/04	---	Spent lubricating oil, spent battery parts containing heavy metals

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;
- Size of tarpaulin sheet should be larger than surface size of stockpile in order to resume normal function of tarpaulin sheet;
- The heights from which fill materials are dropped should be controlled to a practical height to minimize the fugitive dust arising from unloading or provide a canvas with larger surface area;
- 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;
- Bigger sumpit for increasing wastewater input should provide for any necessary;
- Providing briefing to the concerned site staff on remedial actions, such as handling method of chemicals and chemical waste;
- Regular maintenance of excavator or any diesel cater machines should be provided in order to avoid any possible smoke nuisance; and
- 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

The types 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)	0.25	Reused in the Contract	129243.25
	Broken Concrete (m ³)	0.25	N/A	1231.25
	Reused in the Contract (m ³)	0	N/A	128100
	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	37.705
	Paper/Cardboard Packaging (1000kg)	0	N/A	2.806
	Plastics (1000kg)	0	N/A	0.083
	Chemical Waste (1000kg)	0.3	N/A	3.7
	Other, e.g. General Refuse (1000kg)	30.44	SENT	1959.23

10.0 IMPLEMENTATION STATUS

10.1 Implementation Status of Environmental Mitigation Measures

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

Air Quality

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

Noise

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

Water Quality

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

Waste Management

LWKJV has been implementing most mitigation measures on waste management.

10.2 Implementation Status of Event and Action Plan

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

10.3 Implementation Status of Environmental Complaint Handling

No complaints had been received during this monitoring month.

11.0 CONCLUSION

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

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

No wastewater monitoring was carried out in this reporting month since the effluent discharge point had been removed.

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	February 2008	March 2008
Noise Monitoring (Day-time)	05, 12, 19, 26	04, 11, 18, 25
1-hour TSP	02, 05, 06, 11, 12, 14, 16, 18, 19, 21, 23, 26, 28, 29	01, 04, 06, 08, 11, 12, 13, 15, 18, 19, 20, 25, 27, 29, 31
24-hour TSP	02, 06, 12, 18, 23, 29	06, 12, 18, 25, 31
Site Inspection	02, 06, 16, 23	01, 08, 15, 20, 29

12.2 Upcoming construction works scheduled in the coming two months

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

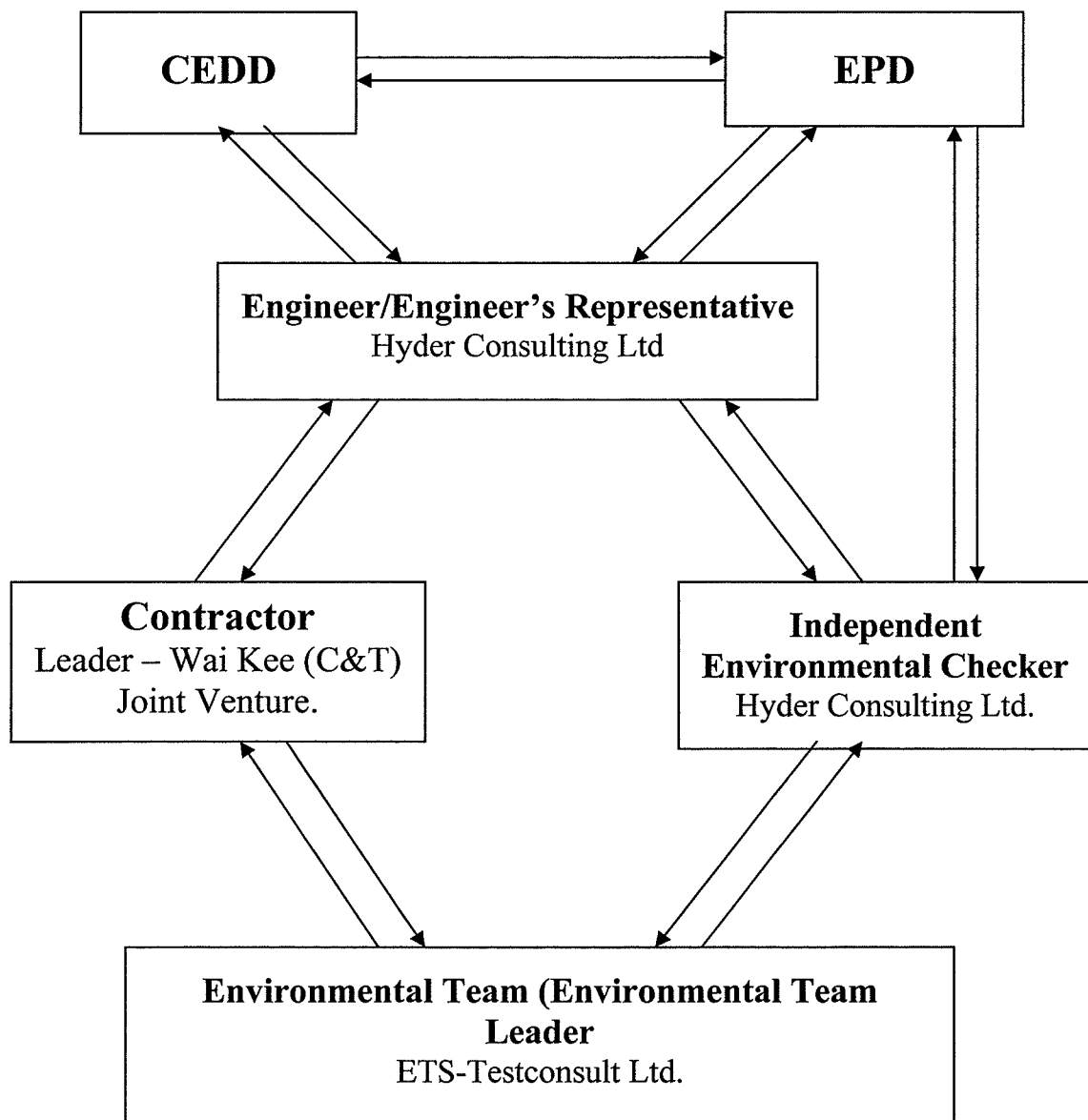
Table 12.2 Construction activities planned in the coming two months

Item	Construction Activities planned to be carried out in the coming two months
1	MJ installation at of MLS Bridge
2	Laying of bituminous materials at road SL3 and existing MLS Bridge
3	Road marking works at Section 2
4	CCTV inspection for Section 2 and 3
5	Soil backfilling at planters near loading and unloading area
6	Roadworks at the existing MLS Bridge
7	Outstanding works and defect rectification works for the proposed MLS Subway
8	Outstanding works and defect modification works for Toilet No.2, Section 7 and 8
9	Construction crossing and matching cover under Section 5
10	Soft landscaping works at Section 13

Appendix A

Organization Chart and Lines of Communication

Lines of Communication





Appendix B1

Calibration Certificates for Air Quality Monitoring Equipments



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TEST REPORT

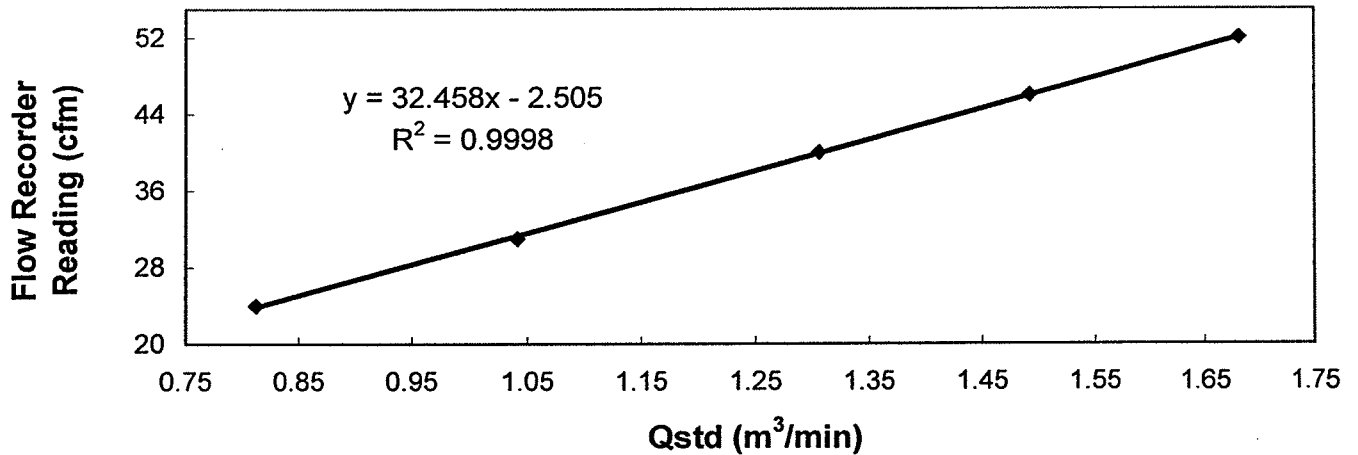
Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW **Date of Calibration** : 21 November 2007
Serial No. : 1178 (ET / EA / 003 / 01) **Calibration Due Date** : 20 January 2008
Method : Based on Operations Manual for in series calibration method by TISCH
ENVIROMENTAL Model Te-5025A calibration kit

Results :

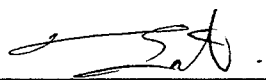
Flow recorder reading (cfm)	52	46	40	31	24
Qstd (Actual flow rate, m ³ /min)	1.68	1.49	1.31	1.04	0.81
Pressure :	761.31 mm Hg			Temp. :	300 K

Sampler 1178 Calibration Curve
Site: Pak Shek Kok (AM-1)
Date of Calibration: 21 November 2007



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 : 
H. T. CHOW
(Asst. Environmental Officer)

Approved by : 
Linda LAW
(Senior Environmental Officer)



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TEST REPORT

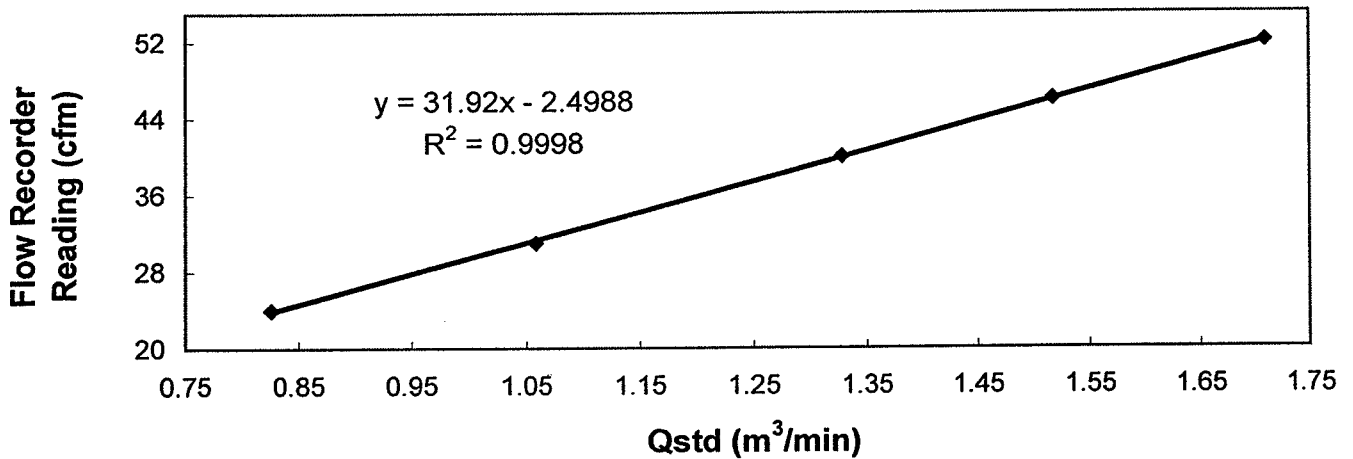
Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW Date of Calibration : 22 January 2008
Serial No. : 1178 (ET / EA / 003 / 01) Calibration Due Date : 21 March 2008
Method : Based on Operations Manual for in series calibration method by TISCH
ENVIROMENTAL Model Te-5025A calibration kit

Results :

Flow recorder reading (cfm)	52	46	40	31	24
Qstd (Actual flow rate, m ³ /min)	1.71	1.52	1.33	1.06	0.83
Pressure :	768.81 mm Hg			Temp. : 293 K	

Sampler 1178 Calibration Curve
Site: Pak Shek Kok (AM-1)
Date of Calibration: 22 January 2008

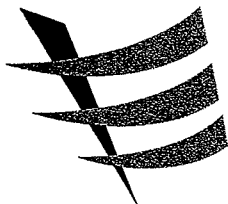


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

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

Calibrated by : MAK Kei Wai
MAK Kei Wai
(Senior Technician)

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



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TEST REPORT

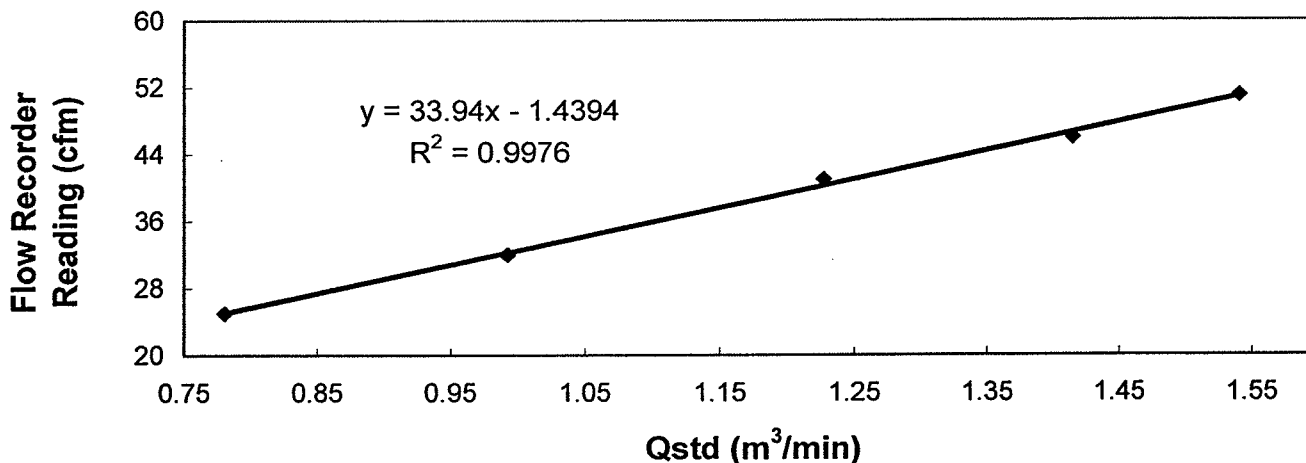
**Calibration Report
of
High Volume Air Sampler**

Manufacturer : Graseby GMW **Date of Calibration** : 21 November 2007
Serial No. : 7179 (ET / EA / 003 / 16) **Calibration Due Date** : 20 January 2008
Method : Based on Operations Manual for in series calibration method by TISCH
ENVIROMENTAL Model Te-5025A calibration kit

Results :

Flow recorder reading (cfm)	51	46	41	32	25
Qstd (Actual flow rate, m ³ /min)	1.54	1.42	1.23	0.99	0.78
Pressure :	761.31 mm Hg			Temp. :	300 K

**Sampler 7179 Calibration Curve
Site: Pak Shek Kok (AM-3A)
Date of Calibration: 21 November 2007**

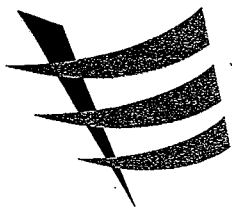


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

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

Calibrated by :
H. T. CHOW
(Asst. Environmental Officer)

Approved by :
Linda LAW
(Senior Environmental Officer)



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TEST REPORT

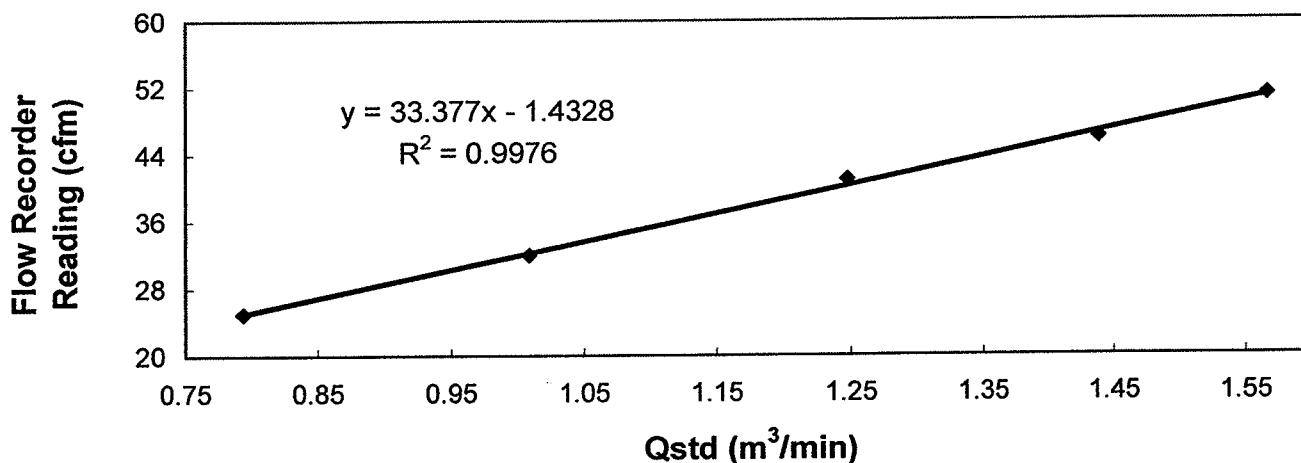
**Calibration Report
of
High Volume Air Sampler**

Manufacturer : Graseby GMW **Date of Calibration** : 22 January 2008
Serial No. : 7179 (ET / EA / 003 / 16) **Calibration Due Date** : 21 March 2008
Method : Based on Operations Manual for in series calibration method by TISCH
ENVIROMENTAL Model Te-5025A calibration kit

Results :

Flow recorder reading (cfm)	51	46	41	32	25
Qstd (Actual flow rate, m ³ /min)	1.57	1.44	1.25	1.01	0.79
Pressure :	768.81 mm Hg			Temp. : 293 K	

**Sampler 7179 Calibration Curve
Site: Pak Shek Kok (AM-3A)
Date of Calibration: 22 January 2008**

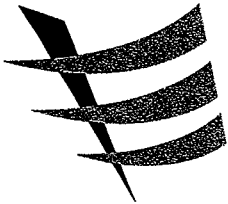


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

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

Calibrated by : MAK Kei Wai
MAK Kei Wai
(Senior Technician)

Approved by : H. T. CHOW
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TEST REPORT

Calibration Report
of
High Volume Air Sampler

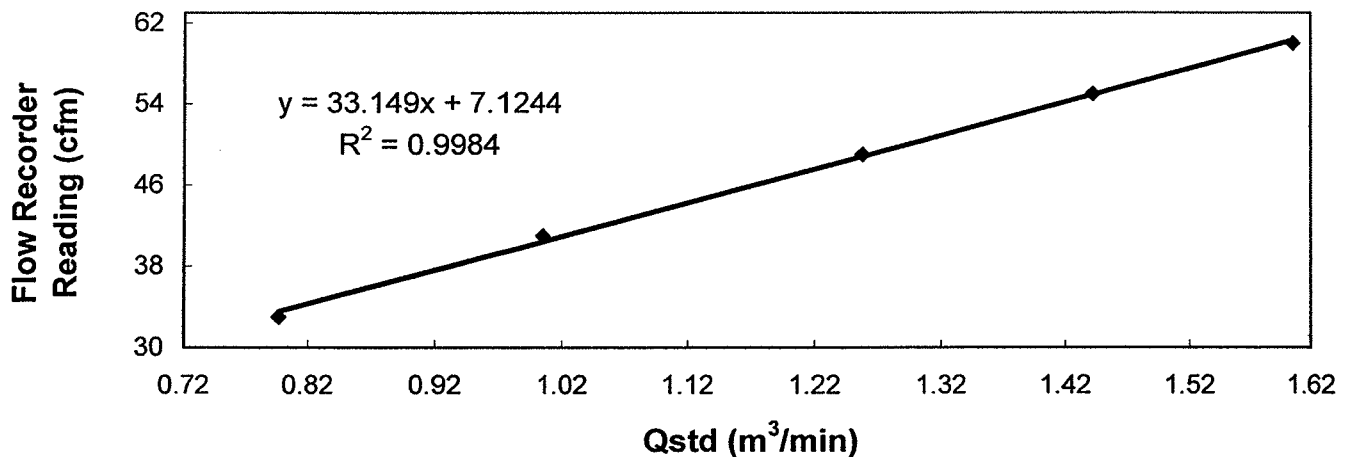
Manufacturer : Graseby GMW **Date of Calibration** : 21 November 2007

Serial No. : 1172 (ET / EA / 003 / 11) **Calibration Due Date** : 20 January 2008

Method : Based on Operations Manual for in series calibration method by TISCH ENVIROMENTAL Model Te-5025A calibration kit

Results :	Flow recorder reading (cfm)	60	55	49	41	33
	Qstd (Actual flow rate, m ³ /min)	1.60	1.44	1.26	1.00	0.80
	Pressure :	761.31 mm Hg			Temp. :	300 K

Sampler 1172 Calibration Curve
Site: Pak Shek Kok (AM-5)
Date of Calibration: 21 November 2007

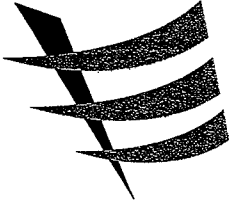


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

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

Calibrated by : [Signature]
H. T. CHOW
(Asst. Environmental Officer)

Approved by : [Signature]
Linda LAW
(Senior Environmental Officer)



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TEST REPORT

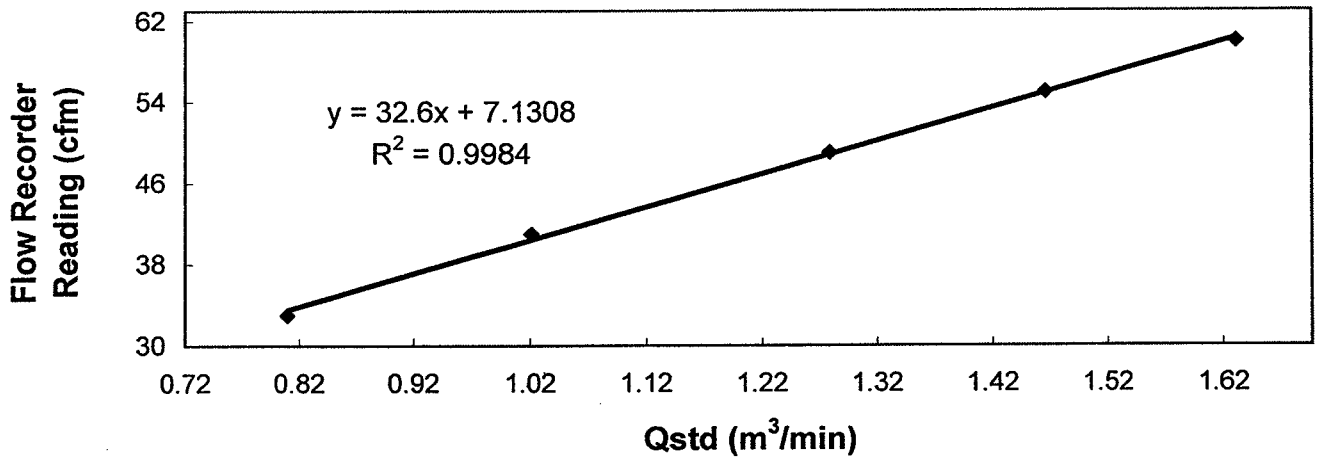
Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW **Date of Calibration** : 22 January 2008
Serial No. : 1172 (ET / EA / 003 / 11) **Calibration Due Date** : 21 March 2008
Method : Based on Operations Manual for in series calibration method by TISCH
 ENVIROMENTAL Model Te-5025A calibration kit

Results :

Flow recorder reading (cfm)	60	55	49	41	33
Qstd (Actual flow rate, m ³ /min)	1.63	1.47	1.28	1.02	0.81
Pressure :	768.81 mm Hg			Temp. :	293 K

Sampler 1172 Calibration Curve
Site: Pak Shek Kok (AM-5)
Date of Calibration: 22 January 2008



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

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

Calibrated by : MAK Kei Wai
 MAK Kei Wai
 (Senior Technician)

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



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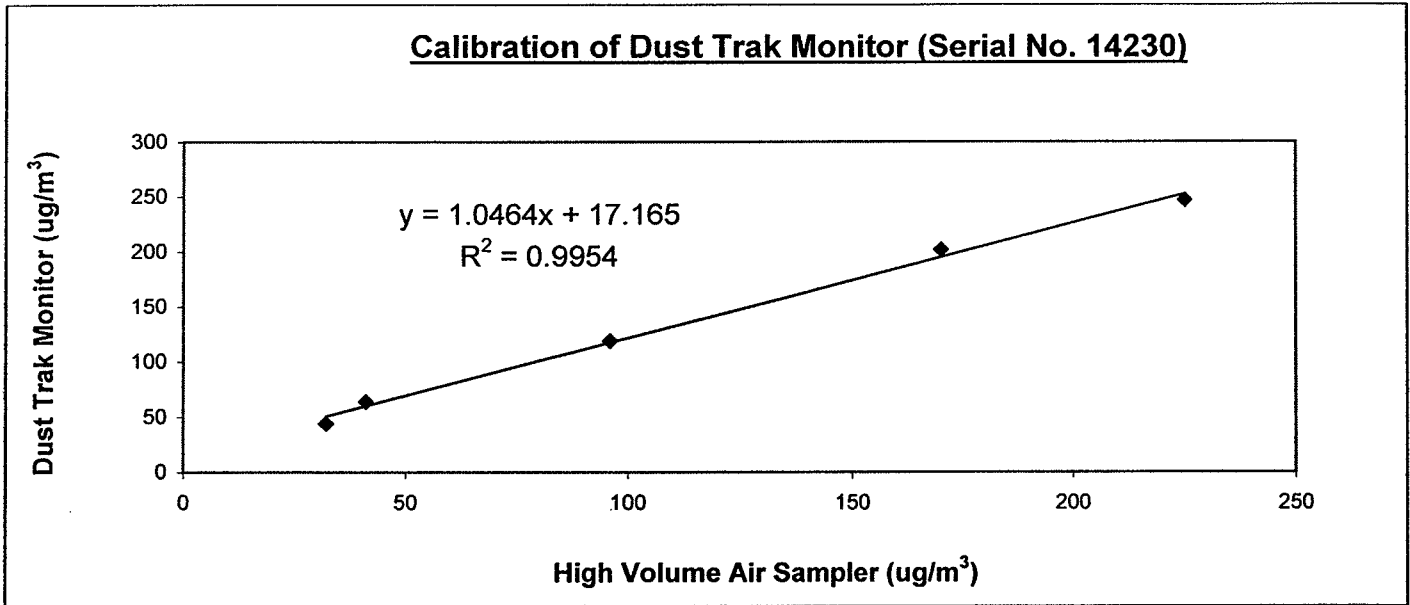
TEST REPORT

Internal Calibration Report
of
Dust Trak Monitor

Manufacturer : TSI - 8520 Dust Trak **Date of Calibration** : 12 January 2008
Serial No. : 14230 (ET/EA/001/04) **Due Date** : 11 July 2008
Method : Parallel measurement (five-point calibration) by placing the Dust Trak Monitor and High Volume Air Sampler together under the same environmental condition


Results :

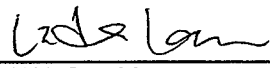
Dust Trak Monitor (ug/m ³)	44	64	119	202	247
High Volume Air Sampler (ug/m ³)	32	41	96	170	225
High Volume Air Sampler Serial No.: 1178			Calibration Due Date: 20 January 2008		



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 : 
LEUNG, Ka Chun
(Assistant Environmental Officer)

Approved by : 
LAW, Sau Yee
(Senior Environmental Officer)



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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

TEST REPORT

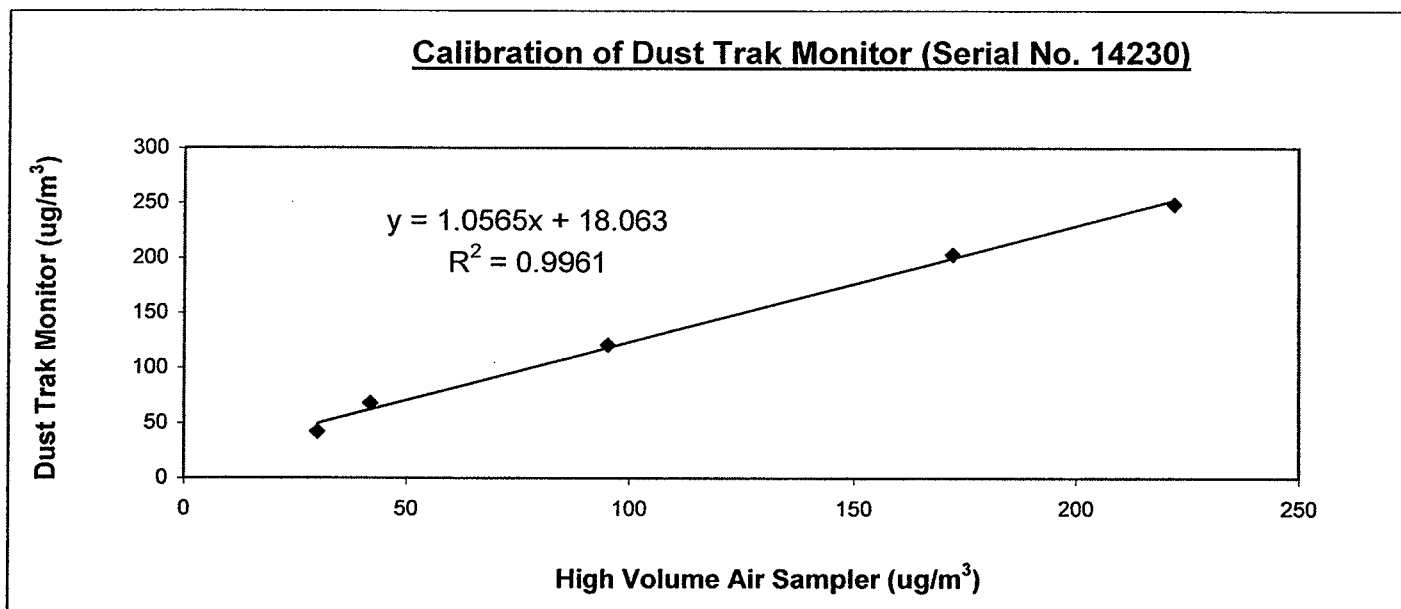
Internal Calibration Report
of
Dust Trak Monitor

Manufacturer : TSI - 8520 Dust Trak Date of Calibration : 12 July 2007

Serial No. : 14230 (ET/EA/001/04) Due Date : 11 January 2008


Method : Parallel measurement (five-point calibration) by placing the Dust Trak Monitor and High Volume Air Samper together under the same environmental condition

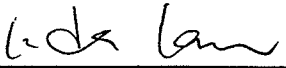
Results	Dust Trak Monitor (ug/m ³)	42	68	121	203	249
	High Volume Air Sampler (ug/m ³)	30	42	95	172	222
	High Volume Air Sampler Serial No.: 1178		Calibration Due Date: 14 July 2007			



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 : 
LEUNG, Ka Chun
(Assistant Environmental Officer)

Approved by : 
LAW, Sau Yee
(Senior Environmental Officer)

Appendix B2

Air Quality Monitoring Results

Summary of 24-hr TSP Monitoring Results

Monitoring Station : AM1
Location : HKIB Staff Accommodation

Start Date	Time	Finish		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		
04/01/08	14:50	05/01/08	14:06	12490.42	12513.68	23.26	1.0939	1.0939	1.0939	2.8324	2.9967	108	Sunny
10/01/08	10:27	11/01/08	10:00	12513.68	12537.23	23.55	1.0939	1.0939	1.0939	2.8161	2.9659	97	Cloudy
16/01/08	16:10	17/01/08	15:26	12537.23	12560.49	23.26	1.0939	1.0939	1.0939	2.8426	3.0089	109	Cloudy
22/01/08	09:17	23/01/08	08:32	12560.49	12583.74	23.25	1.0939	1.0939	1.0939	2.8254	3.0563	151	Cloudy
28/01/08	13:05	29/01/08	12:16	12583.74	15606.93	23.19	1.0939	1.0939	1.0939	2.8253	2.9336	71	Cloudy

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

Start Date	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		
04/01/08	16:25	05/01/08	16:52	17981.81	18005.26	23.45	1.0147	1.0147	1.0147	2.8409	2.9494	76	Sunny
10/01/08	10:35	11/01/08	10:01	18005.26	18028.69	23.43	1.0442	1.0442	1.0442	2.8231	2.9331	75	Cloudy
16/01/08	13:35	17/01/08	13:15	18028.69	18052.36	23.67	1.0147	1.0147	1.0147	2.8385	2.9567	82	Cloudy
22/01/08 *	----	----	----	----	----	----	----	----	----	----	----	----	----
28/01/08	18:00	29/01/08	17:45	18052.36	18076.11	23.75	1.0147	1.0147	1.0147	2.8192	2.9289	76	Cloudy

Remark (*): The 24-hr TSP monitoring was cancelled due to no power supply.

Monitoring Station : AM5
Location : Wen Chih Tang at the CUHK

Start Date	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		
04/01/08	15:10	05/01/08	14:46	7861.40	7885.00	23.60	0.7203	0.7203	0.7203	2.8474	2.9499	100	Sunny
10/01/08	10:15	11/01/08	09:58	7885.00	7908.71	23.71	0.6901	0.6901	0.6901	2.8880	2.9780	92	Cloudy
16/01/08	14:50	17/01/08	14:39	7908.71	7932.53	23.82	1.1728	1.1728	1.1728	2.8279	2.9858	94	Cloudy
22/01/08	09:00	23/01/08	08:32	7932.53	7956.07	23.54	1.1728	1.1728	1.1728	2.8289	3.0452	131	Cloudy
28/01/08	17:45	29/01/08	17:13	7956.08	7979.54	23.46	1.1728	1.1728	1.1728	2.7969	2.8719	45	Cloudy

Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM1 (HKIB Staff Accommodation)

Date	Monitoring Period		1-hr TSP ($\mu\text{g}/\text{m}^3$)			Weather
	Start	Finish	Minimum	Maximum	Average	
02/01/08	16:45	17:45	58	486	193	Sunny
03/01/08	10:00	11:00	103	382	148	Sunny
04/01/08	13:45	14:45	58	464	167	Sunny
05/01/08	15:47	16:47	89	424	171	Sunny
08/01/08	09:00	10:00	97	385	96	Sunny
10/01/08	09:50	10:50	70	390	146	Cloudy
12/01/08	11:00	12:00	103	409	129	Cloudy
15/01/08	13:00	14:00	79	420	165	Cloudy
16/01/08	16:00	17:00	69	511	198	Cloudy
17/01/08	14:30	15:30	98	390	95	Cloudy
19/01/08	13:30	14:30	72	593	236	Sunny
22/01/08	09:00	10:00	102	401	130	Cloudy
24/01/08	09:17	10:17	71	396	153	Cloudy
26/01/08	14:10	15:10	103	414	134	Cloudy
28/01/08	13:00	14:00	102	412	120	Cloudy
29/01/08	08:47	09:47	60	327	111	Rainy
31/01/08	10:20	11:20	49	566	140	Cloudy

Monitoring Station : AM3 – Cheung Shue Tan in front of Man Kee Store

Date	Monitoring Period		1-hr TSP ($\mu\text{g}/\text{m}^3$)			Weather
	Start	Finish	Minimum	Maximum	Average	
02/01/08	13:30	14:30	39	369	95	Sunny
03/01/08	15:20	16:20	74	327	79	Sunny
04/01/08	16:20	17:20	42	337	102	Sunny
05/01/08	08:23	09:23	49	328	88	Sunny
08/01/08	10:30	11:30	61	337	76	Sunny
10/01/08	15:07	16:07	50	324	78	Cloudy
12/01/08	16:00	17:00	72	337	77	Cloudy
15/01/08	15:26	16:26	60	340	98	Cloudy
16/01/08	13:30	14:30	58	389	113	Cloudy
17/01/08	15:50	16:50	61	321	70	Cloudy
19/01/08	17:45	18:45	60	488	136	Sunny
22/01/08	10:20	11:20	74	349	77	Cloudy
24/01/08	15:00	16:00	53	340	96	Rainy
26/01/08	13:00	14:00	67	349	78	Cloudy
28/01/08	14:20	15:20	89	354	80	Cloudy
29/01/08	13:00	14:00	47	298	71	Rainy
31/01/08	08:00	09:00	36	447	125	Cloudy

Summary of 1-hr TSP Monitoring Results

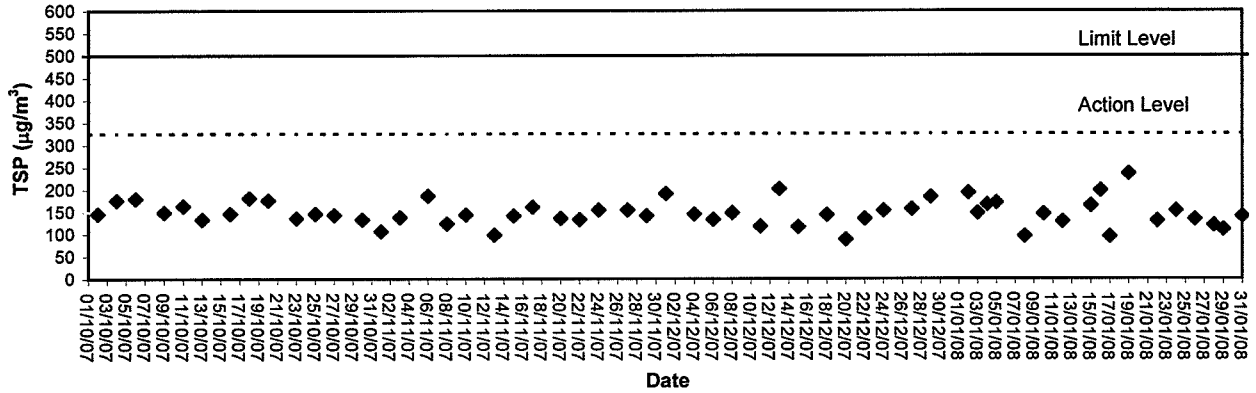
Monitoring Station : AM5 - Near Wen Chih Tang at the CUHK

Date	Monitoring Period		1-hr TSP ($\mu\text{g}/\text{m}^3$)			Weather
	Start	Finish	Minimum	Maximum	Average	
02/01/08	14:45	15:45	43	425	139	Sunny
03/01/08	16:40	17:40	89	339	96	Sunny
04/01/08	15:05	16:05	47	395	120	Sunny
05/01/08	17:04	18:04	57	350	92	Sunny
08/01/08	14:00	15:00	75	359	79	Sunny
10/01/08	10:58	11:58	62	361	106	Cloudy
12/01/08	17:15	18:15	80	356	82	Cloudy
15/01/08	14:11	15:11	70	387	117	Cloudy
16/01/08	14:45	15:45	62	456	129	Cloudy
17/01/08	17:05	18:05	75	359	80	Cloudy
19/01/08	16:30	17:30	64	524	162	Sunny
22/01/08	14:45	15:45	89	372	88	Cloudy
24/01/08	10:30	11:30	60	364	106	Rainy
26/01/08	16:30	17:30	88	382	95	Cloudy
28/01/08	17:40	18:40	95	381	95	Cloudy
29/01/08	10:04	11:04	55	322	99	Rainy
31/01/08	09:10	10:10	41	510	134	Cloudy

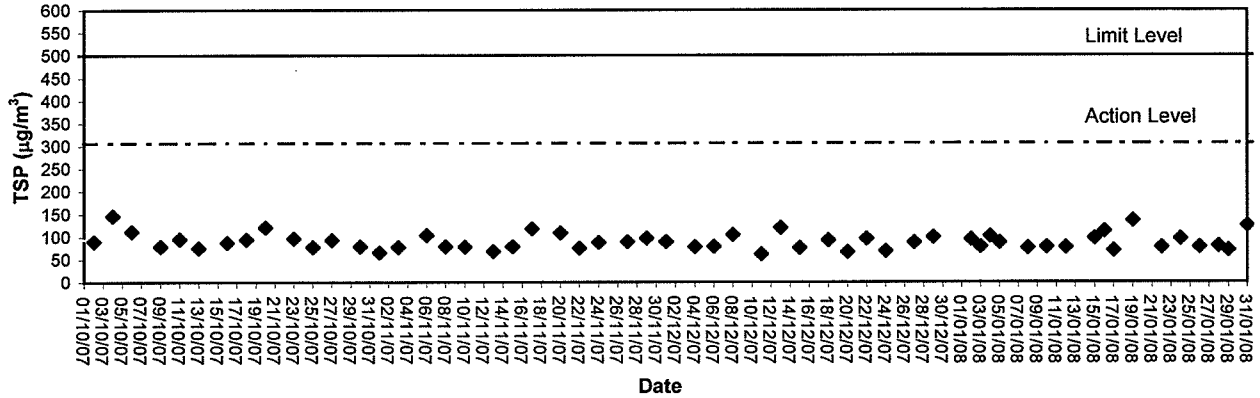
Appendix B3

Graphical Plots of Air Quality Monitoring Data

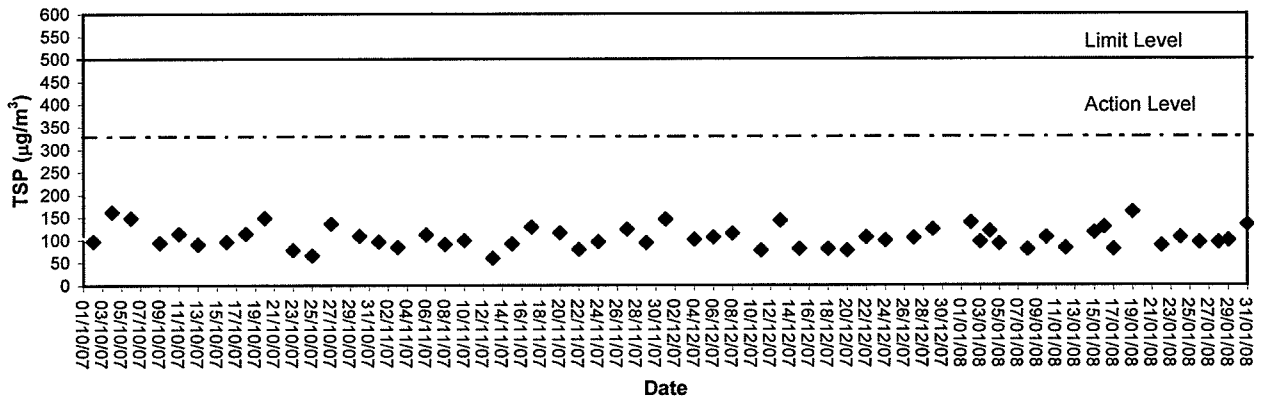
1-hour TSP level at AM1, HKIB Staff Accommodation



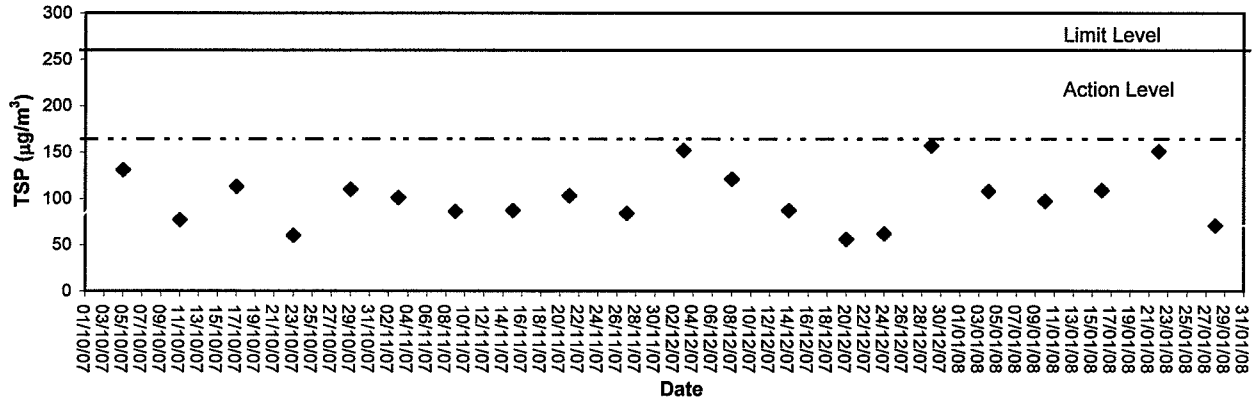
1-hour TSP level at AM3, Cheung Shue Tan Village (near the outer building, a temple)



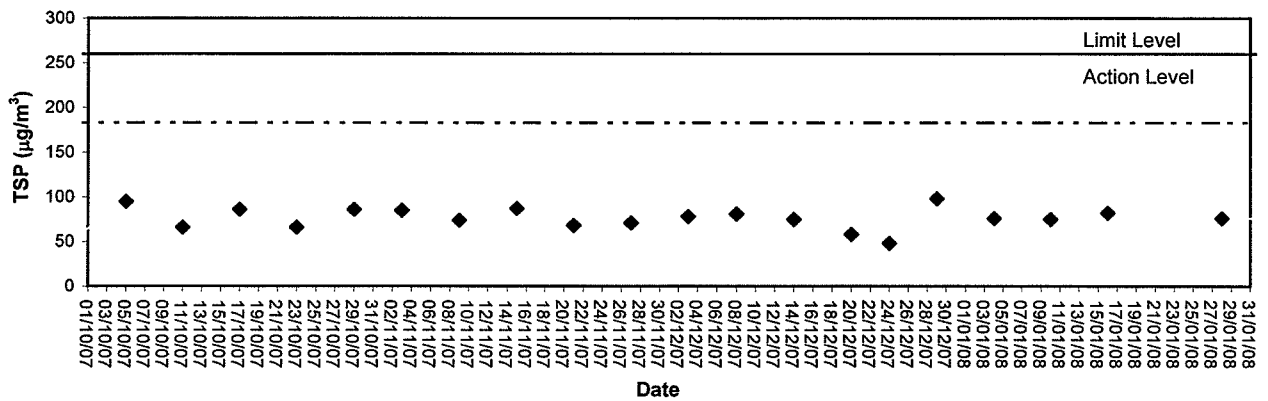
1-hour TSP level at AM5 Wen Chih Tang at the CUHK



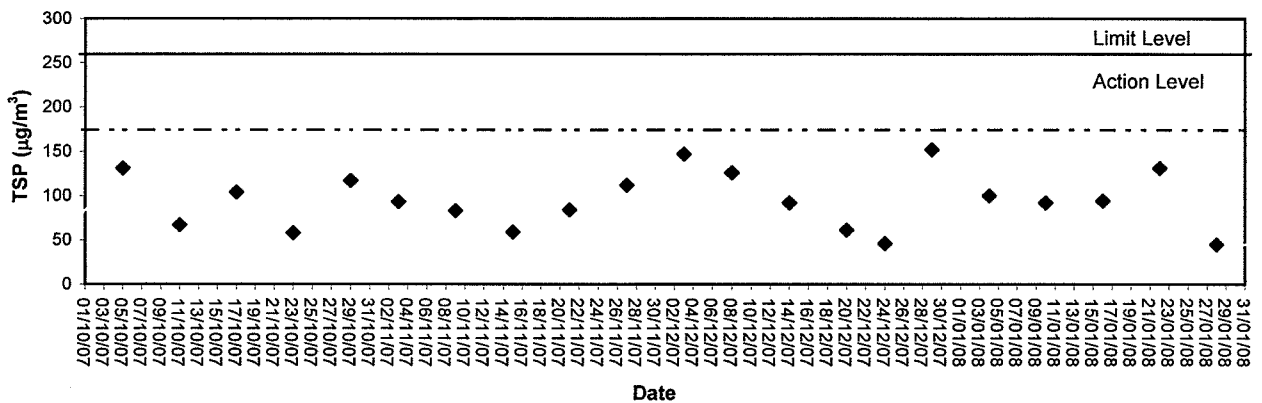
24-hour TSP level at AM1 (HKIB Staff Accommodation)



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)





Appendix C1

Calibration Certificates for Noise Monitoring Equipments



Hong Kong Calibration Ltd.

香港校正有限公司

Calibration Certificate

Certificate No. 71392A

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. : Q70569

Date of receipt : 30-Mar-07

Item Tested

Description : Sound Level Calibrator

Manufacturer : Rion

Model : NC-73

Serial No. : 10644871

Test Conditions

Date of Test : 17-Apr-07

Supply Voltage : -

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : F21, Z02.

Test Results

All results were within the manufacturer's specification.

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Due Date	Traceable to
S014	Spectrum Analyzer	62914	7-Jul-07	NIM-PRC & SCL-HKSAR
S024	Sound Level Calibrator	62691	22-Apr-07	NIM-PRC & SCL-HKSAR
S041	Universal Counter	63839	22-Aug-07	SCL-HKSAR

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 : 
P.F. Wong

Approved by : 
Dorothy Cheuk

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.
Tel: 2425 6801 Fax: 2425 6846

Date: 2-May-07

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Calibration Certificate

Certificate No. 71392A

Page 2 of 2 Pages

Results :

1. Level Accuracy (at 1 kHz)

UUT Nominal Value	Measured Value	Mfr's Spec.
94 dB	93.96 dB	± 1 dB

Uncertainty : ± 0.1 dB

2. Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.981 kHz	± 2 %

Uncertainty : ± 0.1 %

3. Level Stability : 0.1 dB

Uncertainty : ± 0.01 dB

4. Total Harmonic Distortion : < 1.0 %

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

4. Atmospheric Pressure : 990hPa

5. This certificate is to supercede our former certificate no. : 71392

----- END -----



Calibration Certificate

Certificate No. 71391

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. : Q70569

Date of receipt : 30-Mar-07

Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31

Serial No. : 00110024

Test Conditions

Date of Test : 17-Apr-07

Supply Voltage : -

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Calibration procedure : Z01.

Test Results

All results were within the IEC 651 Type 1 & IEC 804 Type 1 specification.

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

Main Test equipment used:


<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S017	Multi-Function Generator	C071115	14-Mar-08	SCL-HKSAR
S024	Sound Level Calibrator	62691	22-Apr-07	NIM-PRC & SCL-HKSAR

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 :


P.F. Wong

Approved by :


Dorothy Cheuk

Date: 17-Apr-07

This Certificate is issued by:
Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.
Tel: 2425 8801 Fax: 2425 8646



Calibration Certificate

Certificate No. 71391

Page 2 of 3 Pages

Results :

1. SPL Accuracy

UUT Setting			Applied Value (dB)	UUT Reading (dB)
Level Range (dB)	Weight	Response		
20 - 100	L _A	Fast	94.07	94.0
		Slow		94.0
	L _C L _p	Fast		94.1
		Fast		94.1
30 - 120	L _A	Fast	94.07	94.0
		Slow		94.0
	L _C L _p	Fast		94.0
		Fast		94.1
30 - 120	L _A	Fast	113.95	113.9
		Slow		113.9
	L _C L _p	Fast		113.9
		Fast		114.0

IEC 651 Type 1 Spec. : ± 0.7 dB

Uncertainty : ± 0.1 dB

2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. : ± 0.3 dB

Uncertainty : ± 0.01 dB

3. Linearity

3.1 Level Linearity

UUT Range	Applied Value (dB)	UUT Rdg (dB)	Variation (dB)	IEC 651 Type 1 Spec. (inside Primary)
130	114.0	114.1	0.1	± 0.7 dB
130	104.0	104.0	0.0	
120	94.0	94.0 (Ref.)	0.0	
110	84.0	84.1	0.1	
100	74.0	74.1	0.1	
90	64.0	64.1	0.1	
80	54.0	54.1	0.1	

Uncertainty : ± 0.1 dB



Calibration Certificate

Certificate No. 71391

Page 3 of 3 Pages

3.2 Differential level linearity

UUT Range	Applied Value (dB)	UUT Rdg (dB)	Variation (dB)	IEC 651 Type 1 Spec.
120	84.0	84.0	0.0	± 0.4
	94.0	94.0 (Ref.)	--	
	95.0	95.0	0.0	± 0.2
	104.0	104.0	0.0	± 0.3
	105.0	105.0	0.0	± 1.0

Uncertainty : ± 0.1 dB

4. 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	- 26.3	- 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	- 3.3	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+ 1.3	+ 1.2 dB, ± 1 dB
4 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

5. Time Averaging

Applied Burst duty Factor	Applied Leq Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	40.0	40.0	--
1/10	40.0	39.9	± 0.5 dB
1/10 ²	40.0	40.0	
1/10 ³	40.0	39.9	± 1.0 dB
1/10 ⁴	40.0	39.9	

Uncertainty : ± 0.1 dB

Remark : 1. UUT : Unit-Under-Test

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

3. Atmospheric Pressure : 990 hPa.

4. The internal cal reference of UUT was drifted from 94.0 dB to 93.4 dB.

----- 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		
02/01/08	16:50	63.9	67.2	61.0	1.3	Fine
08/01/08	09:02	57.2	59.5	55.1	0.7	Sunny
15/01/08	13:08	58.9	60.9	56.9	1.3	Cloudy
22/01/08	09:07	58.1	60.6	55.5	0.9	Cloudy
29/01/08	09:00	53.9	56.7	51.5	1.8	Rainy

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		
02/01/08	15:55	55.8	58.5	52.7	1.1	Fine
08/01/08	17:20	55.7	57.8	51.9	1.0	Sunny
15/01/08	08:21	53.0	56.0	51.1	1.5	Cloudy
22/01/08	14:00	55.9	58.1	51.7	0.9	Cloudy
29/01/08	11:20	53.7	56.6	51.6	1.7	Rainy

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		
02/01/08	13:45	51.6	54.1	49.1	0.8	Fine
08/01/08	10:32	50.9	53.1	49.0	0.9	Sunny
15/01/08	15:36	52.1	55.8	50.0	0.8	Cloudy
22/01/08	10:22	51.9	54.1	49.7	0.9	Cloudy
29/01/08	13:45	51.2	54.3	48.5	1.0	Rainy

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

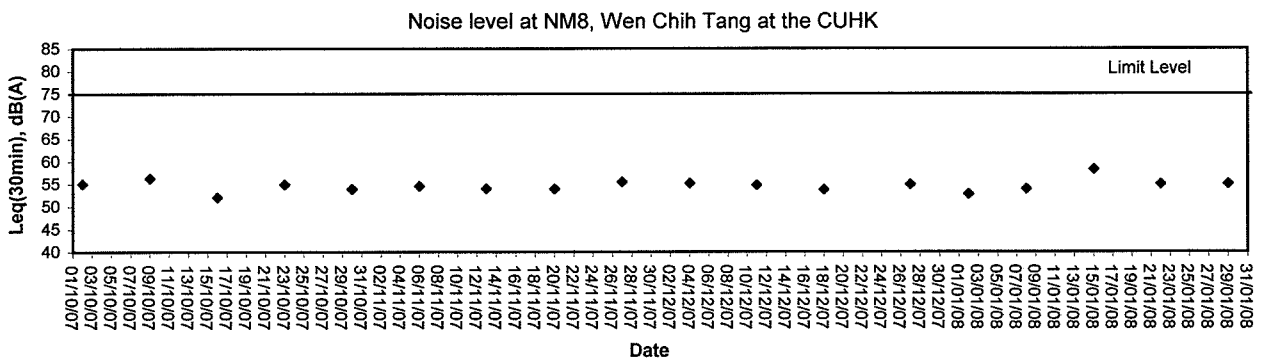
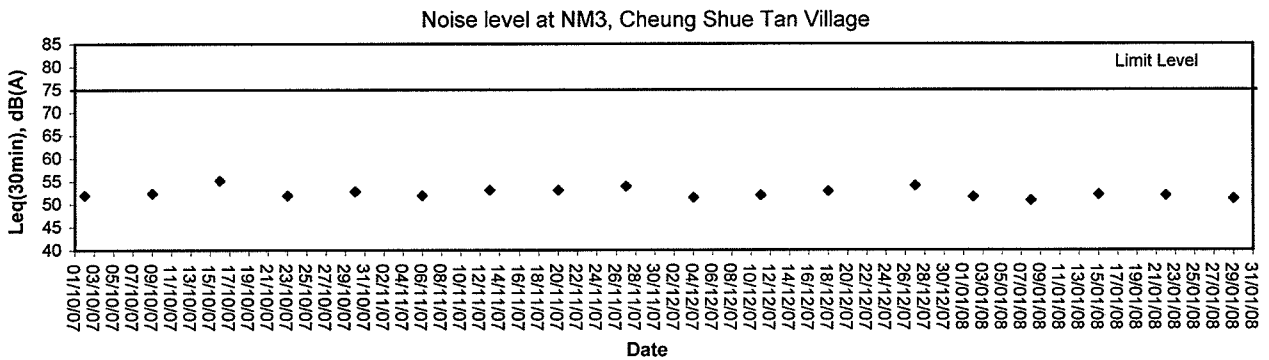
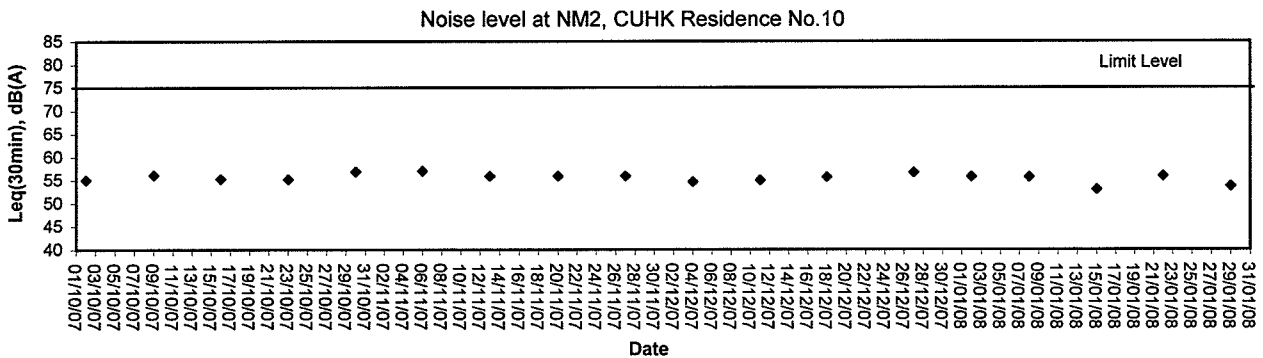
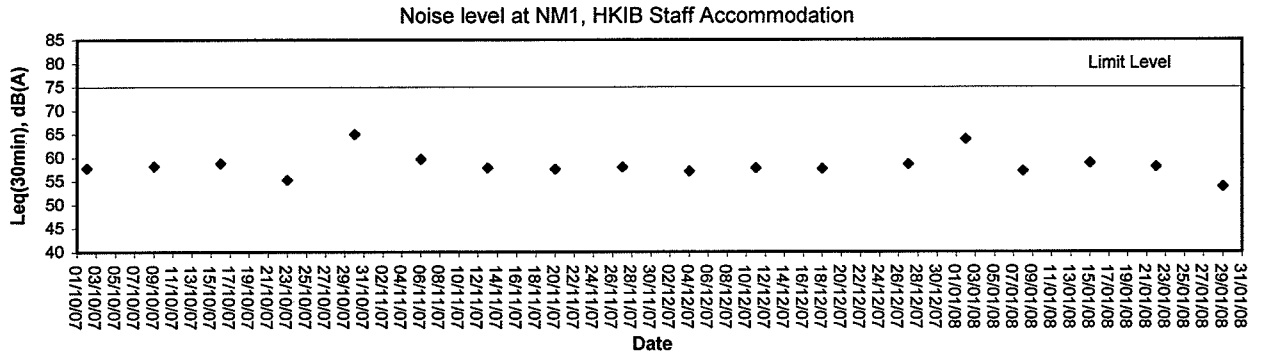
Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L _{eq} (30min)	L10	L90		
02/01/08	14:50	52.8	56.2	49.9	1.7	Fine
08/01/08	14:02	53.9	56.5	50.6	0.8	Sunny
15/01/08	14:20	58.3	61.2	55.9	1.6	Cloudy
22/01/08	14:47	55.0	57.7	51.3	1.0	Cloudy
29/01/08	10:21	55.1	58.3	52.1	1.8	Rainy



Appendix C3

Graphical Plots of Noise Monitoring Data

Noise Monitoring (Day-time)





Appendix D

Weather Condition

Weather Condition

Date	Rainfall (mm)	Max. Temp (°C)	Min. Temp. (°C)	Relative Humidity (%)	Wind Direction	Wind Speed (m/s)
01/01/08	0.0	16.4	9.5	28	030	<5
02/01/08	0.0	16.5	7.9	41	040#	<5
03/01/08	0.0	18.9	7.2	62	030	<5
04/01/08	0.0	19.5	9.3	78	130	<5
05/01/08	0.0	21.6	9.0	69	140	<5
06/01/08	0.0	22.1	12.8	75	340#	<5
07/01/08	0.0	25.8	12.8	71	020	<5
08/01/08	0.0	24.4	18.4	71	100	<5
09/01/08	0.0	25.5	17.9	76	080	<5
10/01/08	0.0	21.9	19.8	84	070	<5
11/01/08	0.0	26.6	19.9	87	220	<5
12/01/08	0.5	26.8	18.5	76	080	<5
13/01/08	***#	20.9	19.0	***#	***#	<5
14/01/08	1.0#	16.3	12.8	61#	030#	<5
15/01/08	0.0	16.1	12.1	61	040	<5
16/01/08	0.0	16.1	10.2	56	350	<5
17/01/08	0.0	12.5	9.5	67	350	<5
18/01/08	1.0	16.4	10.1	79	360	<5
19/01/08	0.5	18.9	15.2	80	100	<5
20/01/08	0.0	24.8	15.9	80	080	<5
21/01/08	0.0	22.6	14.9	72	040	<5
22/01/08	0.0	21.6	14.0	67	050	<5
23/01/08	0.0	19.9	13.6	57	050	<5
24/01/08	1.0	17.3	10.3	75	050	<5
25/01/08	25.0	12.5	10.3	92	360	<5
26/01/08	0.0	13.0	8.7	90	350	<5
27/01/08	0.0	9.7	7.7	85	360	<5
28/01/08	0.0	15.0	8.6	90	040	<5
29/01/08	0.5	12.5	9.8	89	070	<5
30/01/08	16.5	12.3	7.7	93	360	<5
31/01/08	1.0	9.2	6.5	87	350	<5

Remark: Data of wind speed and wind direction were extracted from Hong Kong Observatory (Shatin Station).
 *** = unavailable and # = missing (less than 24 hourly observations a day)

Appendix E

Event-Action Plans

Event / Action Plan for Air Quality

		ACTION		
		ET Leader	IC(E)	ER
EVENT		CNOTRACTOR		
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 be 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	ET Leader	ACTION		CNTRACTOR
		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

Act ID	Description	Total Float	Percent Complete	Original Duration	Early Start	Early Finish	Late Start	Late Finish
A2TTMS1050	TTA No 91 Diversion of Sul Cheung St. to SL3	0	0	1	30MAY07	30MAY07	30MAY07	30MAY07
A2TTMS1060	TTA No 92-93, 88 Road Marking for MLSB R/A	35d	0	1	14JUN07	14JUN07	27JUL07	27JUL07
Proposed Ma Liu Shui Bridge								
Voided Abutment								
A2MBVA1000	Construct Wall (Stage 5)	28d	90	16	09DEC06 A	07FEB07	09DEC06 A	15MAR07
A2MBVA1100	Construct Slab above Void Abutment	23d	0	36	08MAR07	19APR07	04APR07	17MAY07
North Abutment								
A2MBNA0200	Construct RE Wall to Formation of RC Wall Type A	7d	40	38	13SEP06 A	14FEB07	13SEP06 A	28FEB07
A2MBNA0300	Fix RE Wall to Face of Abutment & RC Wall	7d	0	24	08FEB07	08MAR07	14FEB07	18MAR07
A2MBNA1300	Construct RC Wall Type A	7d	0	24	15FEB07	17MAR07	27FEB07	28MAR07
A2MBNA1400	Construct RC Wall Type B	16d	75	36	08NOV06 A	12FEB07	08NOV06 A	08MAR07
A2MBNA1500	Construct RC Wall Type C	40d	75	18	04DEC06 A	21FEB07	04DEC06 A	10APR07
Bridge Deck - Voided Abutment to Pier								
A2MBDA0600	Erect Formwork for upper deck slab	23d	70	12	11JAN07 A	24JAN07	11JAN07 A	23FEB07
A2MBDA0700	Steel Fixing for upper deck slab	23d	40	8	13JAN07 A	30JAN07	13JAN07 A	01MAR07
A2MBDA0800	Concreting for upper deck slab	23d	0	1	31JAN07	02MAR07	02MAR07	02MAR07
A2MBDA0850	Striking of dead locking formwork before stress	23d	0	4	01FEB07	05FEB07	03MAR07	07MAR07
A2MBDA0900	Install, Stress Tendons & Grouting	23d	0	23	06FEB07	07MAR07	08MAR07	03APR07
A2MBDA0950	Completion of Diaphragm and Anchorage Recess	51d	0	10	08MAR07	19MAR07	09MAY07	19MAY07
A2MBDA1000	Remove Formwork & Scaffolding	51d	0	8	20MAR07	28MAR07	21MAY07	29MAY07
A2MBDA1100	Construct Parapet	32d	0	70	28FEB07	22MAY07	07APR07	29JUN07
A2MBDA1200	Construct Centre Barrier	32d	0	36	10APR07	22MAY07	18MAY07	29JUN07
Bridge Deck - Pier to North Abutment								
A2MBDC0700	Steel Fixing	26d	40	8	09JAN07 A	25JAN07	09JAN07 A	28FEB07
A2MBDC0800	Concreting (Pier to North Abutment)	26d	0	1	26JAN07	01MAR07	01MAR07	01MAR07
A2MBDC0850	Striking of dead locking formwork before stress	26d	0	4	27JAN07	02MAR07	02MAR07	08MAR07
A2MBDC0900	Install, Stress Tendons & Grouting	26d	0	24	01FEB07	03MAR07	07MAR07	03APR07
A2MBDC0950	Completion of Diaphragm and Anchorage Recess	62d	0	10	05MAR07	15MAR07	18MAY07	29MAY07
A2MBDC1000	Remove Formwork & Scaffolding	51d	0	8	28MAR07	07APR07	30MAY07	07JUN07
A2MBDC1100	Construct Parapet	31d	0	70	01MAR07	23MAY07	07APR07	29JUN07
A2MBDC1200	Construct Centre Barrier	31d	0	36	11APR07	23MAY07	18MAY07	29JUN07
Miscellaneous works								
A2MBMW0100	Install Drainage System	31d	0	18	03MAY07	23MAY07	08JUN07	28JUN07
A2MBMW0200	Install Aluminium Rail	31d	0	18	03MAY07	23MAY07	08JUN07	28JUN07
A2MBMW0300	Install Public Lighting Post	37d	0	12	24MAY07	06JUN07	09JUL07	21JUL07
A2MBMW0400	Soffit Lighting	91d	0	28	08MAR07	10APR07	26JUN07	28JUL07
Roads and Pavings								
A2MBRP0100	North Abutment - Backfill to Formation	40d	0	28	22FEB07	26MAR07	11APR07	14MAY07
A2MBRP0200	North Abutment - Lay Subbase	40d	0	8	04MAY07	12MAY07	21JUN07	29JUN07
A2MBRP0300	Road Pavement	24d	0	18	01JUN07	22JUN07	30JUN07	21JUL07
Road Marking - Traffic Sign and Fencing								
A2MBRM0100	Apply Road Marking	24d	0	6	23JUN07	29JUN07	23JUL07	28JUL07

Start date: 10JUN04
 Finish date: 09MAY08
 Start date: 20JAN07
 Finish date: 09FEB07
 Age number: 3A

Legend:
 Early bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point

Apply Road Marking

North Abutment - Backfill to Formation

North Abutment - Lay Subbase

Road Pavement

Install Drainage System

Install Aluminium Rail

Install Public Lighting Post

Soffit Lighting

Remove Formwork & Scaffolding

Remove Formwork & Scaffolding

Construct Parapet

Construct Centre Barrier

Steel Fixing

Concreting (Pier to North Abutment)

Striking of dead locking formwork before stress

Install, Stress Tendons & Grouting

Completion of Diaphragm and Anchorage Recess

Remove Formwork & Scaffolding

Construct Parapet

Construct Centre Barrier

Steel Fixing

Concreting for upper deck slab

Concreting for upper deck slab

Striking of dead locking formwork before stress

Install, Stress Tendons & Grouting

Completion of Diaphragm and Anchorage Recess

Remove Formwork & Scaffolding

Construct Parapet

Construct Centre Barrier

Steel Fixing

Concreting (Pier to North Abutment)

Striking of dead locking formwork before stress

Install, Stress Tendons & Grouting

Completion of Diaphragm and Anchorage Recess

Remove Formwork & Scaffolding

Construct Parapet

Construct Centre Barrier

Install Drainage System

Install Aluminium Rail

Install Public Lighting Post

Soffit Lighting

North Abutment - Backfill to Formation

North Abutment - Lay Subbase

Road Pavement

Apply Road Marking

Leader - Wai Kee (C&T) Joint Venture

TP37/03 - Critical Path Reference Program for RP10 (Progress Updated to 20 January 2007)

Act ID	Description	Total Float	Percent Complete	Original Duration	Early Start	Early Finish	Late Start	Late Finish
Section Completion								
CD0100	Section 1	0	0	0	15MAR07	15MAR07		15MAR07
CD0200	Section 2	0	0	0	28JUL07	28JUL07		28JUL07
CD0300	Section 3	0	0	0	23JUN07	23JUN07		23JUN07
CD0400	Section 4	0	0	0	29MAY07	29MAY07		29MAY07
CD0700	Section 7	0	0	0	03APR07	03APR07		03APR07
CD0800	Section 8	0	0	0	17MAY07	17MAY07		17MAY07
CD0900	Section 9	0	0	0	16FEB07	16FEB07		16FEB07
CD1100	Section 11	0	0	0	26MAR07	26MAR07		26MAR07
CD1200	Section 12	0	0	0	23APR07	23APR07		23APR07
CD1300	Section 13	0	0	0	08MAY07	08MAY07		08MAY07
CD1400	Section 14	0	0	0	26MAR08	26MAR08		26MAR08
CD1500	Section 15	0	0	0	23APR08	23APR08		23APR08
CD1600	Section 18	0	0	0	09MAY08	09MAY08		09MAY08
ilestone								
Section 5								
MSS50100	Complete Laying of Utilities	0	0	-537d	19JAN07	19JAN07		31JUL05*
Section 7								
MSS70100	Complete Connection for ArchSD's Works	0	0	-537d	19JAN07	19JAN07		31JUL05*
MSS70300	Complete Toilet & Pavilion by ASD's Contractor	0	0	-444d	23JAN07	23JAN07		05NOV05*
Section 8								
MSS80100	Complete Connection of Utilities	0	0	-274d	19JAN07	19JAN07		20APR06*
MSS80200	Commence ASD's Works	0	0	-297d	20JAN07	20JAN07		20MAR06
MSS80300	Complete ASD's Works	0	0	-298d	17MAY07	17MAY07		22JUL06*
Section 1								
Amenity Area								
Drainage Works								
A1AMDW1100	CCTV Inspection	10	0	26d	30JAN07	09FEB07	05MAR07	15MAR07
Utilities Works								
A1AMUT0100	Planter Watermain - M9 to WP9-4 (South Section)	15	0	10d	20JAN07	08FEB07	01FEB07	21FEB07
A1AMUT0200	Planter Watermain - M7 to WP7-4 (North Section)	15	0	8d	25JAN07	10FEB07	01FEB07	21FEB07
A1AMUT0300	Install Public Lighting Post (by Hyd)	10	0	34d	20JAN07	31JAN07	05MAR07	15MAR07
Public Lighting, Duct and Kab								
A1AMPK0200	Construct Dwarf Wall (North Section)	21	80	0	10NOV06 A	24JAN07	10NOV06 A	24JAN07
A1AMPK0300	Construct Edging Beam (South Section)	22	50	23d	21NOV06 A	01FEB07	21NOV06 A	03MAR07
A1AMPK0400	Construct Edging Beam (North Section)	18	50	26d	16OCT06 A	30JAN07	16OCT06 A	03MAR07
A1AMPK0500	Lighting Drawpit & Cable Duct (South Section)	14	30	23d	08JAN07 A	19FEB07	08JAN07 A	15MAR07
A1AMPK0600	Lighting Drawpit & Cable Duct (North Section)	14	30	25d	15JAN07 A	10FEB07	15JAN07 A	15MAR07
Roads and Paving								

10JUN04
19MAY08
20JAN07
09FEB07
1A

Early bar
Progress bar
Critical bar
Summary bar


CP&T Reference Program

2005 2006 2007 2008

DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG


2005 2006 2007 2008

DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG



Leader - Wai Kee (C&T) Joint Venture

TP37/03 - Critical Path Reference Program for RP10 (Progress Updated to 20 January 2007)





Act ID	Description	Original Duration	Percent Complete	Total Float	Early Start	Early Finish	Late Start	Late Finish	2006 DEC	2006 JAN	2006 FEB	2006 MAR	2006 APR	2006 MAY	2006 JUN	2006 JUL	2006 AUG	2006 SEP	2006 OCT	2006 NOV	2006 DEC	
A1AMRP0100	Road base & Paving Block (South Section)	20	50	34d	16JAN07 A	31JAN07	16JAN07 A	15MAR07														
A1AMRP0150	Trim Formation and lay subbase (North Section)	10	85	34d	27NOV06 A	26JAN07	27NOV06 A	10MAR07														
A1AMRP0200	Road base & Paving Block (North Section)	40	90	34d	04DEC06 A	31JAN07	04DEC06 A	15MAR07														
A1AMRP0207	Step Structure (Construct after Ped. Diversion)	7	0	15d	10FEB07	21FEB07	03MAR07	10MAR07														
A1AMRP0208	Trim Formation & lay subbase (Existing Landing)	7	0	15d	20JAN07	27JAN07	07FEB07	14FEB07														
A1AMRP0210	Paving Block (Existing Landing)	14	20	15d	15JAN07 A	09FEB07	15JAN07 A	02MAR07														
Cycle Track																						
Diagnose Works																						
A1CTDW0800	CCTV Inspection	12	0	14d	10FEB07	27FEB07	02MAR07	15MAR07														
A1CTDW0810	225 CUC & catchpit adjacent to subway	28	40	21d	21DEC06 A	08FEB07	21DEC06 A	08MAR07														
Utility Works																						
A1CTUT0300	CLP - 11kV Cable (South Section)	36	70	0	01SEP06 A	01FEB07	01SEP06 A	01FEB07														
A1CTUT0400	CLP - 11kV Cable (North Section)	28	40	0	08DEC06 A	08FEB07	06DEC06 A	08FEB07														
A1CTUT1010	CATV - Cable connection to existing	14	0	5d	28JAN07	10FEB07	01FEB07	18FEB07														
A1CTUT1300	Watermain - Testing and Connection of 300 Dia	16	50	4d	15JAN07 A	28JAN07	15JAN07 A	02FEB07														
A1CTUT1400	Watermain - Testing and Connection of 250 Dia	18	50	9d	15JAN07 A	28JAN07	15JAN07 A	08FEB07														
A1CTUT1500	Install Public Lighting Post (by Hyd)	10	0	34d	20JAN07	31JAN07	09MAR07	15MAR07														
Public Lighting, Duct and Kerb																						
A1CTPK0100	Construct Dwarf Wall (South Section)	18	90	0	11DEC06 A	22JAN07	11DEC06 A	22JAN07														
A1CTPK0200	Construct Dwarf Wall & Toe Wall (North Section)	18	70	1d	28NOV06 A	25JAN07	28NOV06 A	28JAN07														
A1CTPK0300	Lay Kerb (South Section)	14	50	0	03JAN07 A	02FEB07	03JAN07 A	02FEB07														
A1CTPK0400	Lay Kerb (North Section)	11	0	12d	25JAN07 A	07FEB07	25JAN07 A	24FEB07														
A1CTPK0500	Lighting Drawpit & Cable Duct (South Section)	18	20	10d	08JAN07 A	05FEB07	08JAN07 A	18FEB07														
A1CTPK0600	Lighting Drawpit & Cable Duct (North Section)	18	5	2d	15JAN07 A	08FEB07	15JAN07 A	10FEB07														
Roads and Paving																						
A1CTRP0100	Trim Formation & Lay Subbase (South Section)	12	50	0	03JAN07 A	08FEB07	03JAN07 A	09FEB07														
A1CTRP0150	Trim Formation & Lay Subbase (Toilet No.2 Ramp)	8	0	16d	08FEB07	14FEB07	28FEB07	08MAR07														
A1CTRP0200	Trim Formation & Lay Subbase (North Section)	18	70	0	15JAN07 A	14FEB07	15JAN07 A	14FEB07														
A1CTRP0250	Paving works at bicycle parking area (3 nos)	21	20	2d	15JAN07 A	09FEB07	15JAN07 A	12FEB07														
A1CTRP0260	Paving works at cycle track crossing (3 nos)	14	0	0	28FEB07	15MAR07	28FEB07	15MAR07														
A1CTRP0500	Lay Cycle Track Pavement (South Section)	8	70	0	06JAN07 A	12FEB07	06JAN07 A	12FEB07														
A1CTRP0550	Lay Cycle Track Pavement (Toilet No.2 Ramp)	6	0	16d	15FEB07	24FEB07	09MAR07	15MAR07														
A1CTRP0600	Lay Cycle Track Pavement (North Section)	10	0	0	13FEB07	27FEB07	13FEB07	27FEB07														
Road Marking - Traffic Sign and Fencing																						
A1CTRM0100	Apply Road Marking	3	0	13d	28FEB07	28FEB07	13MAR07	15MAR07														
A1CTRM0200	Erect Signage	4	0	15d	22FEB07	26FEB07	12MAR07	15MAR07														
A1CTRM0300	Install Railing, Fencing & etc	6	40	15d	15JAN07 A	26FEB07	15JAN07 A	15MAR07														
Section 2																						
Temporary Traffic Management Scheme																						
TTA Implementation																						
A2TTMS1020	TTA No 81-85 Existing MLS Bridge Roundabout	1	0	28d	08FEB07	08FEB07	16MAR07	16MAR07														
A2TTMS1030	TTA No 89 Existing Cycle Track Diversion	1	0	14d	01MAR07	01MAR07	17MAR07	17MAR07														

Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Critical Path Reference Program for RP10 (Progress Updated to 20 January 2007)

ITTA No 81-85 Existing MLS Bridge Roundabout
ITTA No 89 Existing Cycle Track Diversion

Start date: 10JUN04
Finish date: 09MAY08
Start date: 20JAN07
Run date: 06FEB07
Page number: 2A

Legend:
 Early bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point

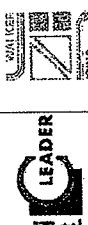




Act ID	Description	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
A2MBRW0200	Erect Signage	0	0	08JUN07	22JUN07	08JUL07	21JUL07
A2REWA1210	Upstand Wall for Retaining Wall No. 1	20	35	10DEC06 A	24FEB07	10DEC06 A	15MAR07
Damage Works							
A2RDDW0200	S615 - Existing Manhole	5	36	21DEC06 A	10MAR07	21DEC06 A	14MAY07
A2RDDW0210	F304 - F309 (VO12B)	0	42	20JAN07	13MAR07	27MAR07	16MAY07
A2RDDW0300	S628 - S628	0	31	27MAR07	03MAY07	15MAY07	20JUN07
A2RDDW0350	S616 - S629	0	24	20JAN07	18FEB07	14MAY07	08JUN07
A2RDDW0410	Alignment confirmation and UU diversion (VO169)	0	40	0	20JAN07	20JAN07	10MAR07
A2RDDW0500	F310-Existing M/H, S610A - S610 (TTA No. 74, 75)	0	20	0	12MAR07	12MAR07	03APR07
A2RDDW0600	F309-F310, S610 - S608 (TTA No. 89)	0	20	0	04APR07	27APR07	27APR07
A2RDDW0700	Replace 800 Pipe by 900 Pipe (TTA No. 91)	0	20	0	31MAY07	23JUN07	05JUN07
A2RDDW0800	Reconstruct Ext M/H w 1800 Chamber (TTA No. 91)	0	22	0	31MAY07	26JUN07	05JUN07
A2RDDW0900	Construct Gullies to Existing Pipe (TTA No. 91)	0	18	0	09JUN07	30JUN07	30JUN07
Utility Works							
A2RDUT0300	NWT & HGC - Laying Cable Duct	0	21	26JAN07	19FEB07	26FEB07	19MAR07
A2RDUT0310	NWT & HGC Cable Connection	0	14	14FEB07	05MAR07	21APR07	08MAY07
A2RDUT0400	WT&T - Laying Cable Duct	0	21	26JAN07	10MAR07	17MAR07	11APR07
A2RDUT0410	WT&T - Cable Connection	0	14	14MAR07	29MAR07	21APR07	08MAY07
A2RDUT0500	PCCW - Laying Cable Duct	0	21	12FEB07	10MAR07	24MAR07	18APR07
A2RDUT0510	PCCW - Cable Connection	0	14	14MAR07	29MAR07	25APR07	11MAY07
A2RDUT0600	Watermain - Laying FW Main Crossing	0	12	27JAN07	09FEB07	31MAY07	13JUN07
A2RDUT0700	Watermain - FW Main T to Existing (TTA No. 91)	0	8	0	31MAY07	08JUN07	08JUN07
A2RDUT1000	Install Public Lighting Post (TTA No. 89)	0	8	14MAY07	22MAY07	20JUL07	28JUL07
A2RDUT1100	Install Public Lighting Post (TTA No. 91)	0	8	07JUL07	16JUL07	18JUL07	28JUL07
Public Lighting, Duct and Kerb							
A2RDPK0100	Lay Kerb	0	14	02APR07	18APR07	28JUN07	14JUL07
A2RDPK0200	Lay Kerb (TTA No. 89)	0	6	07MAY07	12MAY07	07MAY07	12MAY07
A2RDPK0300	Lay Kerb (TTA No. 91)	0	6	0	28JUN07	08JUL07	06JUL07
A2RDPK0400	Construct Central Divider	0	24	12MAR07	09APR07	11JUN07	10JUL07
A2RDPK0500	Construct Central Divider (TTA No. 91)	0	12	28MAY07	06JUN07	23JUN07	07JUL07
A2RDPK0600	Construct CPB	0	24	12MAR07	09APR07	11JUN07	10JUL07
A2RDPK0700	Lighting Drawpit & Cable Duct	0	18	0	62d 12MAR07	25MAY07	14JUN07
A2RDPK0800	Lighting Drawpit & Cable Duct (TTA No. 89)	0	6	0	28APR07	28APR07	05MAY07
A2RDPK0900	Lighting Drawpit & Cable Duct (TTA No. 91)	0	6	0	28JUN07	28JUN07	06JUL07
Roads and Paving							
A2RDRP0100	Trim Formation & Lay Subbase	0	20	02APR07	25APR07	28JUN07	21JUL07
A2RDRP0200	Trim Formation & Lay Subbase (TTA No. 74, 75)	0	10	14APR07	25APR07	06JUL07	17JUL07
A2RDRP0300	Trim Formation & Lay Subbase (TTA No. 74, 75)	0	6	04APR07	11APR07	28JUN07	03JUL07
A2RDRP0400	Trim Formation & Lay Subbase (TTA No. 89)	0	6	0	09MAY07	09MAY07	15MAY07

Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Critical Path Reference Program for RP10 (Progress Updated to 20 January 2007)

Early bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point

start date 10JUN04
 finish date 09MAY08
 start date 20JAN07
 finish date 08FEB07
 sgs number 44



Act ID	Description	Original Duration	Percent Complete	Total Float	Early Start	Early Finish	Late Start	Late Finish
A2RSRM0500	Fabricate and Install Sign Gantry across SL3	48	0	21d	08MAY07	04JUL07	01JUN07	28JUL07
Existing Sai Cheung Street								
Drainage Works								
A2SCDW0200	S654 - S647 (TTA No. 89)	42	0	49d	06FEB07	29MAR07	09APR07	28MAY07
A2SCDW0300	Construct Gutters (TTA No. 91)	4	0	22d	31MAY07	04JUN07	27JUN07	30JUN07
Utility Works								
A2SCUT0900	Install Public Lighting Post (TTA No. 89)	8	0	66d	02MAY07	10MAY07	20JUL07	28JUL07
A2SCUT1000	Install Public Lighting Post (TTA No. 91)	8	0	22d	20JUN07	28JUN07	17JUL07	25JUL07
Public Lighting, Duct and Kerb								
A2SCP0K0100	Lay Kerb (TTA No. 89)	8	0	49d	21APR07	30APR07	20JUN07	28JUN07
A2SCP0K0200	Lay Kerb (TTA No. 91)	6	0	22d	12JUN07	16JUN07	10JUL07	16JUL07
A2SCP0K0300	Lighting Drawpit & Cable Duct (TTA No. 89)	8	0	49d	14APR07	23APR07	12JUN07	21JUN07
A2SCP0K0400	Lighting Drawpit & Cable Duct (TTA No. 91)	6	0	22d	05JUN07	11JUN07	03JUL07	08JUL07
Roads and Paving								
A2SCR0P0100	Trim Formation & Lay Subbase (TTA No. 89)	12	0	49d	21APR07	05MAY07	20JUN07	04JUL07
A2SCR0P0200	Road Pavement (TTA No. 89)	12	0	49d	28APR07	12MAY07	27JUN07	11JUL07
A2SCR0P0300	Road Pavement (TTA No. 91)	8	0	22d	20JUN07	28JUN07	17JUL07	25JUL07
A2SCR0P0400	Remove Existing Traffic Island (TTA No. 90)	28	0	100d	20JAN07	24FEB07	23MAY07	25JUN07
A2SCR0P0500	Road Pavement (TTA No. 90)	28	0	100d	28FEB07	29MAR07	26JUN07	28JUL07
Road Marking - Traffic Sign and Fencing								
A2SCRM0050	Apply Road Marking (TTA No. 89)	1	0	65d	14MAY07	14MAY07	28JUL07	28JUL07
A2SCRM0100	Apply Road Marking (TTA No. 91)	3	0	22d	28JUN07	03JUL07	26JUL07	28JUL07
A2SCRM0200	Erect Signage	12	0	49d	14MAY07	26MAY07	12JUL07	25JUL07
A2SCRM0300	Install Railing, Fencing & etc	12	0	49d	14MAY07	26MAY07	12JUL07	25JUL07
Existing Sai Cheung Street Roundabout								
Public Lighting, Duct and Kerb								
A2SRPK0100	Laying Lighting Cross Road Duct (TTA No. 90)	21	0	103d	02FEB07	01MAR07	08JUN07	04JUL07
A2SRPK0200	Laying Lighting Cross Road Duct (TTA No. 90)	21	0	96d	02FEB07	01MAR07	31MAY07	25JUN07
Roads and Paving								
A2SRRP0100	Demolish Existing Island (TTA No. 90)	21	50	103d	20DEC06 A	01FEB07	20DEC06 A	07JUN07
A2SRRP0200	Construct Proposed Island (TTA No. 90)	21	0	103d	02MAR07	26MAR07	05JUL07	28JUL07
A2SRRP0300	Demolish Existing Kerb (TTA No. 90)	21	50	96d	03JAN07 A	01FEB07	03JAN07 A	30MAY07
A2SRRP0400	Lay Kerb (TTA No. 90)	21	0	96d	02MAR07	26MAR07	26JUN07	20JUL07
A2SRRP0500	Demolish Existing Roundabout (TTA No. 91)	14	0	3d	31MAY07	15JUN07	04JUN07	20JUN07
A2SRRP0600	Reconstruct Roundabout (TTA No. 91)	10	0	3d	16JUN07	28JUN07	21JUN07	03JUL07
A2SRRP0700	Reinstate Road Pavement (TTA No. 90)	7	0	96d	27MAR07	03APR07	21JUL07	28JUL07
A2SRRP0800	Resurfacing Wearing Course	8	0	3d	29JUN07	08JUL07	04JUL07	12JUL07
A2SRRP0900	Construct Proposed Island (TTA No. 91)	21	0	6d	31MAY07	25JUN07	07JUN07	03JUL07
Road Marking - Traffic Sign and Fencing								
A2SRRM0100	Apply Road Marking	2	0	3d	24JUL07	25JUL07	27JUL07	28JUL07
A2SRRM0200	Erect Signage	12	0	3d	10JUL07	23JUL07	13JUL07	26JUL07
A2SRRM0300	Install Railing, Fencing & etc	12	0	3d	10JUL07	23JUL07	13JUL07	26JUL07

Existing Mei Lu Shui Bridge

Start date	10JUN04
Finish date	09MAY08
Site date	20JAN07
Run date	06FEB07
Page number	6A

Early bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point

Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Critical Path Reference Program for RP10 (Progress Updated to 20 January 2007)

Act ID	Description	Original Duration	Percent Complete	Total Float	Early Start	Early Finish	Late Start	Late Finish	
Utility Works									
AZEBUT0100	Install Public Lighting Post	8	0	28d	14JUN07	23JUN07	19JUL07	27JUL07	
Public Lighting, Duct and Kerb									
AZEBPK0100	Lay Kerb (TTA No. 81-85)	21	0	28d	28FEB07	23MAR07	02APR07	28APR07	
AZEBPK0200	Cable Duct Laying on Island (TTA No. 81-85)	21	0	35d	27APR07	22MAY07	08JUN07	04JUL07	
AZEBPK0300	Cable Duct Laying on Reserve (TTA No. 81-85)	12	0	28d	12MAY07	25MAY07	14JUN07	28JUN07	
Roads and Paving									
AZEBRP0100	Demolish Existing Parapet (TTA No. 81-85)	14	0	23d	20APR07	07MAY07	18MAY07	02JUN07	
AZEBRP0200	Demolish Island & Paved Area (TTA No. 81-85)	14	10	28d	08JAN07 A	27FEB07	08JAN07 A	31MAR07	
AZEBRP0300	Road Pavement (TTA No. 81-85)	14	0	28d	24MAR07	10APR07	27APR07	14MAY07	
AZEBRP0400	Construct R/A on V-Abutment (TTA No. 81-85)	21	0	23d	08MAY07	31MAY07	04JUN07	28JUN07	
AZEBRP0500	Remove Pave at Proposed Island (TTA No. 81-85)	14	0	28d	11APR07	26APR07	15MAY07	30MAY07	
AZEBRP0600	Construct Traffic Island (TTA No. 81-85)	8	0	35d	29MAY07	31MAY07	05JUL07	13JUL07	
AZEBRP0700	Construct Remaining Roundabout (TTA No. 81-85)	12	0	23d	01JUN07	14JUN07	28JUN07	13JUL07	
AZEBRP0800	Demolish Existing Cent. Reserve (TTA No. 81-85)	12	0	28d	27APR07	11MAY07	31MAY07	13JUN07	
AZEBRP0850	Rectification of existing MJ & waterproofing	60	0	38d	28FEB07	10MAY07	16APR07	28JUN07	
AZEBRP0900	Construct New Cent. Reserve (TTA No. 81-85)	18	0	28d	24MAY07	13JUN07	27JUN07	19JUL07	
Road Marking, Traffic Sign and Fencing									
AZEBRM0100	Apply Road Marking (TTA No. 92-93, 88)	1	0	35d	15JUN07	15JUN07	28JUL07	28JUL07	
AZEBRM0200	Apply Road Marking (TTA No. 92-93, 88)	1	0	23d	30JUN07	30JUN07	28JUL07	28JUL07	
AZEBRM0300	Erect Signage	12	0	23d	15JUN07	29JUN07	14JUL07	27JUL07	
AZEBRM0400	Install Railing, Fencing & etc	12	0	23d	15JUN07	29JUN07	14JUL07	27JUL07	
Car Park and Access Road									
Utility Works									
AZCPUT0500	Install Public Lighting Post	8	0	70d	26APR07	05MAY07	20JUL07	28JUL07	
Public Lighting, Duct and Kerb									
AZCPRK0100	Construct Dwarf Wall	23	0	22d	02MAR07	28MAR07	28MAR07	24APR07	
AZCPRK0200	Lay Kerb	8	0	52d	17APR07	25APR07	18JUN07	27JUN07	
AZCPRK0300	Public Lighting Controller	10	0	83d	29MAR07	10APR07	09JUL07	19JUL07	
AZCPRK0400	Lighting Drawpit & Cable Duct	15	0	52d	29MAR07	16APR07	31MAY07	18JUN07	
Roads and Paving									
AZCPRP0100	Trim Formation & Lay Subbase	8	0	60d	26APR07	05MAY07	08JUL07	17JUL07	
AZCPRP0200	Road Pavement	8	0	60d	07MAY07	15MAY07	18JUL07	28JUL07	
AZCPRP0300	Construct Footpath	19	0	52d	26APR07	17MAY07	28JUN07	19JUL07	
Road Marking, Traffic Sign and Fencing									
AZCPRM0100	Apply Road Marking	2	0	52d	25MAY07	26MAY07	27JUL07	28JUL07	
AZCPRM0200	Erect Signage	6	0	52d	18MAY07	24MAY07	20JUL07	28JUL07	
AZCPRM0300	Install Railing, Fencing & etc	6	0	52d	18MAY07	24MAY07	20JUL07	28JUL07	
Amenity Area									
Drainage Works									
A2AMDV0100	Construct U-Channels	18	0	63d	29MAR07	19APR07	09JUL07	28JUL07	
Utility Works									
A2ANUT0100	Water Point WP1-3 to Water Meter No.1	18	0	62d	10APR07	30APR07	23JUN07	14JUL07	

Start date: 10JUN04
 Finish date: 09MAY08
 Start date: 20JAN07
 End date: 08FEB07
 Page number: 7A

Early bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point

2008
 2007
 2006
 DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG



Leader
 Leader - Wai Kee (C&T) Joint Venture
 TP37/03 - Critical Path Reference Program for RP10 (Progress Updated to 20 January 2007)

Act ID	Description	Total Float	Percent Complete	Original Duration	Early Start	Early Finish	Late Start	Late Finish	2006	2007	2008	2009
A3MSEI0300	Electrical Installation at West Ramp	15d	0	24	08MAY07	05JUN07	28MAY07	23JUN07				
Testing and Commissioning												
A3MSTC0100	Pumping System & Electrical Installation	25d	0	24	26APR07	24MAY07	28MAY07	23JUN07				
Laying and Unloading Area												
Drainage Works												
A3LUDW0700	S687 - S622	14d	0	21	01MAR07	24MAR07	17MAR07	11APR07				
A3LUDW0800	S617 - S618	24d	0	11	01MAR07	13MAR07	29MAR07	11APR07				
A3LUDW1000	S614 - S623 (TTA no. 91)	14d	0	20	02MAR07	24MAR07	19MAR07	11APR07				
A3LUDW1100	S693 - S634	13d	60	21	10JUL06 A	28JAN07	10JUL06 A	13FEB07				
Utility Works												
A3LUU0100	CLP - Laying LV Cable	13d	0	5	26MAR07	30MAR07	11APR07	16APR07				
A3LUU0200	CLP - Construct Pillar Box	29d	0	5	01MAR07	06MAR07	04APR07	10APR07				
A3LUU0300	Install Public Lighting Post	0	0	8	14JUN07	23JUN07	14JUN07	23JUN07				
Public Lighting, Duct and Kerb												
A3LUPK0100	Construct Dwarf Wall	13d	0	35	16FEB07	31MAR07	07MAR07	17APR07				
A3LUPK0200	Construct Dwarf Wall (TTA No. 89)	14d	0	6	26MAR07	31MAR07	12APR07	16APR07				
A3LUPK0300	Lay Kerb (TTA No. 89)	13d	0	12	23APR07	07MAY07	08MAY07	22MAY07				
A3LUPK0400	Lay Kerb (TTA No. 91)	0	0	6	31MAY07	06JUN07	31MAY07	06JUN07				
A3LUPK0500	Lighting Drawpit & Cable Duct (TTA No. 89)	13d	0	18	31MAR07	21APR07	17APR07	08MAY07				
A3LUPK0600	Lighting Drawpit & Cable Duct (TTA No. 91)	0	0	6	07JUN07	13JUN07	07JUN07	13JUN07				
Roads and Paving												
A3LURP0100	Trim Formation & Lay Subbase (TTA No. 91)	0	0	8	02JUN07	11JUN07	02JUN07	11JUN07				
A3LURP0200	Road Pavement (TTA No. 91)	0	0	8	12JUN07	21JUN07	12JUN07	21JUN07				
A3LURP0300	Construct Footpath (TTA No. 89)	13d	0	24	08MAY07	04JUN07	23MAY07	20JUN07				
A3LURP0400	Construct Footpath (TTA No. 91)	5d	0	6	07JUN07	13JUN07	13JUN07	20JUN07				
Road Marking, Traffic Sign and Fencing												
A3LURM0100	Apply Road Marking	0	0	2	22JUN07	23JUN07	22JUN07	23JUN07				
A3LURM0200	Erect Signage	5d	0	6	08JUN07	15JUN07	15JUN07	22JUN07				
A3LURM0300	Install Railing, Fencing & etc	5d	0	6	08JUN07	15JUN07	15JUN07	22JUN07				
Amenity Area												
Drainage Works												
A3AMDW0100	Construct U-Channels	33d	0	36	02APR07	16MAY07	12MAY07	23JUN07				
Utility Works												
A3AMUT0100	Water Point WP4-2 to Water Meter No.3	28d	0	16	10APR07	27APR07	08MAY07	25MAY07				
A3AMUT0200	Water Point WP5-2 to Water Meter No.5	28d	0	10	28APR07	10MAY07	28MAY07	06JUN07				
A3AMUT0300	Water Point WP6-2 to Water Meter No.8	23d	0	14	11MAY07	28MAY07	07JUN07	23JUN07				
Section 4												
Public Toilet No. 2												
Ground Floor Slab Construction												
A4PTGF0100	Erect Propping & Formwork	0	0	14	20JUN07	05FEB07	20JAN07	05FEB07				
A4PTGF0200	Ground Slab Steel Fixing	0	0	3	08FEB07	08FEB07	08FEB07	08FEB07				
A4PTGF0300	Formwork	0	0	2	09FEB07	10FEB07	09FEB07	10FEB07				
A4PTGF0400	Concreting	0	0	1	12FEB07	12FEB07	12FEB07	12FEB07				
A4PTGF0500	Erect Scaffolding	0	0	3	13FEB07	15FEB07	13FEB07	15FEB07				

last date 10JUN04
 finish date 08MAY08
 start date 20JAN07
 un date 06FEB07
 age number 9A

Legend:
 ■ Progress bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestone point

Leader - Wai Kee (C&T) Joint Venture
 TP37/03 - Critical Path Reference Program for RP10 (Progress Updated to 20 January 2007)

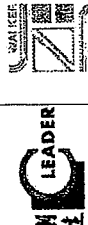
Act ID	Description	Total Float	Percent Complete	Original Duration	Early Start	Early Finish	Late Start	Late Finish
A4RAR1200	Backfilling	78d	0	6	20JAN07	26JAN07	28APR07	03MAY07
A4RAR12300	Construct Granite Facing Stone	80d	0	12	27JAN07	09FEB07	07MAY07	19MAY07
A4RAR12400	Paving	78d	0	14	27JAN07	12FEB07	04MAY07	19MAY07
A4RAR12500	Erect Type 2 Railing	78d	0	8	13FEB07	24FEB07	21MAY07	29MAY07
A4RAR12600	Construct Staircase	88d	0	12	27JAN07	09FEB07	18MAY07	29MAY07
Ramp Wall - North								
A4RART1000	Erect Formwork for Wall	20d	1	6	18JAN07 A	26JAN07	18JAN07 A	22FEB07
A4RART1100	Concreting	20d	0	1	27JAN07	27JAN07	23FEB07	23FEB07
A4RART1200	Remove Formwork	20d	0	3	28JAN07	31JAN07	24FEB07	27FEB07
A4RART1400	Backfilling	66d	0	12	01FEB07	14FEB07	24APR07	08MAY07
A4RART1500	Construct Granite Facing Stone	68d	0	10	15FEB07	01MAR07	11MAY07	22MAY07
A4RART1600	Paving	66d	0	12	15FEB07	03MAR07	09MAY07	22MAY07
A4RART1700	Erect Type 2 Railing	66d	0	6	05MAR07	10MAR07	23MAY07	29MAY07
Ramp Wall - South								
A4RARS1700	Steel Fixing for Side Walls (S2)	18d	50	6	18JAN07 A	23JAN07	18JAN07 A	14FEB07
A4RARS1800	Erect Formwork for Side Walls (S2)	19d	0	6	24JAN07	30JAN07	15FEB07	24FEB07
A4RARS1900	Concreting (S2)	19d	0	1	31JAN07	31JAN07	28FEB07	28FEB07
A4RARS2000	Remove Formwork (S2)	19d	0	1	01FEB07	01FEB07	27FEB07	27FEB07
A4RARS2200	Backfilling	66d	0	12	02FEB07	15FEB07	24APR07	08MAY07
A4RARS2300	Construct Granite Facing Stone	71d	0	6	18FEB07	28FEB07	18MAY07	22MAY07
A4RARS2400	Paving	66d	0	12	18FEB07	05MAR07	09MAY07	22MAY07
A4RARS2500	Erect Type 2 Railing	66d	0	6	08MAR07	12MAR07	23MAY07	29MAY07
Section 7								
Waterfront Promenade								
Utility Works								
A7WPUT0610	PCCW - Lay Cable (Landscape Node P3)	2d	0	12	20JAN07	02FEB07	23JAN07	05FEB07
Public Lighting, Duct and Keab								
A7WPPK0100	Public Lighting (In ZU)	24d	90	60	03APR06 A	26JAN07	03APR06 A	27FEB07
A7WPPK0200	Public Lighting (In ZS)	6d	60	60	03APR06 A	16FEB07	03APR06 A	27FEB07
Roads and Paving								
A7WPRP0050	Paving works at Foot Message Area	50	50	18	08JAN07 A	30JAN07	08JAN07 A	27FEB07
A7WPRP0100	Lay asphalt & paving block (In ZU & ZU3)	21d	40	50	12DEC06 A	09MAR07	12DEC06 A	03APR07
A7WPRP0200	Lay asphalt & paving block (In ZS & ZR1)	0	40	50	21OCT06 A	27FEB07	21OCT06 A	27FEB07
A7WPRP0205	TTA approval in TMLG (Section 7 & 8)	0	0	14	02FEB07	21FEB07	02FEB07	21FEB07
A7WPRP0206	RMO notice for crossing TTA (Section 7 & 8)	0	0	7	02FEB07	01MAR07	22FEB07	01MAR07
A7WPRP0210	Additional 2 nos crossing (VO158B) 1st half	0	0	14	02MAR07	17MAR07	02MAR07	17MAR07
A7WPRP0220	Additional 2 nos crossing (VO158B) 2nd half	0	0	14	19MAR07	03APR07	19MAR07	03APR07
A7WPRP0230	Repave verge adjacent to promenade (VO164)	0	0	28	02MAR07	03APR07	02MAR07	03APR07
Finishing Works								
A7WPFV0100	Finishing Works (In ZU) (include pump room)	36d	30	30	06JAN06 A	13FEB07	09JAN06 A	03APR07
A7WPFV0200	Finishing Works (In ZS)	54d	90	55	13APR06 A	26JAN07	13APR06 A	03APR07

E & M Works

start date	10JUN04	Early bar
finish date	09MAY08	Progress bar
start date	20JAN07	Critical bar
finish date	08FEB07	Summary bar
page number	11A	Start milestone point

2008
 LEADER
 WAI KEE
 TP37/03 - Critical Path Reference Program for RP10 (Progress Updated to 20 January 2007)

Act ID	Description	Original Duration	Percent Complete	Total Float	Early Start	Early Finish	Late Start	Late Finish	
ABWPRP0500	Lay asphalt & paving block (ZJ) (PLSN - N1)	40	0	2d	13FEB07	03APR07	15FEB07	06APR07	
ABWPRP0502	Lay asphalt & paving block (ZM) (N1N - TP)	28	0	38d	27FEB07	30MAR07	14APR07	17MAY07	
ABWPRP0510	Additional 3 EVA & 2 crossings (VO158B) 1st half	18	0	0	04APR07	25APR07	04APR07	25APR07	
ABWPRP0520	Additional 3 EVA & 2 crossings (VO158B) 2nd half	18	0	0	26APR07	17MAY07	26APR07	17MAY07	
ABWPRP0530	Repave verge adjacent to promenade (VO165)	38	0	0	04APR07	17MAY07	04APR07	17MAY07	
Finishing Works									
ABWPRF0100	Finishing Works	80	23	50d	08SEP06 A	17MAR07	08SEP06 A	17MAY07	
E & M Works									
ABWPEM0900	Irrigation System	50	20	27d	15JAN07 A	14APR07	15JAN07 A	17MAY07	
ABWPEM1000	E & M Works	30	20	36d	15JAN07 A	03APR07	15JAN07 A	17MAY07	
Road Marking, Traffic Sign and Fencing									
ABWPRM2000	Erect Signage	21	0	26d	19MAR07	12APR07	23APR07	17MAY07	
Landscape Hardworks									
ABWPHL0700	Parapet Wall along Seawall (in ZR)	47	20	23d	21DEC06 A	08MAR07	21DEC06 A	04APR07	
ABWPHL0800	Parapet Wall (in ZK) & N2 (& VO 95 continuation)	22	50	18d	01JAN07 A	28FEB07	01JAN07 A	21MAR07	
ABWPHL0900	Parapet Wall along Seawall (in ZJ6)	12	0	16d	30JAN07	12FEB07	23FEB07	08MAR07	
ABWPHL1000	Parapet Wall along Seawall (in ZJ5)	8	0	16d	20JAN07	29JAN07	10FEB07	22FEB07	
ABWPHL1200	Construct Pergola (3 nos.)	72	90	50d	10APR06 A	27JAN07	10APR06 A	30MAR07	
ABWPHL1300	Water Point WP24-4 to 24-1	15	0	39d	23JAN07	08FEB07	13MAR07	29MAR07	
ABWPHL1400	Water Point WP23-3 to 22-1	18	0	36d	23JAN07	12FEB07	09MAR07	29MAR07	
ABWPHL1500	Water Point WP21-3 to 21-1	12	0	2d	02FEB07	15FEB07	05FEB07	21FEB07	
ABWPHL1600	Water Point WP20-6 to 20-1	21	0	5d	30JAN07	28FEB07	05FEB07	03MAR07	
ABWPHL1700	Water Point WP19-4 to 19-1	15	0	16d	22JAN07	07FEB07	09FEB07	01MAR07	
ABWPHL1800	Water Point WP18-3 to 18-2	12	0	18d	22JAN07	03FEB07	13FEB07	01MAR07	
ABWPHL1900	Water Point WP17-5 to 17-1	18	0	40d	20JAN07	09FEB07	12MAR07	31MAR07	
ABWPHL2000	Water Point WP16-3 to 16-1	12	0	44d	20JAN07	02FEB07	16MAR07	29MAR07	
ABWPHL2200	ASD's Contractor Works	303	69	-246d	28JUL06 A	17MAY07	28JUL06 A	22JUL06	
ABWPHL2210	Litter-bin footing excavation (46 nos) (VO179)	10	0	2d	09MAR07	19MAR07	10MAR07	21MAR07	
ABWPHL2220	Litter-bin footing concreting (46 nos) (VO179)	10	0	2d	20MAR07	30MAR07	22MAR07	02APR07	
ABWPHL2230	Litter-bin paving temp reinstatae (VO179)	16	0	2d	31MAR07	19APR07	03APR07	21APR07	
ABWPHL2240	Install litter-bin w/ reinstatae (79 nos S7 & 8)	21	0	0	23APR07	17MAY07	23APR07	17MAY07	
Section 9									
Public Landing Step									
Landscape Works									
A9LSLW0800	Inspection & Testing	30	90	0	01NOV06 A	23JAN07	01NOV06 A	23JAN07	
A9LSLW0900	Fabrication & Painting of Steel Works (Roof)	48	75	2d	05DEC06 A	06FEB07	05DEC06 A	08FEB07	
A9LSLW1000	Concrete Coping with 10 tonne Boiler & Handrail	30	30	3d	13NOV06 A	13FEB07	13NOV06 A	16FEB07	
A9LSLW1400	Public Lighting & Pillar Install. (T&C) (VO147)	21	0	0	24JAN07	16FEB07	24JAN07	16FEB07	
A9LSLW1500	Rubber, Step & Land Step Fender	21	0	0	24JAN07	16FEB07	24JAN07	16FEB07	
A9LSLW1600	Surface Mounted Seats	7	0	2d	07FEB07	14FEB07	09FEB07	16FEB07	
A9LSLW1700	Construct In situ Concrete Paving	18	5	7d	01NOV06 A	08FEB07	01NOV06 A	16FEB07	
Section 11									



Leader - Wai Kee (C&T) Joint Venture
 TP37/03 - Critical Path Reference Program for RP10 (Progress Updated to 20 January 2007)

Start date	10JUN04	End date	06MAY08
Start milestone point	06MAY08	End milestone point	06MAY08
Run date	20JAN07	Run date	06FEB07
Page number	13A	Page number	13A

Legend:

- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point

Area SA6, SA11B & SA14

Landscape Softworks

B1AASL0600	Soil Mix (In ZS, 400 - North End)	30	21	0	12DEC06 A	16FEB07	12DEC06 A	16FEB07		Soil Mix (In ZS, 400 - North End)
B1AASL0800	Planting Works (Section 7 only)	28	0	0	21FEB07	24MAR07	21FEB07	24MAR07		Planting Works (Section 7 only)
B1AASL0900	Groundcovers Works	20	0	0	03MAR07	26MAR07	03MAR07	26MAR07		Groundcovers Works

Section 12

Area SA7, SA10, SA11A, SA12 & SA13

Landscape Softworks

B2ABSLO100	Soil Mix (In ZR, 395m)	47	70	0	21OCT06 A	07FEB07	21OCT06 A	07FEB07		Soil Mix (In ZR, 395m)
B2ABSLO200	Soil Mix (In ZK, 180m)	21	0	24	16FEB07	15MAR07	22FEB07	17MAR07		Soil Mix (In ZK, 180m)
B2ABSLO300	Soil Mix (In ZJ6, 85m)	12	0	5d	27FEB07	12MAR07	05MAR07	17MAR07		Soil Mix (In ZJ6, 85m)
B2ABSLO400	Soil Mix (In ZJ5, 50m)	7	0	13d	24JAN07	31JAN07	08FEB07	16FEB07		Soil Mix (In ZJ5, 50m)
B2ABSLO500	Soil Mix (ZJ - Landscape Node 1 South, 280m)	28	50	18d	21DEC06 A	27FEB07	21DEC06 A	17MAR07		Soil Mix (ZJ - Landscape Node 1 South, 280m)
B2ABSLO600	Soil Mix (ZM, ZL1, ZJ)	71	90	51d	21OCT06 A	21FEB07	21OCT06 A	23APR07		Soil Mix (ZM, ZL1, ZJ)
B2ABSLO650	Planting Works for ZR, ZJ5, ZJ6	35	0	22d	09FEB07	23MAR07	09MAR07	19APR07		Planting Works for ZR, ZJ5, ZJ6
B2ABSLO700	Planting Works for ZK, ZJ, ZM, ZL1	40	0	0	23FEB07	11APR07	23FEB07	11APR07		Planting Works for ZK, ZJ, ZM, ZL1
B2ABSLO800	Groundcovers Works	34	0	0	14MAR07	23APR07	14MAR07	23APR07		Groundcovers Works
B2ABSLO1100	Root Barrier (In ZM & ZJ) (VO/121)	18	90	13d	06NOV06 A	22JAN07	06NOV06 A	08FEB07		Root Barrier (In ZM & ZJ) (VO/121)
B2ABSLO1200	Root Barrier (In ZJ, ZJ5, ZJ6 & ZK) (VO/124)	26	90	13d	13NOV06 A	23JAN07	13NOV06 A	07FEB07		Root Barrier (In ZJ, ZJ5, ZJ6 & ZK) (VO/124)

Section 13

Area SA1, SA2, SA3, SA4 & SA5

Landscape Softworks

B3ACSL0100	Soil Mix (Area SA1 - South Section)	30	28	0	15JAN07 A	16FEB07	15JAN07 A	16FEB07		Soil Mix (Area SA1 - South Section)
B3ACSL0200	Soil Mix (Area SA1 - North Section)	30	30	0	08JAN07 A	21FEB07	08JAN07 A	21FEB07		Soil Mix (Area SA1 - North Section)
B3ACSL0300	Soil Mix (Car Park, Loading & Unloading Area)	6	0	18d	02APR07	09APR07	25APR07	02MAY07		Soil Mix (Car Park, Loading & Unloading Area)
B3ACSL0400	Soil Mix (Area Adjacent Road SL3)	30	0	7d	09MAR07	13APR07	17MAR07	21APR07		Soil Mix (Area Adjacent Road SL3)
B3ACSL0500	Planting Works	65	0	0	12FEB07	03MAY07	12FEB07	03MAY07		Planting Works
B3ACSL0600	Planting Works (Car Park, Loading/Unloading Area)	6	0	18d	10APR07	16APR07	03MAY07	09MAY07		Planting Works (Car Park, Loading/Unloading Area)

Section 14

Area SA8, SA9, SA15, SA16, SA17 & SA18

Landscape Softworks

B3ADSL0100	Planting Works	35	0	0	22FEB07	03APR07	22FEB07	03APR07		Planting Works
B3ADSL0200	Groundcovers Works	30	0	0	17MAR07	21APR07	17MAR07	21APR07		Groundcovers Works

Section 15

Area SA7, SA10, SA11A, SA12 & SA13

Establishment Works

B3ABEW0100	Establishment Works	280	0	0	24APR07	04APR08	24APR07	04APR08		Establishment Works
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Section 16

Area SA1, SA2, SA3, SA4 & SA5

Establishment Works

B3ACEW0200	Establishment Works	312	0	0	04MAY07	09MAY08	04MAY07	09MAY08		Establishment Works
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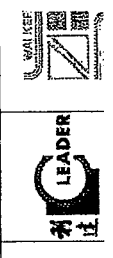
Area SA9, SA9, SA15, SA16, SA17 & SA18

Establishment Works

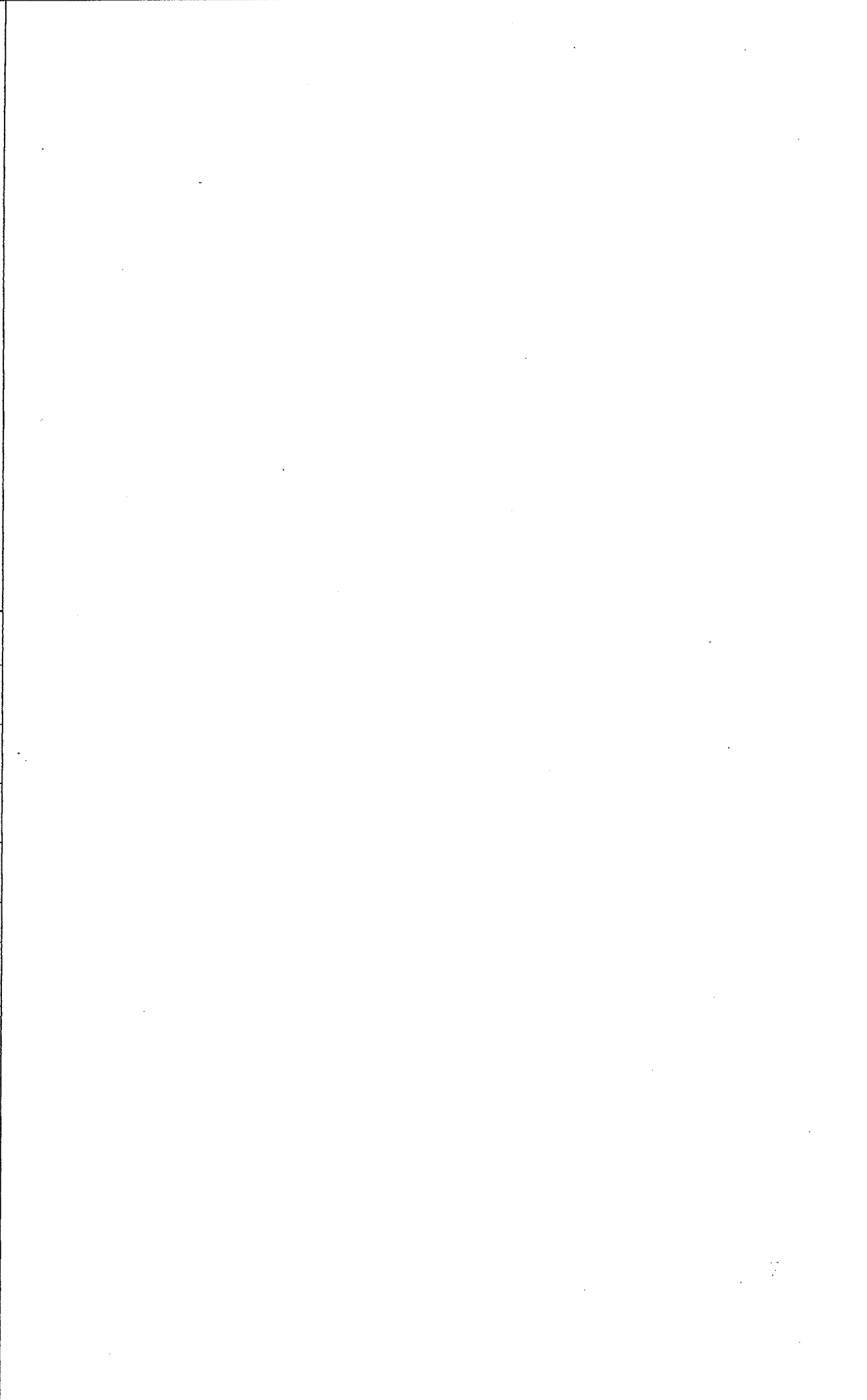
B3ABEW0100	Establishment Works	305	0	0	27MAR07	26MAR08	27MAR07	26MAR08		Establishment Works
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Legend:

- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point



Act ID	Description	Original Duration	Percent Complete	Total Float	Early Start	Early Finish	Late Start	Late Finish	2006	2007	2008						
86ADEW0100	Establishment Works	321	0	0	23APR07	09MAY08	23APR07	09MAY08	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG



Start date: 10JUN04
 Finish date: 09MAY08
 Data date: 20JAN07
 Run date: 06FEB07
 Page number: 15A

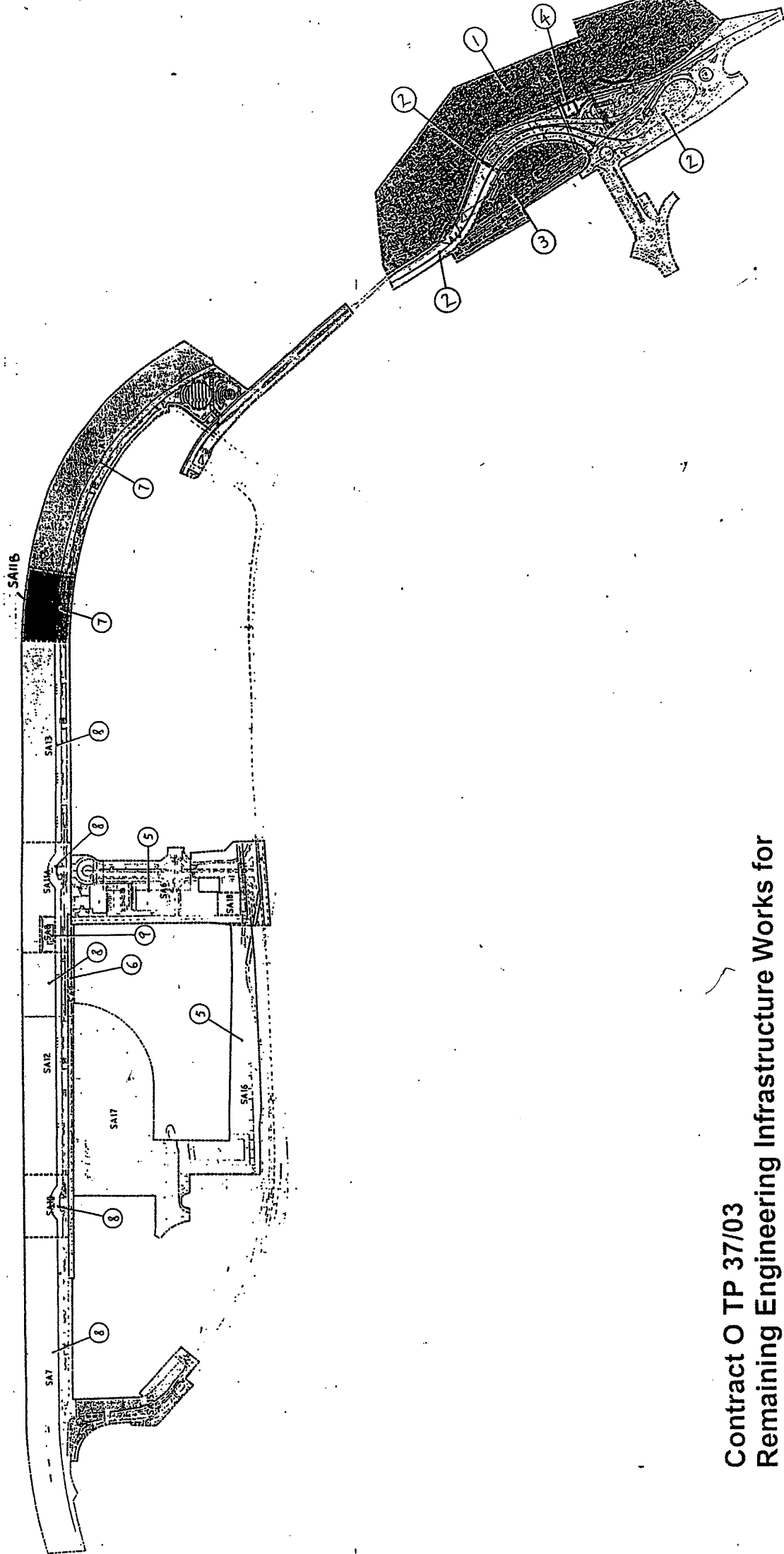
Legend:
 ■ Early bar
 ■ Progress bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestones point

Leader - Wai Kee (C&T) Joint Venture
TP37/03 - Critical Path Reference Program for RP10 (Progress Updated to 20 January 2007)



Appendix G

Construction Site Area



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

Location and Key Plan




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 : 5 January 2008 Inspected by Name : (RSS) Brian Cheng (LWKN) (ET) H.T. Chow
 Time : 10:30 Signature : 

Weather : Sunny / ~~Fine~~ / ~~Overcast~~ / ~~Drizzle~~ / ~~Rain~~ / ~~Storm~~ / ~~Hazy~~
 Condition : ~~Cal~~ / ~~Light~~ / ~~Breeze~~ / ~~Strong~~
 Wind : Temperature : 17°C
 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 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
	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.	✓		
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.	✓		
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					
<ul style="list-style-type: none"> ▪ 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					
<ul style="list-style-type: none"> ▪ 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 750m³ 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					
<ul style="list-style-type: none"> ▪ 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 					



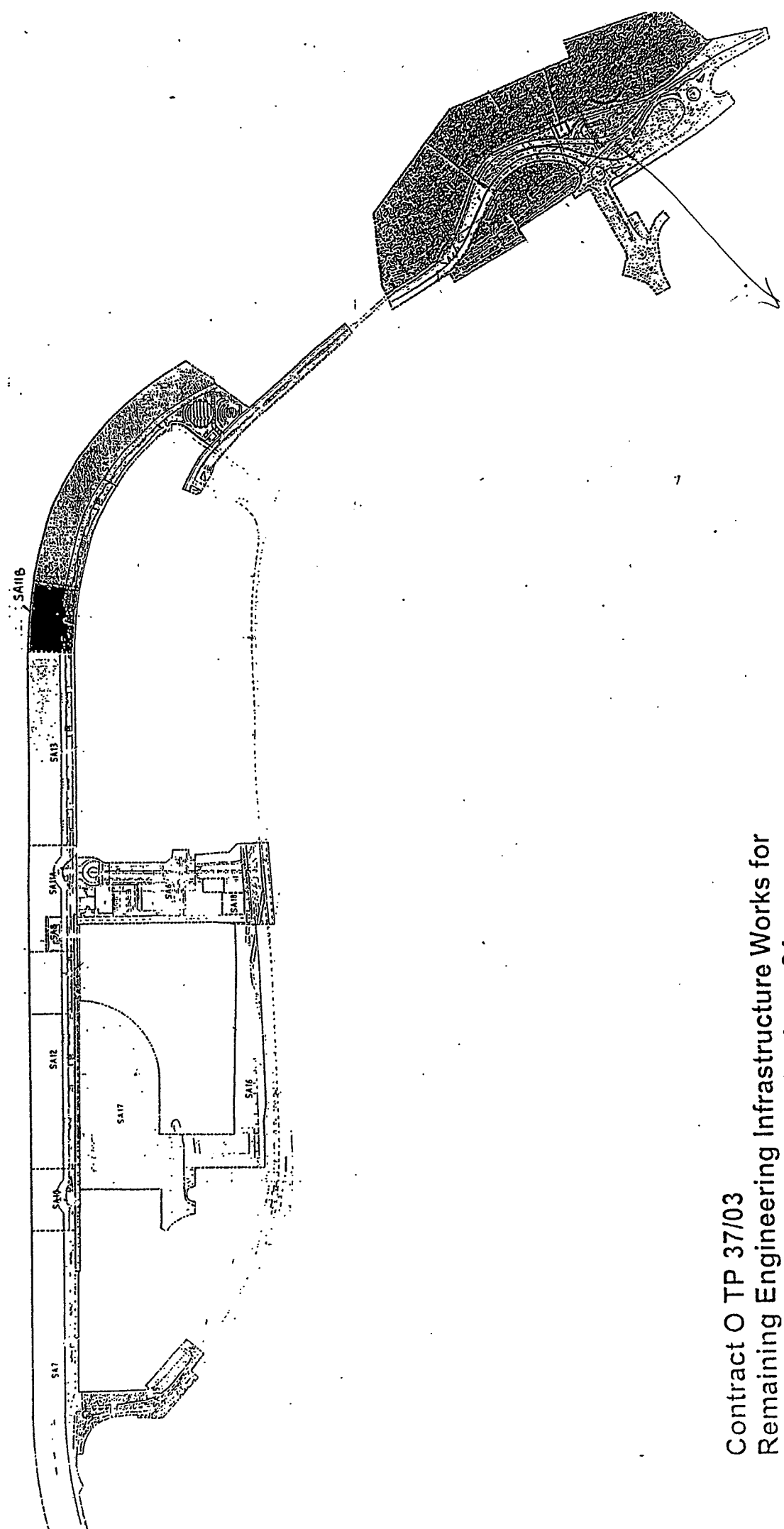
SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	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.	✓			



Item 1 (Abrid Abutment)

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

Location and Key Plan



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 : 12 January 2008 Inspected by Name : (RSS) LAW CHI LAI (LWKJM) Keaton Kook (ET) H.T. Chow
 Time : 10:30 Signature : [Signature]
 Weather Condition : Sunny / ~~Fine~~ / ~~Overcast~~ / ~~Drizzle~~ / ~~Rain~~ / ~~Storm~~ / ~~Hazy~~
 Wind : Calm / ~~Light~~ / ~~Breeze~~ / ~~Strong~~ Temperature : 24°C 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 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
	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.	✓		
▪ 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.	✓		
▪ 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				
<ul style="list-style-type: none"> ▪ 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 transportation. 				
Waste Management				
Marine Dredged Sediment				
<ul style="list-style-type: none"> • 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 750m³ 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				
<ul style="list-style-type: none"> • 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 				



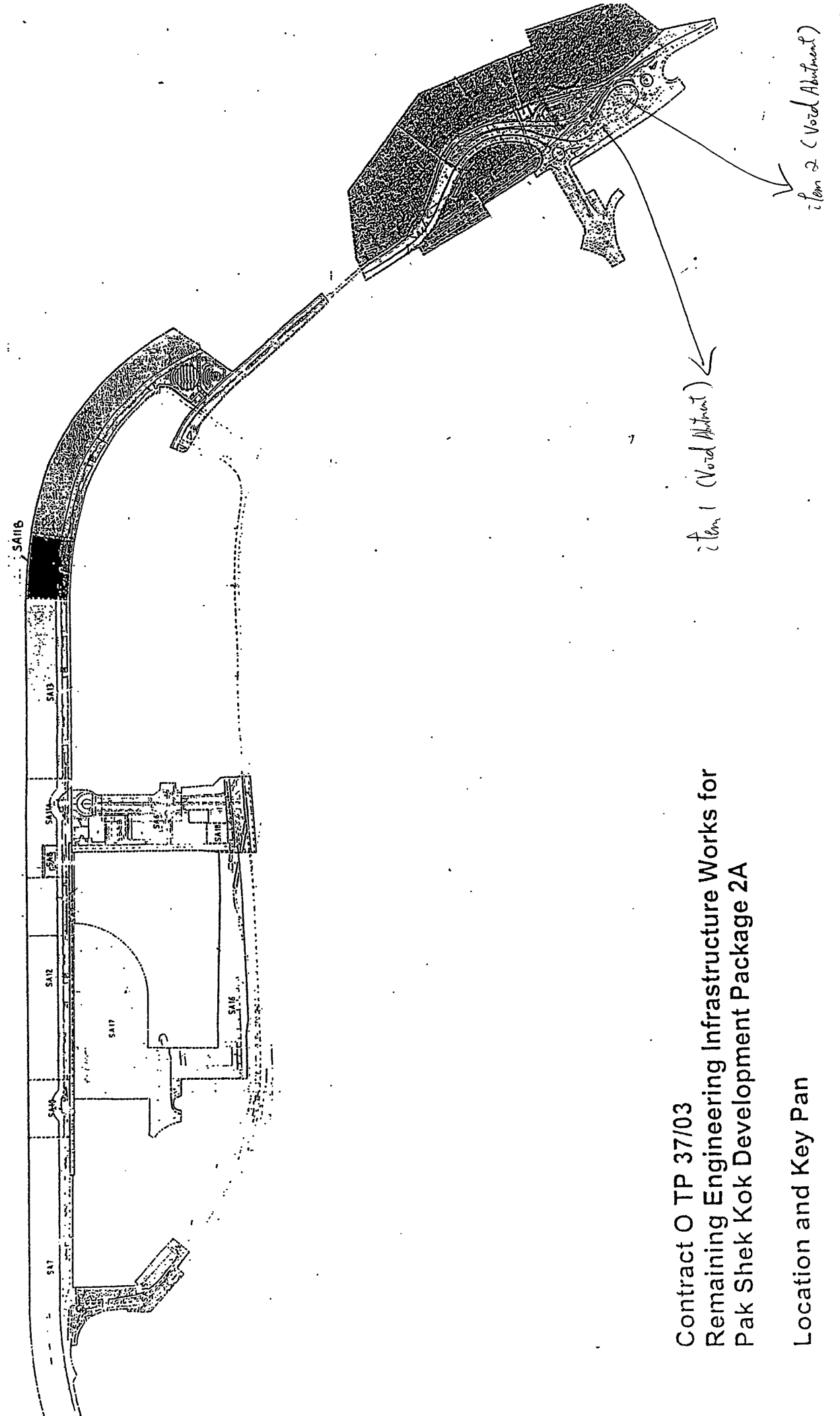
SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	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

	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.	✓			1/20/2
• 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 O TP 37/03
 Remaining Engineering Infrastructure Works for
 Pak Shek Kok Development Package 2A

Location and Key Plan



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 : 19 January 2008 Inspected by Name : (RSS) Brian Cheng (LWKJM) Wai Lok Chan (ET) H. T. Chow
 Time : 10:30 Signature : *[Signature]*

Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 17°C
 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 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
	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.	✓		
▪ 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.	✓		
▪ 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					
<ul style="list-style-type: none"> ▪ 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					
<ul style="list-style-type: none"> • 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 750m³ 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					
<ul style="list-style-type: none"> • 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 	✓	✓	✓	✓	



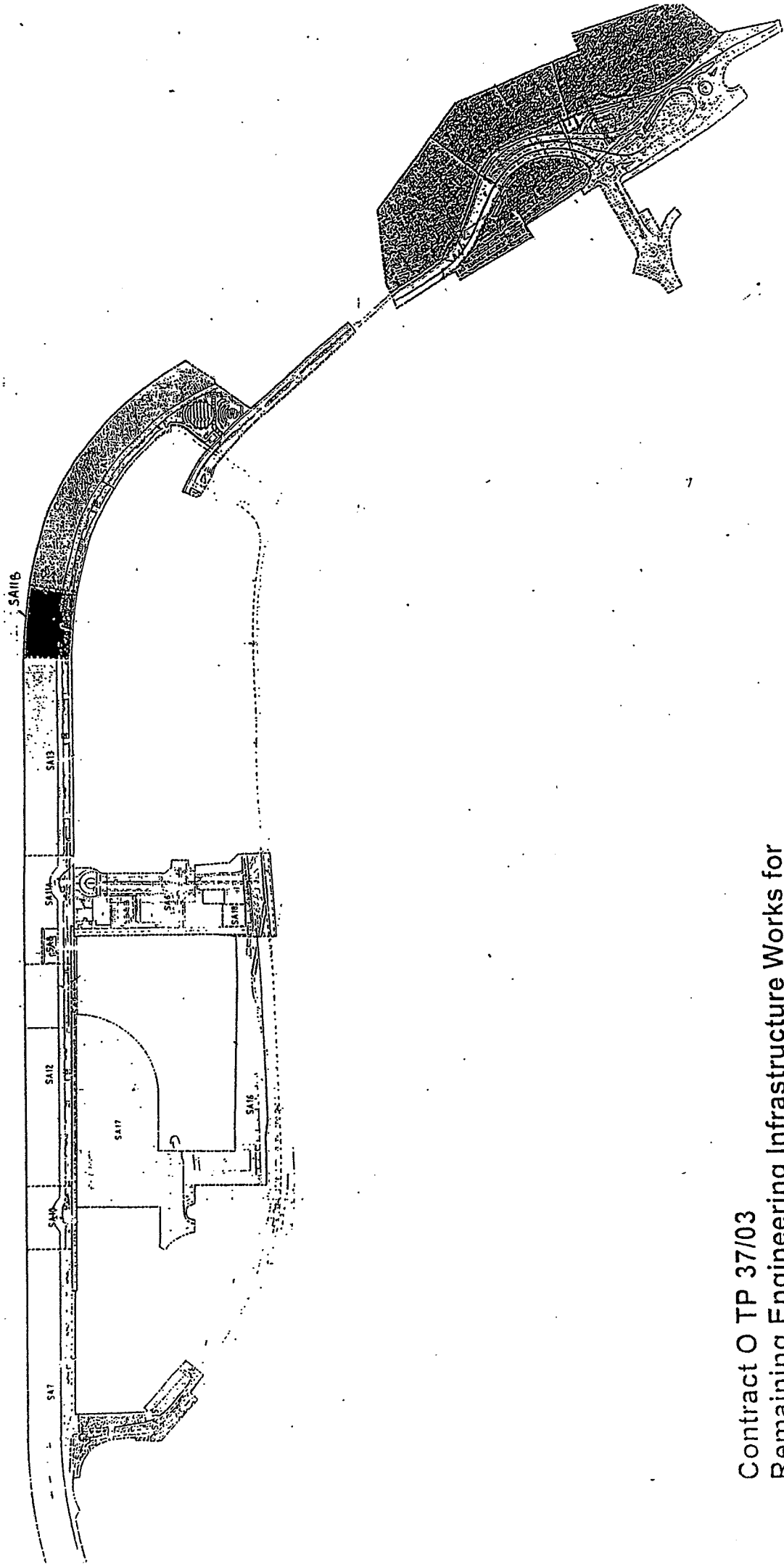
SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	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.	✓			



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

Location and Key Plan



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 : 25/01/2008 Inspected by Name : (RSS) Brian Cheng (LWKJM) Wilson Chan (ET) Linda Lam
 Time : 14:00 Signature : *[Signature]* *[Signature]* *[Signature]*

Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 12°C
 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.	<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.	/			
• 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.	/			7 Dec 0
• 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			
<ul style="list-style-type: none"> ▪ 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			
<ul style="list-style-type: none"> • 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 750m³ 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			
<ul style="list-style-type: none"> • 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 	/	/	/



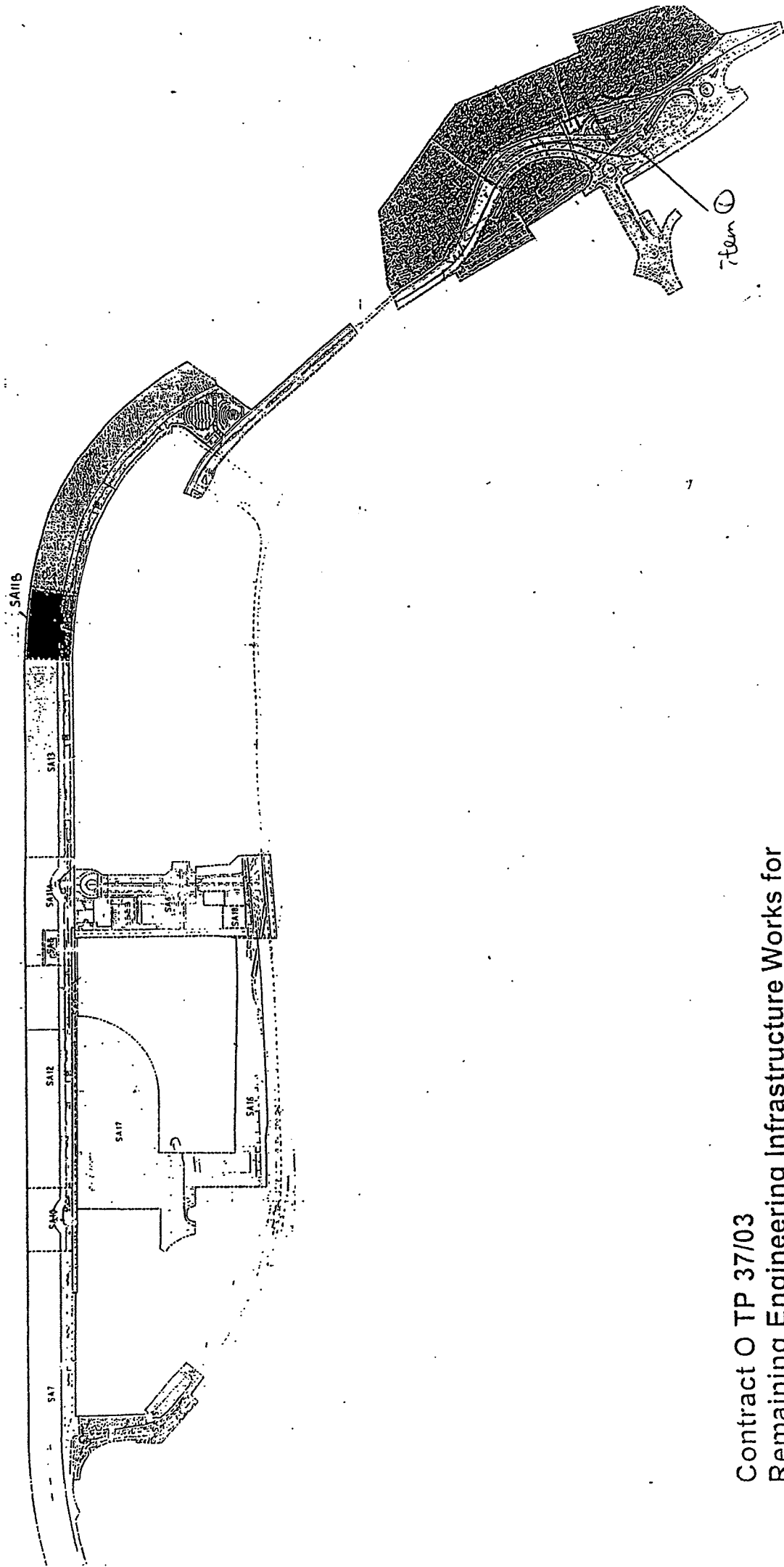
SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Mitigation Measures on Waste Management			Implementation Stages*	Remark
	Yes	No	N/A		
<ul style="list-style-type: none"> • Proper storage will minimize the damage and thus the wastage of the materials 	/				
<ul style="list-style-type: none"> • 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. 	/				
<ul style="list-style-type: none"> • Chemical Waste 					
<ul style="list-style-type: none"> • 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. 	/				
<ul style="list-style-type: none"> • 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. 	/				
<ul style="list-style-type: none"> • 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. 	/				
<ul style="list-style-type: none"> • Containers used for the storage of chemical wastes 					
<ul style="list-style-type: none"> • Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed 	/				
<ul style="list-style-type: none"> • Have a capacity of less than 450L unless the specification have been approved by the EPD 	/				
<ul style="list-style-type: none"> • 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 	/				
<ul style="list-style-type: none"> • Labelling 					
<ul style="list-style-type: none"> • Every container of chemical waste would bear an appropriate label, which would contain the particulars details. 	/				
<ul style="list-style-type: none"> • 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 	/				
<ul style="list-style-type: none"> • Storage Area 					
<ul style="list-style-type: none"> • Be clearly labeled and used solely for the storage of chemical waste 	/				
<ul style="list-style-type: none"> • Be enclosed on at least 3 sides 	/				
<ul style="list-style-type: none"> • 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 	/				
<ul style="list-style-type: none"> • Have adequate ventilation 	/				
<ul style="list-style-type: none"> • Be covered to prevent rainfall entering 	/				
<ul style="list-style-type: none"> • Be arranged so that incompatible materials are adequately separated 	/				
<ul style="list-style-type: none"> • Be clean and maintain regularly 	/				
<ul style="list-style-type: none"> • Disposal 					
<ul style="list-style-type: none"> • Be via a licensed waste collector 	/				
<ul style="list-style-type: none"> • To a licensed disposal facility, such as Chemical Waste Treatment Centre 	/				
<ul style="list-style-type: none"> • 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 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 O TP 37/03
 Remaining Engineering Infrastructure Works for
 Pak Shek Kok Development Package 2A

Location and Key Plan



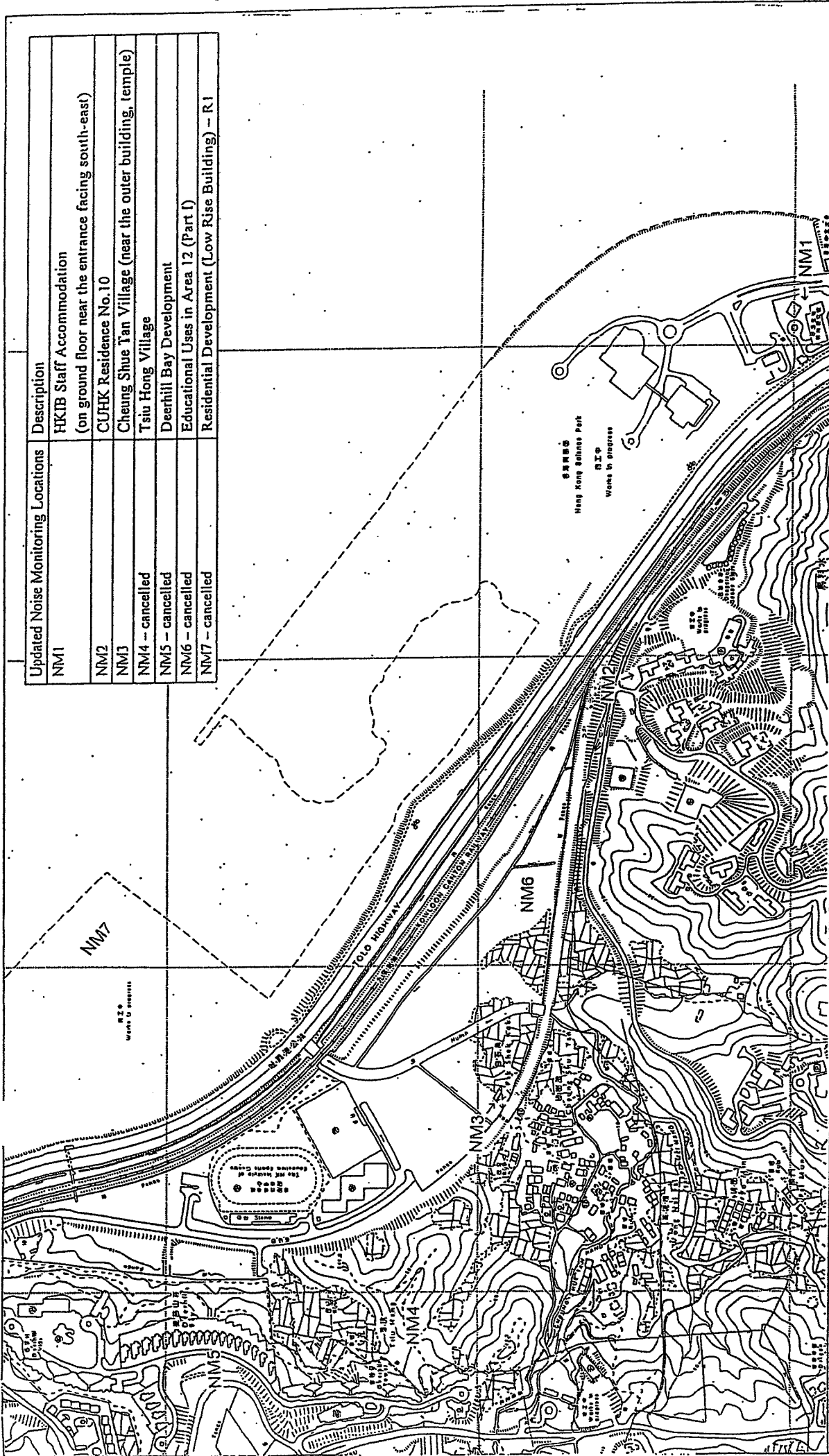
Appendix I
IEC and RE Comments on Monthly EM&A Report
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December 2007

IEC and RE Comments on Monthly Environmental Monitoring and Audit Report – December 2007

Item No.	Document Reference	Comment	ET Response
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Figures



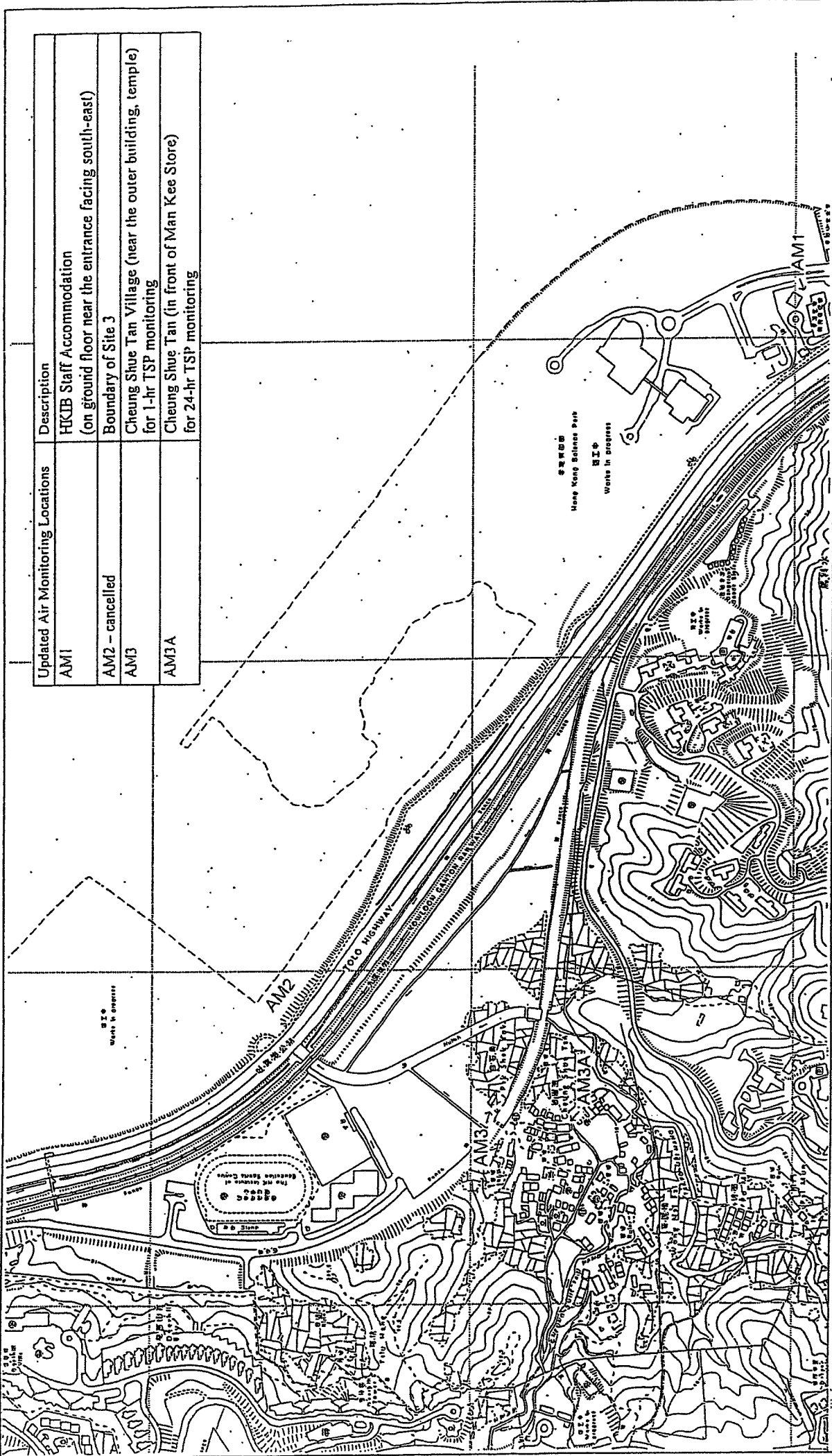
Updated Noise Monitoring Locations	Description
NM1	HKIB Staff Accommodation (on ground floor near the entrance facing south-east)
NM2	CURK Residence No.10
NM3	Cheung Shue Tan Village (near the outer building, temple)
NM4 - cancelled	Tsui Hong Village
NM5 - cancelled	Deerhill Bay Development
NM6 - cancelled	Educational Uses in Area 12 (Part I)
NM7 - cancelled	Residential Development (Low Rise Building) - R1

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

Scale : ---
 Revised Date: June 2004



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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

Scale : ---

Revised Date:

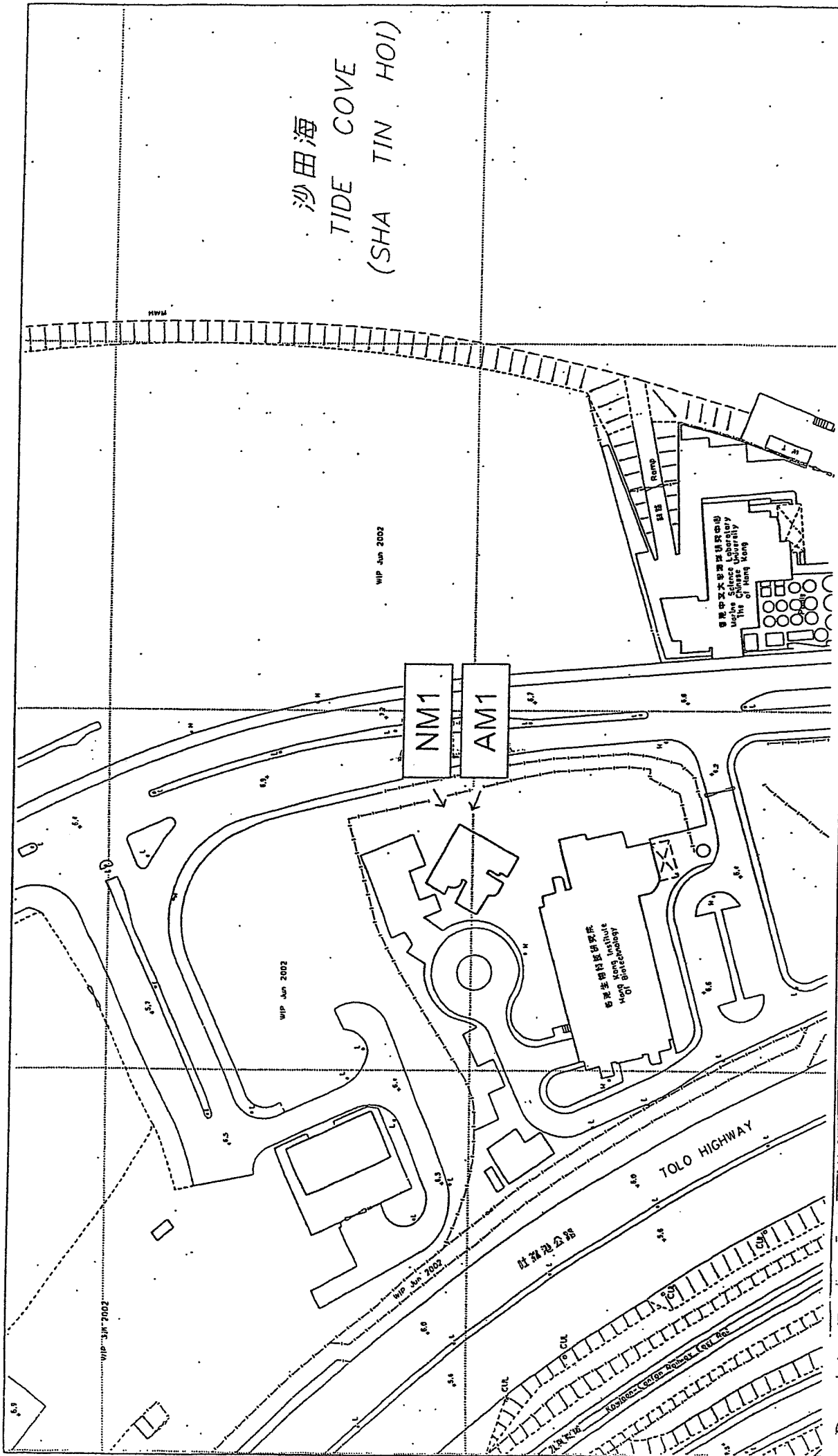
June 2004



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

Figure 2 Location of Air Monitoring Stations



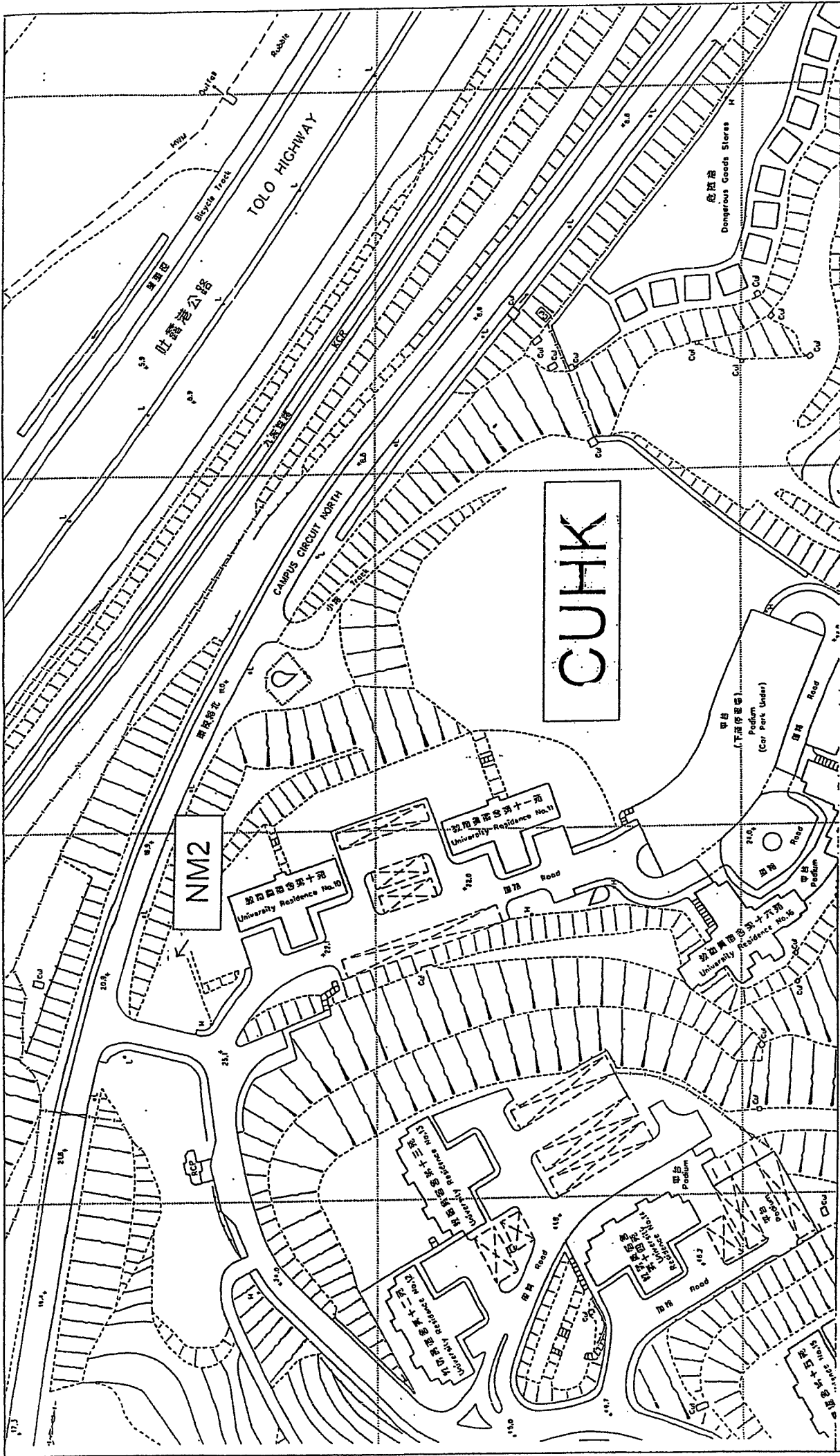
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Scale : ---

Revised Date:

June 2004

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



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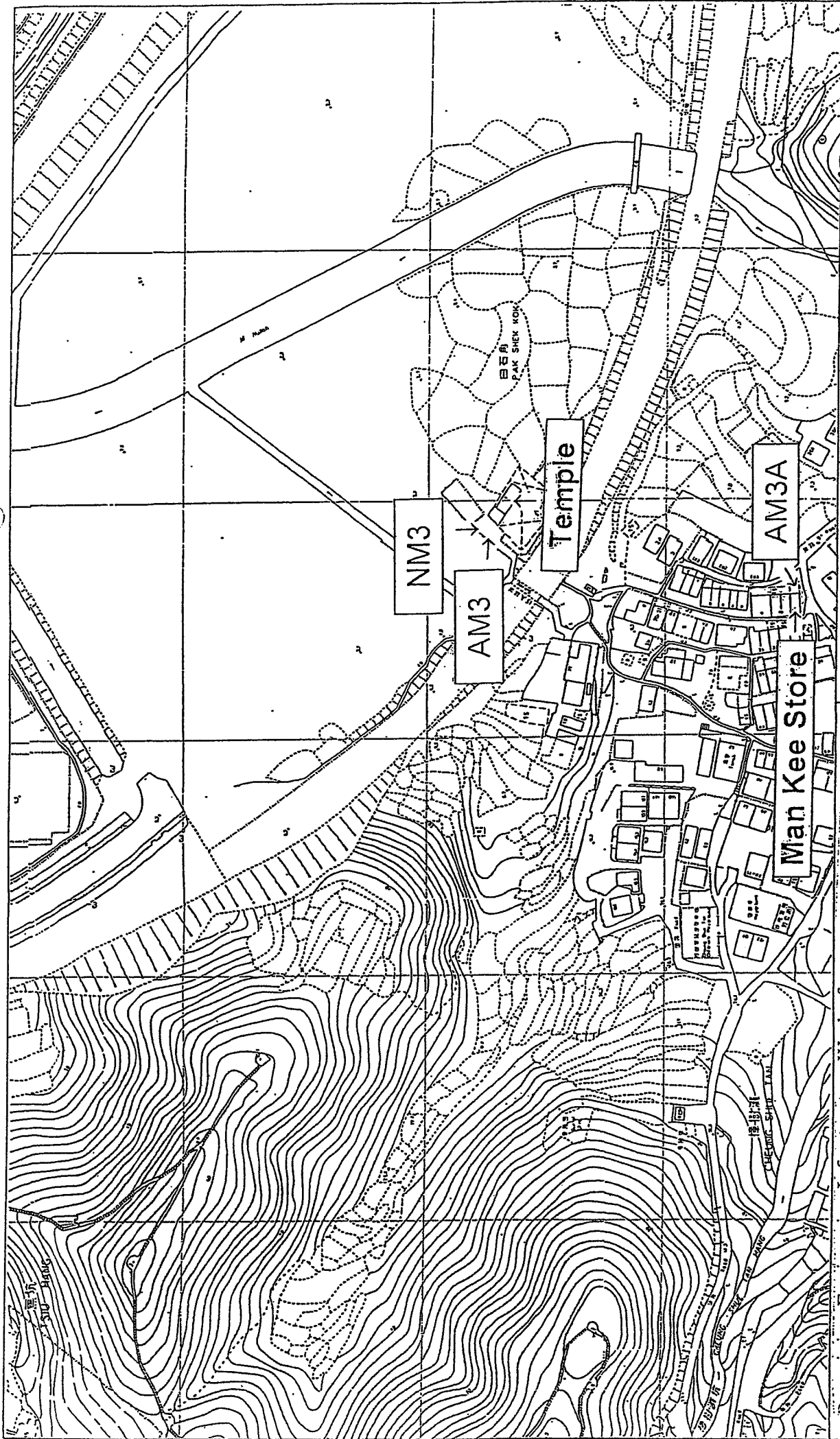
Remaining Engineering Infrastructure Works for
 Pak Shek Kok Development Package 2A
 Contract No. TP 37/03

Figure 4 Location of Noise Monitoring Station at CUHK Residence No.10



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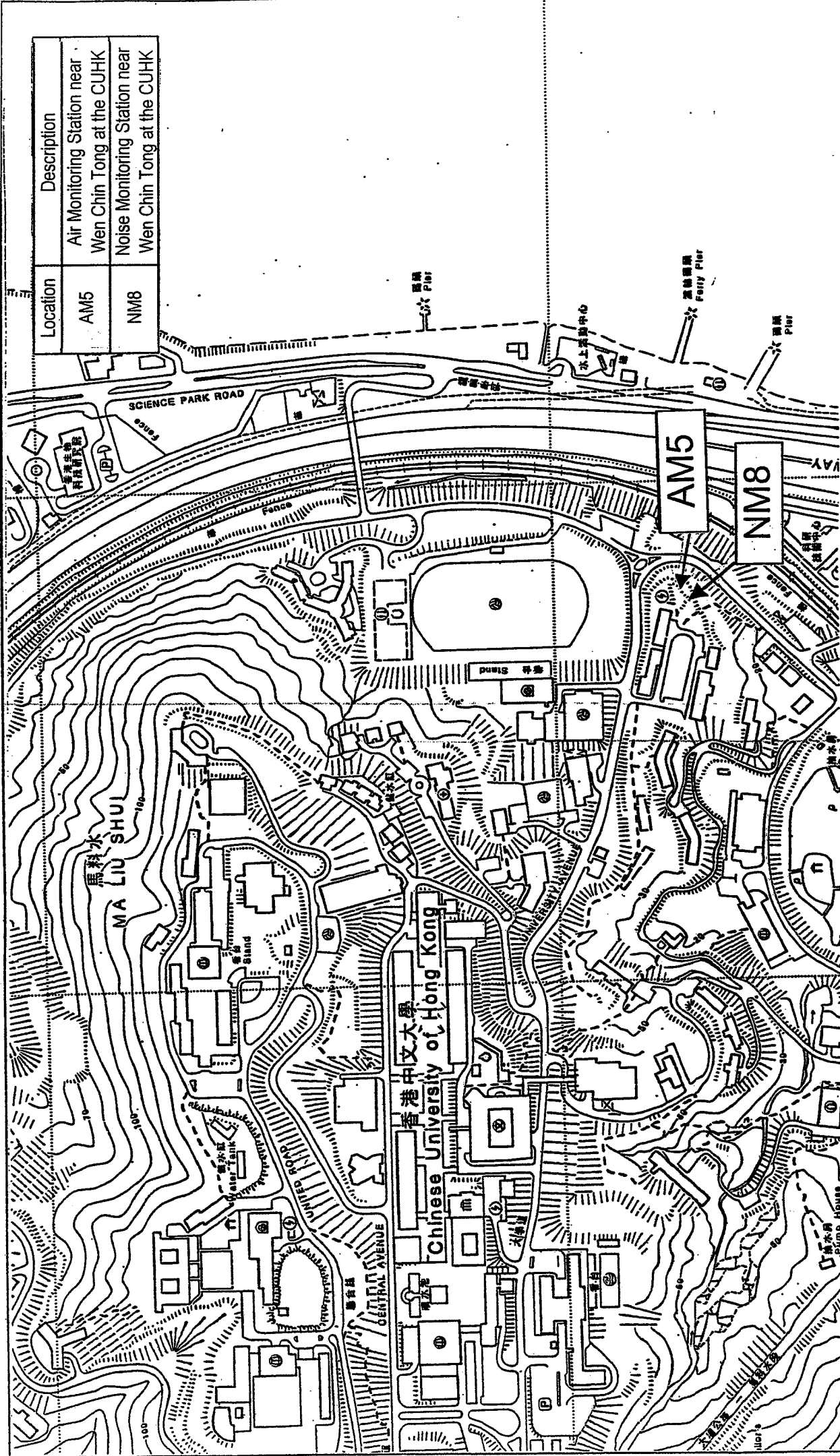
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June 2004

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

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



Scale : ---

Remaining Engineering Infrastructure Works for Pak Shek Kok Development

Package 2A Contract No. TP 37/03

Revised Date :
October 2004

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



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