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TEST REPORT

LEADER - WAI KEE (C&T) JOINT VENTURE

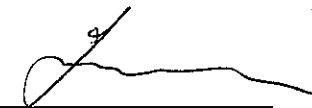
**REMAINING ENGINEERING
INFRASTRUCTURE WORKS FOR
PAK SHEK KOK DEVELOPMENT
PACKAGE 2A
(CONTRACT NO.: TP 37/03)
MONTHLY EM&A REPORT
(JANUARY 2006)**

Prepared by:



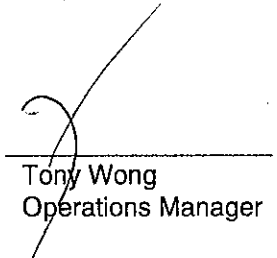
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EXECUTIVE SUMMARY

This monthly EM&A report (No.9) 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 2006.

Construction Progress

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

- Drainage works (Excavation, pipe laying and breaking) at Section 2 (Ma Liu Shui), 5 (Road L4), 6 (the proposed cycle track), 7 and 8 (Promenade) of the Works
- Installation of precast concrete planter units at Section 7 & 8 (Promenade) of the Works
- Installation of watermain at Section 5 (Road L4) of the Works
- Road works at Section 5 (Road L4) and 6 (the proposed cycle track) of the Works
- Construction of granite stone facing with concrete backing at the proposed return wall of the Public Landing Steps
- Piling works at the Pier of the proposed Ma Liu Shui Bridge (Alternative Design)
- Existing Box Culvert reinstatement and installation of the precast units for the proposed Outfall 1 at Landscape Node P1
- Preparation of base for reinstatement of existing twin pipe culvert at proposed Landscape Node P2
- Placing levelling stone and seawall block at the proposed Landscape Node P3
- Construction of Kerb planter wall and feature wall at the proposed Public Plaza at Section 7 of the Works

Environmental Monitoring Progress

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

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

Noise Monitoring

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

Air Monitoring

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

Wastewater Monitoring

No wastewater quality monitoring was carried out in this reporting month since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and the current wastewater monitoring was carried out at Ma Liu Shui Pier 1 on 11 November 2005. The next wastewater monitoring should be at February 2006.

Site Inspection

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

<u>Concerned Parties</u>	<u>Dates of Audit / Inspection</u>
Weekly site inspection (ET)	07, 12, 19, 26
Monthly site inspection (IEC/LWKJV/RE)	26

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

<u>Item</u>	<u>Aspects</u>	<u>Findings</u>	<u>Action(s) taken by LWKJV</u>	<u>ET Verification</u>
1	Air	Dust generation was observed at SA 14 during weekly site inspection (07/01/06)	LWKJV replied to provide water spraying facilities to avoid dust generation.	During the subsequent weekly site inspection (12/01/06), water spraying was observed and no dust generation was noted. Hence, no further action was required.
2	Air	Dust was generated from the dumping works at Barging Area of Ma Liu Shui during weekly site inspection (12/01/06).	LWKJV replied to provide water spraying facilities to avoid dust generation.	During the subsequent weekly site inspection (19/01/06), water spraying was observed during dumping works and no dust generation was noted. Hence, no further action was required.



Item	Aspects	Findings	Action(s) taken by LWKJV	ET Verification
3	Air	Stockpiles of filling materials were found without covered during weekly site inspection (26/01/06).	LWKJV was reminded to cover all stockpiles to avoid dust generation especially during dry seasons and site holidays.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
4	Water	Silt curtain at Node 2 and Node 3 were found damaged during weekly site inspections (07/01/06, 12/01/06 and 19/01/06).	LWKJV replied to repair the silt curtain as soon as possible.	During the subsequent weekly site inspection (26/01/06), silt curtain at Node 2 was found repairing but silt curtain at Node 3 was still found damaged. Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
5	Noise	The door of air compressor at Node 2 was found opened when operating during weekly site inspection on 07/01/06.	LWKJV replied to close the door of the air compressor especially during operation.	During the subsequent weekly site inspection (12/01/06), the finding was not observed and hence no further action was required.
6	Site Practice	No Environmental Permit was displaced at the site entrance of SA 1 during weekly site inspection on 07/01/06.	LWKJV replied to post the Environmental Permit immediately.	During the subsequent weekly site inspection (12/01/06), Environmental Permit was noted at the site entrance at SA 1 and hence no further action 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. 6040m³ inert C&D materials, 5kg metals, 50kg paper/cardboard packaging and 16500kg general refuse were generated. All inert C&D materials were reused in the Contract and other wastes were handling under the instruction and procedure stated in the WMP in this reporting month.

Environmental Complaints

No environmental complaints were received in this monitoring month.

Notification of summons and successful prosecutions

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

Future Key Issues

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

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



1.0 INTRODUCTION

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

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

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

This monthly EM&A report summarizes the impact monitoring results and audit findings of the EM&A program during the reporting period from 01 to 31 January 2006.

2.0 PROJECT INFORMATION

2.1 Background

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

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

2.2 Site Description

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

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

2.3 Construction Programme

Details of construction programme are shown in Appendix F.

2.4 Project Organization and Management Structure

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

2.5 Contact Details of Key Personnel

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



Table 2.1 Contact Details of Key Personnel

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

3.0 CONSTRUCTION PROGRESS IN THIS REPORTING MONTH

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

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

Table 3.1 Major Construction Activities in this reporting month

Major Construction Activity	Location
Drainage Works (Excavation, pipe laying and breaking)	Section 2 (Ma Liu Shui), 5 (Road L4), 6 (the proposed cycle track), 7 and 8 (Promenade) of the Works
Installation of precast concrete planter units	Section 7 & 8 (Promenade) of the Works
Installation of watermain	Section 5 (Road L4) of the Works
Road Works	Section 5 (Road L4) and 6 (the proposed cycle track) of the Works
Construction of granite stone facing with concrete backing	Proposed return wall of the Public Landing Steps
Piling works	Pier of the proposed Ma Liu Shui Bridge (Alternative Design)
Existing Box Culvert reinstatement and installation of the precast units for the proposed Outfall 1	Landscape Node P1
Preparation of base for reinstatement of existing twin pipe culvert	Proposed Landscape Node P2
Placing leveling stone and seawalk block	Proposed Landscape Node P3
Construction of Kerb planter wall and feature wall	Proposed Public Plaza at Section 7 of the Works

Table 3.2 Implementation of Environmental Mitigation Measures

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

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

4.3 Monitoring Parameters, Frequency and Duration

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

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

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

4.4 Monitoring Locations and Schedule

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

Table 4.3 Air quality monitoring locations

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

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



Table 4.4 Monitoring Schedule for the air quality monitoring stations

Air quality monitoring stations	Location	Monitoring Period						
		24-hr TSP				1-hr TSP		
		Start		Finish		Date	Start	Finish
		Date	Time	Date	Time			
AM1	HKIB Staff Accommodation	---				03/01/06	08:30	09:30
		---				05/01/06	17:55	18:55
		---				07/01/06	14:00	15:00
		---				10/01/06	08:00	09:00
		---				12/01/06	08:45	09:45
		---				14/01/06	08:00	09:00
		---				17/01/06	10:00	11:00
		---				19/01/06	08:30	09:30
		---				21/01/06	09:00	10:00
		---				24/01/06	09:30	10:30
		---				26/01/06	08:30	09:30
		---				27/01/06	15:30	16:30
		AM3	Cheung Shue Tan Village (Near the outer building, temple)	---				03/01/06
---				05/01/06	08:10	09:10		
---				07/01/06	16:36	17:36		
---				10/01/06	13:00	14:00		
---				12/01/06	14:35	15:35		
---				14/01/06	14:00	15:00		
---				17/01/06	15:10	16:10		
---				19/01/06	11:00	12:00		
---				21/01/06	15:30	16:30		
---				24/01/06	16:00	17:00		
---				26/01/06	13:00	14:00		
---				27/01/06	16:40	17:40		
AM5	Near Wen Chih Tang at the CUHK			---				03/01/06
		---				05/01/06	13:10	14:10
		---				07/01/06	15:20	16:20
		---				10/01/06	16:30	17:30
		---				12/01/06	13:08	14:08
		---				14/01/06	15:15	16:15
		---				17/01/06	17:00	18:00
		---				19/01/06	16:20	17:20
		---				21/01/06	14:00	15:00
		---				24/01/06	14:30	15:30
		---				26/01/06	09:45	10:45
		---				27/01/06	17:46	18:46
		AM1	HKIB Staff Accommodation	04/01/06	09:50	05/01/06	09:52	---
10/01/06	08:04			11/01/06	08:08	---		
16/01/06	16:24			17/01/06	16:20	---		
21/01/06	09:05			22/01/06	08:44	---		
27/01/06	15:35			28/01/06	15:12	---		
AM3A	Cheung Shue Tan (in front of Man Kee Store)	04/01/06	09:20	05/01/06	09:43	---		
		10/01/06	13:04	11/01/06	13:41	---		
		16/01/06	16:45	17/01/06	17:16	---		
		21/01/06	15:35	22/01/06	15:36	---		
		27/01/06	16:45	28/01/06	17:29	---		
AM5	Near Wen Chih Tang at the CUHK	04/01/06	09:38	05/01/06	09:43	---		
		10/01/06	16:34	11/01/06	16:48	---		
		16/01/06	16:32	17/01/06	16:42	---		
		21/01/06	14:05	22/01/06	14:17	---		
		27/01/06	17:48	28/01/06	18:00	---		

4.5 Monitoring Methodology

4.5.1 24-hour TSP Monitoring

Instrumentation

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

Installation

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

Operation/Analytical Procedures

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

Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6m³/min and 1.7m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

- For TSP sampling, fiberglass filters (GA-55) were used.
- The power supply was checked to ensure the sampler worked properly.
- On sampling, the sampler was operated 5 minutes to establish thermal equilibrium before placing any filter media at designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holder frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The programmable timer will be set for a sampling period of 24 hours. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number.).
- After sampling, the filter was transferred from the filter holder of the HVS to a sealed plastic bag and sent to the laboratory for weighting. The elapsed time was also recorded.
- Before weighting, all filters were equilibrated in a desiccator for 24 hour with the temperature of 25°C ± 3°C and the relative humidity (RH) <50% ±5%.

Maintenance & Calibration

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

4.5.2 1-hour TSP Monitoring

Measuring Procedures

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

- Set POWER to ON, check the battery indicator to ensure whether the power supply is enough to conduct the TSP monitoring;
- Calibrate the dust meter by zero check;
- Set the TIME CONSTANT of the dust meter;
- Press SAMPLE to start the TSP monitoring;



- Record the maximum, minimum and average reading directly from the dust meter by press STATISTICS when monitoring complete.

Maintenance & Calibration

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

4.5.3 Wind Data Monitoring

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

4.6 Action and Limit Levels

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

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

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

- * = Reference to the information contained in the Baseline Monitoring Report submitted under the "Advance Engineering Infrastructure Works for Pak Shek Kok Development – Southern Access Road and Sewage Pumping Station No.3.
** = Reference to the information contained in the Baseline Monitoring Report submitted under the "Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1 – Contract No. TP 35/02.

4.7 Event-Action Plans

Please refer to Appendix E for details.

4.8 Results

4.8.1 24-hour TSP Monitoring

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

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

4.8.2 1-hour TSP Monitoring

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

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



5.0 Noise Monitoring

5.1 Monitoring Requirements

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

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

5.2 Monitoring Equipment

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

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

Table 5.1 Noise Monitoring Equipment

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

5.3 Monitoring Parameters, duration and Frequency

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

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

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

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

Table 5.2 Duration, Frequencies and Parameters of Noise Monitoring

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

5.4 Monitoring Locations and Period

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



Table 5.3 Noise Monitoring Locations

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

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

Table 5.4 Monitoring Periods for noise monitoring stations

Monitoring stations	Monitoring Period							
	Day-time		Evening-time		Holiday		Night-time	
NM1	03/01/06	08:35	---	---	---	---	---	---
	10/01/06	08:02	---	---	---	---	---	---
	17/01/06	10:05	---	---	---	---	---	---
	24/01/06	09:35	---	---	---	---	---	---
NM2	03/01/06	16:35	---	---	---	---	---	---
	10/01/06	17:45	---	---	---	---	---	---
	17/01/06	11:20	---	---	---	---	---	---
	24/01/06	11:30	---	---	---	---	---	---
NM3	03/01/06	13:05	---	---	---	---	---	---
	10/01/06	13:02	---	---	---	---	---	---
	17/01/06	15:20	---	---	---	---	---	---
	24/01/06	16:10	---	---	---	---	---	---
NM8	03/01/06	11:05	---	---	---	---	---	---
	10/01/06	16:32	---	---	---	---	---	---
	17/01/06	17:30	---	---	---	---	---	---
	24/01/06	14:35	---	---	---	---	---	---

5.5 Monitoring Procedures and Calibration Details

Operation/Analysis Procedures

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

Maintenance and Calibration

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



5.6 Action and Limit Levels

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

Table 5.5 Action and Limit Levels for noise monitoring

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

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

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

5.7 Event-Action Plans

Please refer to the Appendix E for details.

5.8 Results

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

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

6.0 WASTEWATER MONITORING

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

Water quality monitoring was carried out at Ma Liu Shui Pier 1 at 11 November 2005. One wastewater sample was collected from the discharge point during the monitoring. The result of suspended solids content of the wastewater sample was complied the discharge limit of the Discharge Licence. The test report was attached at Appendix I. The test report had been submitted to the EPD at 28 November 2005 (Ref No.: J0402/03.09/05/6230L).

Since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly, no wastewater monitoring was carried out in this reporting month and the next wastewater monitoring should be at February 2006.

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 quality monitoring was carried out in this reporting month since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point



quarterly and the current wastewater monitoring was carried out at Ma Liu Shui Pier 1 on 11 November 2005. The next wastewater monitoring should be at February 2006.

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 (07, 12, 19 and 26 January 2006). Monthly joint site inspection at 26 January 2006 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	Air	Dust generation was observed at SA 14 during weekly site inspection (07/01/06)	LWKJV replied to provide water spraying facilities to avoid dust generation.	During the subsequent weekly site inspection (12/01/06), water spraying was observed and no dust generation was noted. Hence, no further action was required.
2	Air	Dust was generated from the dumping works at Barging Area of Ma Liu Shui during weekly site inspection (12/01/06).	LWKJV replied to provide water spraying facilities to avoid dust generation.	During the subsequent weekly site inspection (19/01/06), water spraying was observed during dumping works and no dust generation was noted. Hence, no further action was required.
3	Air	Stockpiles of filling materials were found without covered during weekly site inspection (26/01/06).	LWKJV was reminded to cover all stockpiles to avoid dust generation especially during dry seasons and site holidays.	Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
4	Water	Silt curtain at Node 2 and Node 3 were found damaged during weekly site inspections (07/01/06, 12/01/06 and 19/01/06).	LWKJV replied to repair the silt curtain as soon as possible.	During the subsequent weekly site inspection (26/01/06), silt curtain at Node 2 was found repairing but silt curtain at Node 3 was still found damaged. Since the finding was noted during the last inspection of this reporting month, it will be verified during the first weekly site inspection of the coming month.
5	Noise	The door of air compressor at Node 2 was found opened when operating during weekly site inspection on 07/01/06.	LWKJV replied to close the door of the air compressor especially during operation.	During the subsequent weekly site inspection (12/01/06), the finding was not observed and hence no further action was required.
6	Site Practice	No Environmental Permit was displaced at the site entrance at SA 1 during weekly site inspection on 07/01/06.	LWKJV replied to post the Environmental Permit immediately.	During the subsequent weekly site inspection (12/01/06), Environmental Permit was noted at the site entrance at SA 1 and hence no further action 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 use of Powered Mechanical Equipment for the Purpose of carrying out Construction Work other than Percussive Piling and/or the carrying out of prescribed Construction Work	GW-RN0565-05	30/11/05	29/05/06	<p><u>Group A</u> One Poker, vibrator, hand-held (CNP170) One Concrete pump, lorry mounted (CNP047) One Concrete lorry mixer (CNP044)</p> <p><u>Group B</u> One Dump Truck (CNP067) One Excavator, tracked (CNP081)</p> <p><u>Group C</u> One Grout Pump One Grout Mixer</p> <p><u>Group D</u> Two Air compressor, with noise emission label & Sound Power Level $\leq 102\text{dB(A)}$ One Piling rig</p> <p><u>Group E</u> One Crane, mobile (diesel) (CNP048)</p>
Construction Noise Permit for the use of Powered Mechanical Equipment for the Purpose of carrying out Construction Work other than Percussive Piling and/or the carrying out of prescribed Construction Work	GW-RN0587-05	12/12/05	11/06/06	<p><u>Group A</u> One Derrick Barge (CNP061) One Excavator, tracked (CNP081) One Tug Boat (CNP221) One Generator, standard (CNP101) Four Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne</p> <p><u>Group B</u> One Derrick Barge (CNP061) One Tug boat (CNP221) One Generator, standard (CNP101)</p>
Construction Noise Permit for the use of Powered Mechanical Equipment for the Purpose of carrying out Construction Piling and/or the carrying out of prescribed Construction Work	GW-RN0566-05	14/12/05	13/06/06	<p><u>Group A</u> One Tug Boat (CNP221)</p> <p><u>Group B</u> Three Derrick Barge (CNP061)</p>
Construction Noise Permit for the Construction Works of the Project at Pak Shek Kok Development Package 2A, Tai Po	GW-RN0265-05	11/07/05	10/01/06	<p><u>Group A</u> One Poker, vibrator, hand-held (CNP170) One Concrete lorry mixer (CNP044) One Excavator, tracked (CNP081)</p> <p><u>Group B</u> One Dump Truck (CNP067) One Excavator, tracked (CNP081)</p> <p><u>Group C</u> One Asphalt Paver (CNP004) One Roller, Vibratory (CNP186) One Road Roller (CNP185)</p>
Construction Noise Permit for the Construction Works of the Project at Pak Shek Kok Development Package 2A, Tai Po	GW-RN0006-06	26/01/06	25/07/06	<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 Dump Truck (CNP067) One Excavator, tracked (CNP081)</p> <p><u>Group C</u> One Asphalt Paver (CNP004) One Roller, Vibratory (CNP186) One Road Roller (CNP185) One Dump Truck (CNP067)</p> <p><u>Group D</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	06/12/04	05/12/09	Discharge of trade Effluent, surface run-off and all other wastewater arising from the construction site and sedimentation tank to Coastal water or communal drain for the carriage of surface drainage water.
Wastewater Discharge License	3246 – Part B	06/12/04	05/12/09	Discharge of trade Effluent, surface run-off and all other wastewater arising from the construction site and on-site aerobic waste water treatment system to soak-away pit.

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

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

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

9.0 WASTE MANAGEMENT

9.1 Waste Management Audit

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

9.2 Records of Waste Quantities

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

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

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

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

Type of Waste		Quantity	Disposal Location	Cumulative Quantity
Inert C&D Materials	Total Quantity Generated (m ³)	6040	Reused in the Contract	93675
	Broken Concrete (m ³)	40	N/A	745
	Reused in the Contract (m ³)	6000	N/A	93000
	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)	0.005	N/A	37.390
	Paper/Cardboard Packaging (1000kg)	0.050	N/A	0.116
	Plastics (1000kg)	0.000	N/A	0.023
	Chemical Waste (1000kg)	0.000	N/A	1.000
	Other, e.g. General Refuse (1000kg)	16.500	SENT	92.790



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 quality monitoring was carried out in this reporting month since the Discharge Licence required carrying out wastewater monitoring at effluent discharge point quarterly and the current wastewater monitoring was carried out at Ma Liu Shui Pier 1 on 11 November 2005. The next wastewater monitoring should be at February 2006.

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 2006	March 2006
Noise Monitoring (Day-time)	02, 07, 14, 21, 28	07, 14, 21, 28
1-hour TSP	02, 04, 07, 09, 11, 14, 16, 18, 21, 23, 25, 28	02, 04, 07, 09, 11, 14, 16, 18, 21, 23, 25, 28, 30
24-hour TSP	02, 08, 14, 20, 25	03, 09, 15, 21, 27
Site Inspection	02, 09, 16, 23	02, 09, 16, 23, 30

12.2 Upcoming construction works schedule in the coming month

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

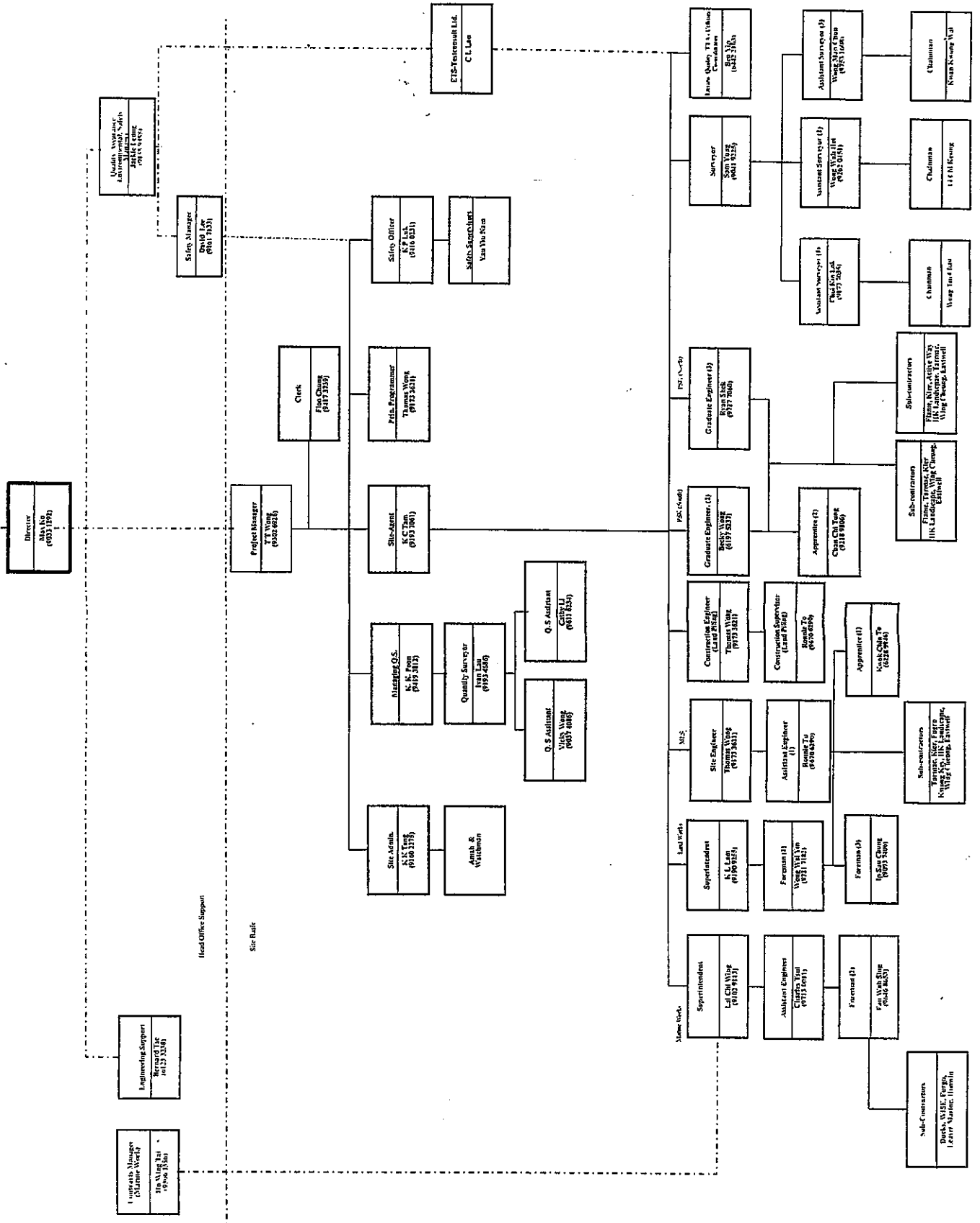
Table 12.2 Construction Plan in the coming month

Month	Works Planned to be Carried Out
Between February and March 2006	<ul style="list-style-type: none"> ▪ Drainage Works (excavation, pipe lying and breaking) at Section 1 and 2 (Ma Liu Shui), 7 and 8 (Promenade) of the Works; ▪ Pile testing and excavation of Voided Abutment of the proposed Ma Liu Shui Bridge (Alternative Design), excavation of Subway and removal of preloading mound of the North Abutment Wall; ▪ Installation of precast concrete planter and parapet wall units along the proposed Promenade; ▪ Utility works at Section 5 of the Works; ▪ Construction of concrete backing at the proposed PLS; ▪ Construction of bus-bay at Section 10 of the Works; ▪ Construction of in-situ Outfall 2 and 3 at the proposed Landscape Node P2; ▪ Construction of parapet wall, kerb planter wall and feature wall at the Public Plaza at Section 7 of the Works; ▪ Roadworks at Section 5 & 6 of the Works.

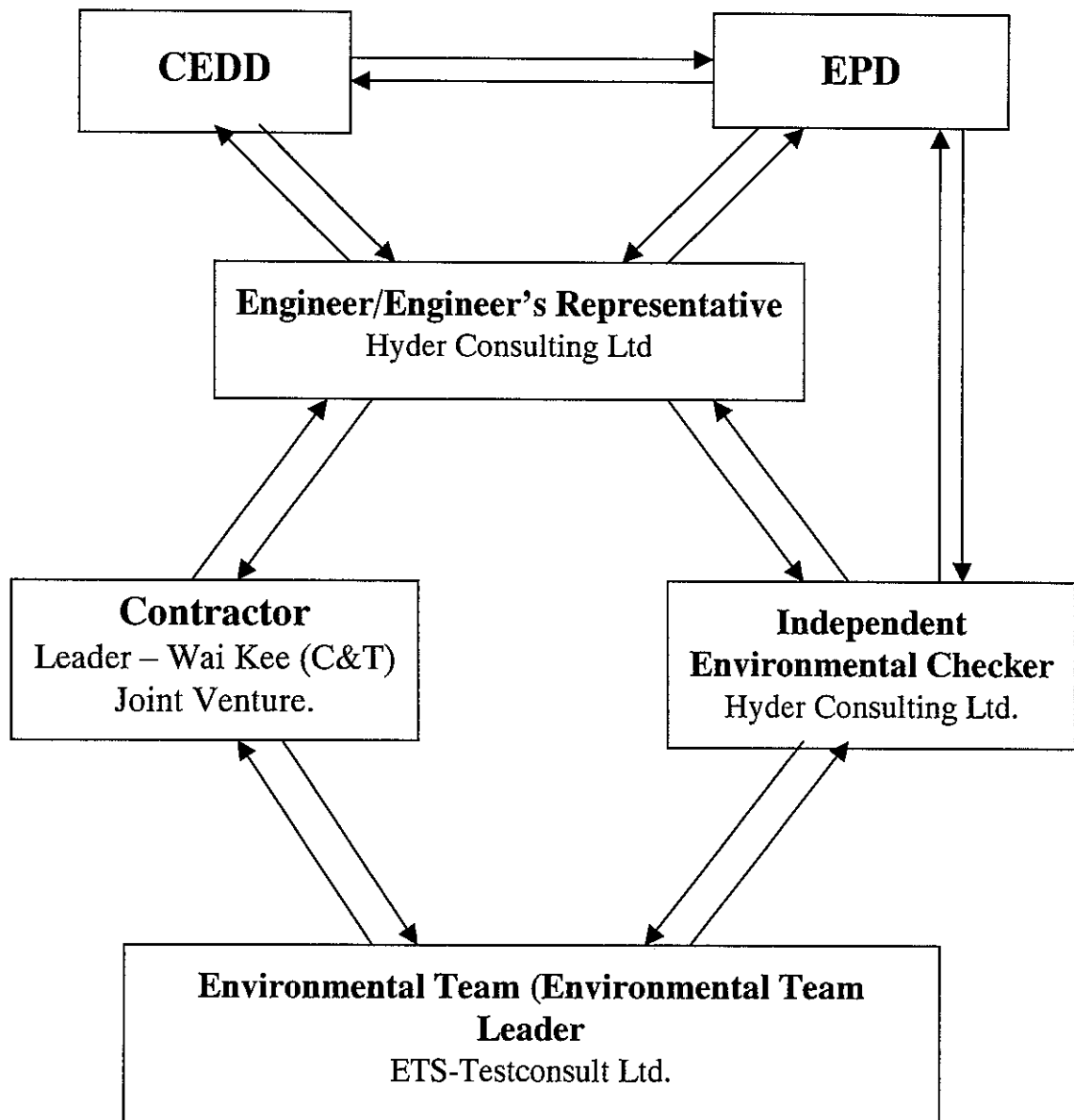


Appendix A

Organization Chart and Lines of Communication



Lines of Communication





Appendix B1

Calibration Certificates for Air Quality Monitoring Equipments



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TEST REPORT

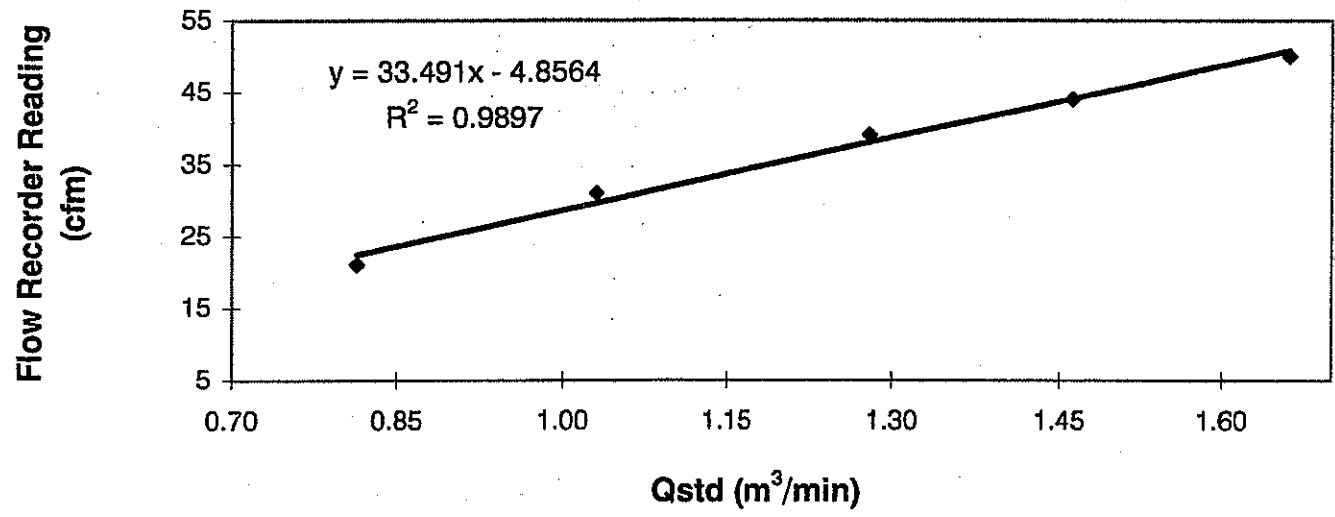
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW **Date of Calibration** : 14 November 2005
Serial No. : 1178 (ET / EA / 003 / 01) **Calibration Due Date** : 13 January 2006
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :

Flow recorder reading (cfm)	50	44	39	31	21
Qstd (Actual flow rate, m ³ /min)	1.66	1.46	1.28	1.03	0.81
Pressure :	759.59 mm Hg			Temp. :	298 K

Sampler 1178 Calibration Curve
Site: Pak Shek Kok (AM1) (24hr.)
Date of Calibration: 14 November 2005



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

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

Calibrated by : Ken Leung
Ken Leung
(Technician)

Approved by : Linda Law
Linda Law
(Environmental Officer)



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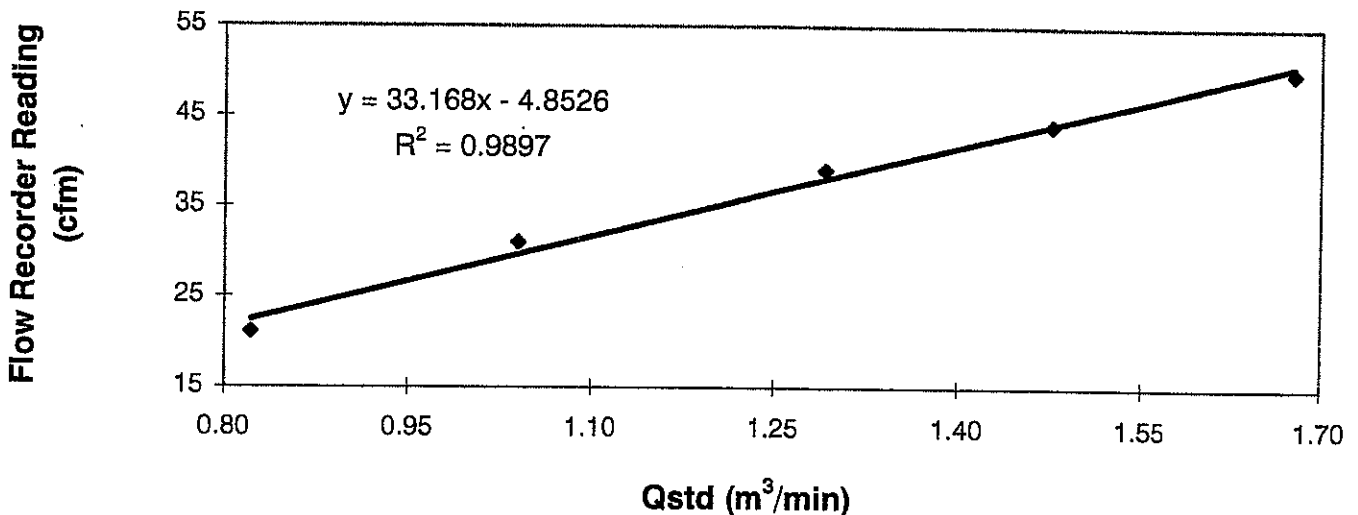
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 16 January 2006
Serial No. : 1178 (ET / EA / 003 / 01) Calibration Due Date : 15 March 2006
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :

Flow recorder reading (cfm)	50	44	39	31	21
Qstd (Actual flow rate, m ³ /min)	1.68	1.48	1.29	1.04	0.82
Pressure :	761.46 mm Hg		Temp. :	293 K	

Sampler 1178 Calibration Curve
Site: Pak Shek Kok (AM1) (24hr.)
Date of Calibration: 16 January 2006



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
H. T. Chow
(Asst. Environmental Officer)

Approved by : Linda Law
Linda Law
(Environmental Officer)



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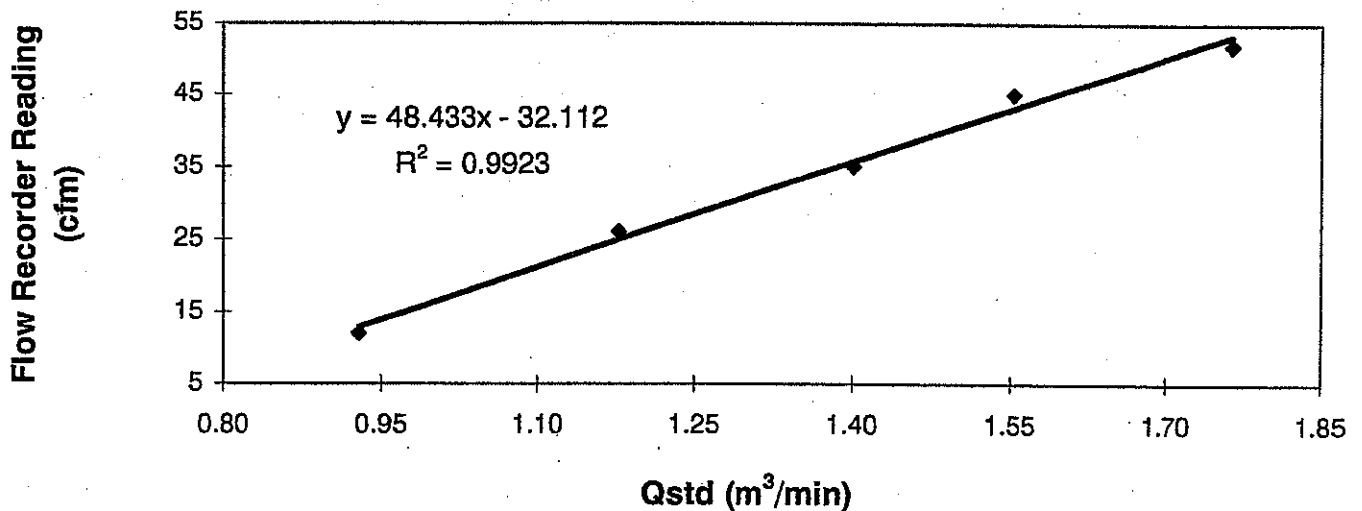
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW **Date of Calibration** : 14 November 2005
Serial No. : 7179 (ET / EA / 003 / 16) **Calibration Due Date** : 13 January 2006
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results

Flow recorder reading (cfm)	52	45	35	26	12
Qstd (Actual flow rate, m ³ /min)	1.76	1.55	1.40	1.18	0.93
Pressure :	759.59 mm Hg			Temp. :	298 K

Sampler 7179 Calibration Curve
Site: Pak Shek Kok (AM3A)
Date of Calibration: 14 November 2005



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

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

Calibrated by : Ken Leung
Ken Leung
(Technician)

Approved by : Linda Law
Linda Law
(Environmental Officer)



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TEST REPORT

Calibration Report

of

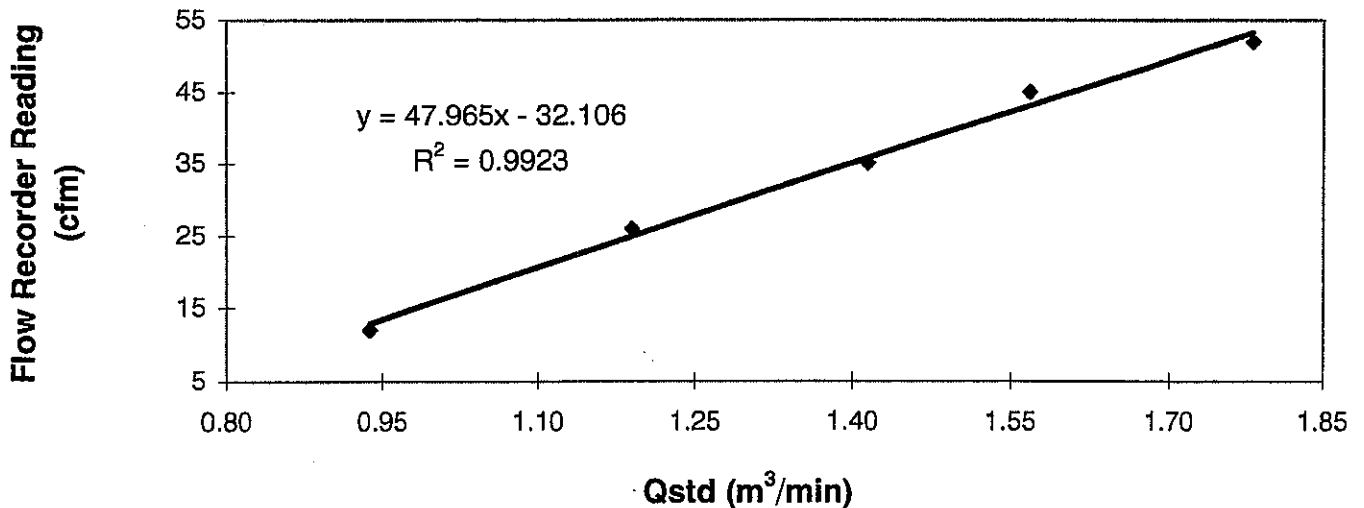
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 16 January 2006
Serial No. : 7179 (ET / EA / 003 / 16) Calibration Due Date : 15 March 2006
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :

Flow recorder reading (cfm)	52	45	35	26	12
Qstd (Actual flow rate, m ³ /min)	1.78	1.57	1.41	1.19	0.94
Pressure :	761.46 mm Hg			Temp. :	293 K

Sampler 7179 Calibration Curve
Site: Pak Shek Kok (AM3A)
Date of Calibration: 16 January 2006



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
(Environmental Officer)



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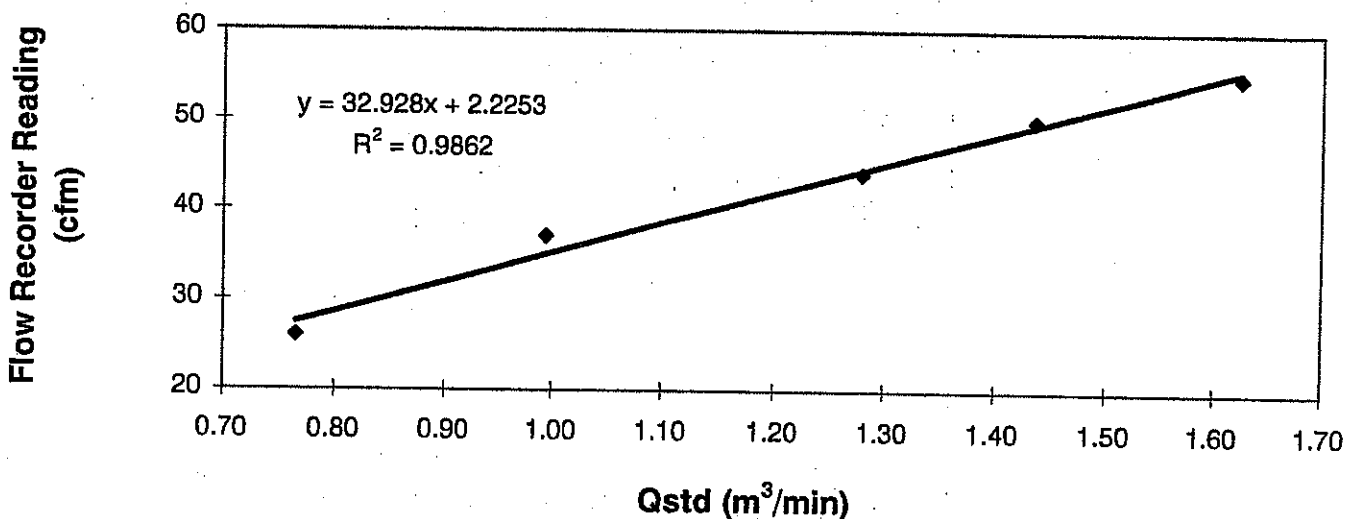
TEST REPORT

Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW Date of Calibration : 14 November 2005
Serial No. : 1172 (ET / EA / 003 / 11) Calibration Due Date : 13 January 2006
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results	Flow recorder reading (cfm)	55	50	44	37	26
	Qstd (Actual flow rate, m ³ /min)	1.62	1.44	1.28	0.99	0.77
	Pressure : 759.59 mm Hg	Temp. : 298 K				

Sampler 1172 Calibration Curve
Site: Pak Shek Kok (AM5)
Date of Calibration: 14 November 2005



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

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

Calibrated by : Ken Leung
(Technician)

Approved by : Linda Law
(Environmental Officer)



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Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

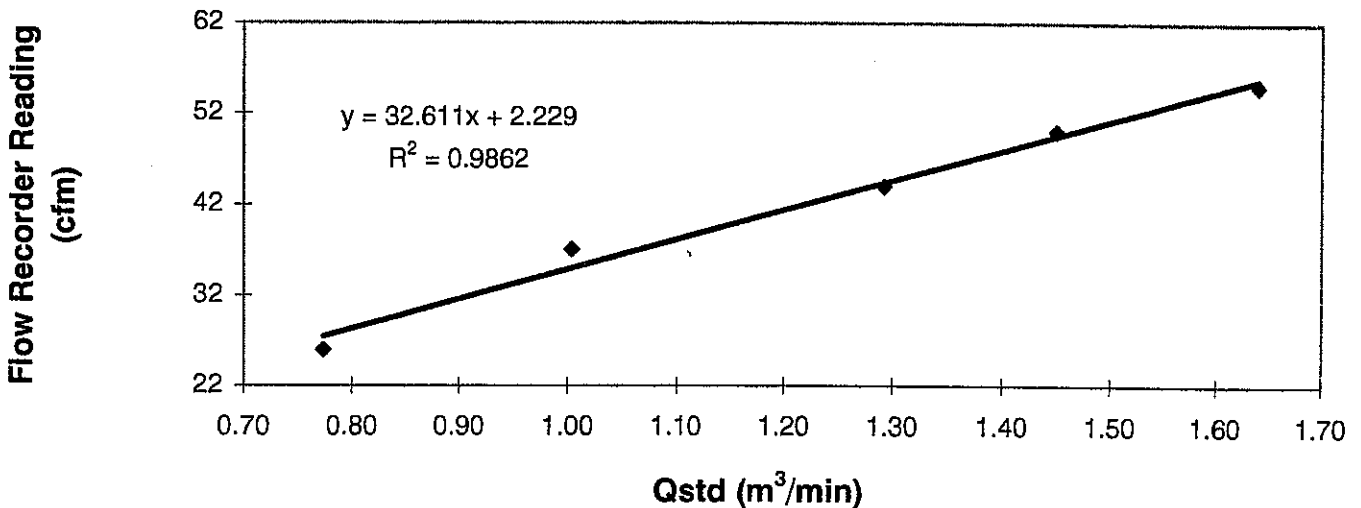
Calibration Report
of
High Volume Air Sampler

Manufacturer : Greasby GMW **Date of Calibration** : 16 January 2006
Serial No. : 1172 (ET / EA / 003 / 11) **Calibration Due Date** : 15 March 2006
Method : Based on Operations Manual for Graseby Model GS2310 series using calibration kit TE-5025A

Results :

Flow recorder reading (cfm)	55	50	44	37	26
Qstd (Actual flow rate, m ³ /min)	1.64	1.45	1.29	1.00	0.77
Pressure :	761.46 mm Hg		Temp. :	293 K	

Sampler 1172 Calibration Curve
Site: Pak Shek Kok (AM5)
Date of Calibration: 16 January 2006



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
(Environmental Officer)



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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

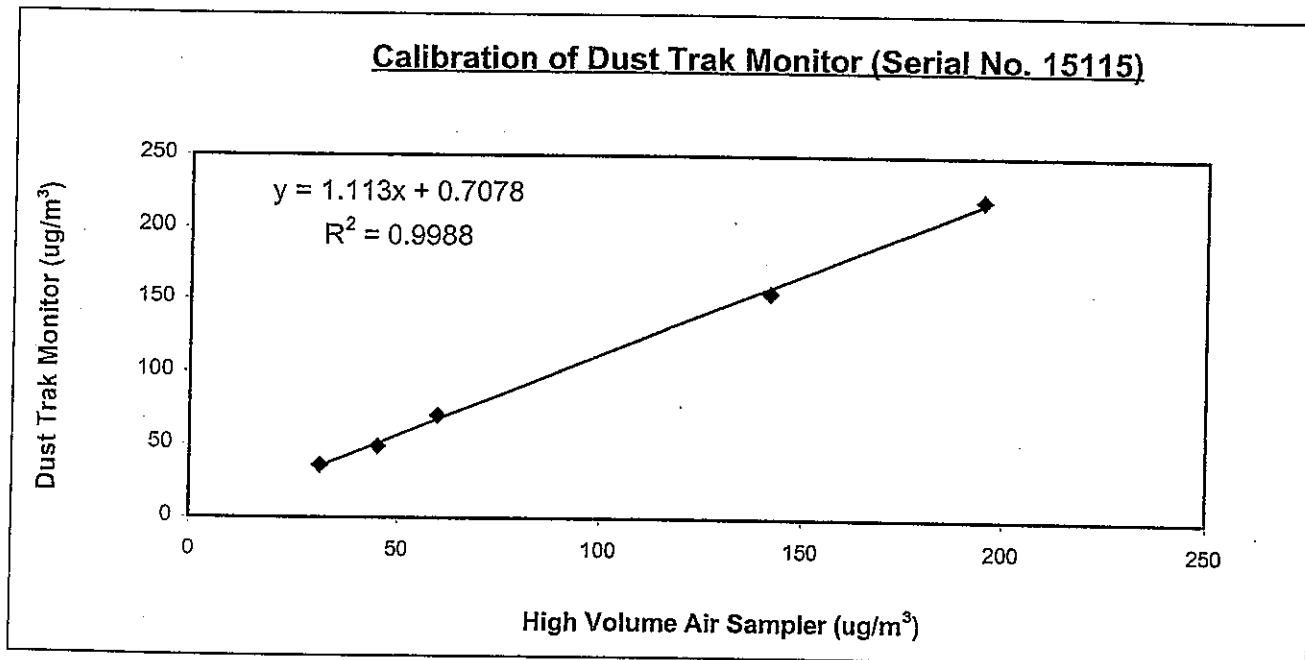
TEST REPORT

Internal Calibration Report
of
Dust Trak Monitor

Manufacturer : TSI - 8520 Dust Trak Date of Calibration : 17 September 2005
Serial No. : 15115 (EA/001/02) Calibration Due Date : 16 March 2006
Method : Place two Dust Trak Monitor together at same environment condition for parallel measurement with five point calibration

Results

Dust Trak Monitor ($\mu\text{g}/\text{m}^3$)	36	49	70	155	220
High Volume Air Sampler ($\mu\text{g}/\text{m}^3$)	31	45	60	142	195
High Volume Air Sampler Serial No.: 1178			Calibration Date: 12 / 11 / 2005		



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

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

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

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



Appendix B2

Air Quality Monitoring Results



Summary of 24-hr TSP Monitoring Results

Monitoring Station : AM1
Location : HKIB Staff Accommodation

Start Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
04/01/06	09:50	05/01/06	09:52	9504.17	9528.20	24.03	1.07	1.07	1.07	2.8333	2.9433	71	Sunny
10/01/06	08:04	11/01/06	08:08	8528.20	8552.27	24.07	1.14	1.14	1.14	2.8284	2.9798	92	Cloudy
16/01/06	16:24	17/01/06	16:20	9552.27	9576.21	23.94	1.08	1.08	1.08	2.8328	2.9440	72	Sunny
21/01/06	09:05	22/01/06	08:44	9576.21	9599.86	23.65	1.17	1.17	1.17	2.8291	2.9735	87	Cloudy
27/01/06	15:35	28/01/06	15:12	9599.86	9623.47	23.61	1.20	1.20	1.20	2.8428	2.9470	61	Sunny

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

Start Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
04/01/06	09:20	05/01/06	09:43	14856.05	14880.43	24.38	1.43	1.43	1.43	2.8395	2.9829	69	Sunny
10/01/06	13:04	11/01/06	13:41	14880.43	14905.04	24.61	1.42	1.42	1.42	2.8143	3.0350	105	Cloudy
16/01/06	16:45	17/01/06	17:16	14905.04	14929.56	24.52	1.42	1.42	1.42	2.8209	2.9726	73	Sunny
21/01/06	15:35	22/01/06	15:36	14929.56	14953.57	24.01	1.40	1.40	1.40	2.8156	2.8682	26	Cloudy
27/01/06	16:45	28/01/06	17:29	14953.57	14978.31	24.74	1.34	1.34	1.34	2.8349	2.9383	52	Sunny

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

Start Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)	Weather Condition
		Date	Time	Initial	Final		Initial	Final		Initial	Final		
04/01/06	09:38	05/01/06	09:43	4888.45	4912.53	24.08	1.33	1.33	1.33	2.8376	2.9667	67	Sunny
10/01/06	16:34	11/01/06	16:48	4912.53	4936.77	24.24	1.10	1.10	1.10	2.8159	2.8650	31	Cloudy
16/01/06	16:32	17/01/06	16:42	4936.77	4960.94	24.17	1.34	1.34	1.34	2.8399	2.9483	56	Sunny
21/01/06	14:05	22/01/06	14:17	4960.94	4985.14	24.20	1.00	1.00	1.00	2.8286	2.8740	31	Cloudy
27/01/06	17:48	28/01/06	18:00	4985.14	5009.34	24.20	0.94	0.94	0.94	2.8219	2.8987	56	Sunny

Summary of 1-hr TSP Monitoring Results

Monitoring Station : AM1 (HKIB Staff Accommodation)

Date	Monitoring Period		1-hr TSP ($\mu\text{g}/\text{m}^3$)			Weather
	Start	Finish	Minimum	Maximum	Average	
03/01/06	08:30	09:30	89	337	117	Sunny
05/01/06	17:55	18:55	84	382	137	Cloudy
07/01/06	14:00	15:00	95	337	113	Cloudy
10/01/06	08:00	09:00	98	382	140	Cloudy
12/01/06	08:45	09:45	102	394	157	Sunny
14/01/06	08:00	09:00	89	405	160	Sunny
17/01/06	10:00	11:00	88	374	145	Cloudy
19/01/06	08:30	09:30	58	452	114	Cloudy
21/01/06	09:00	10:00	98	337	113	Cloudy
24/01/06	09:30	10:30	100	372	123	Sunny
26/01/06	08:30	09:30	58	453	166	Sunny
27/01/06	15:30	16:30	62	413	156	Cloudy

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

Date	Monitoring Period		1-hr TSP ($\mu\text{g}/\text{m}^3$)			Weather
	Start	Finish	Minimum	Maximum	Average	
03/01/06	13:00	14:00	76	301	88	Sunny
05/01/06	08:10	09:10	62	306	96	Cloudy
07/01/06	16:36	17:36	59	306	64	Cloudy
10/01/06	13:00	14:00	62	306	90	Cloudy
12/01/06	14:35	15:35	74	328	96	Sunny
14/01/06	14:00	15:00	60	327	91	Sunny
17/01/06	15:10	16:10	75	321	100	Cloudy
19/01/06	11:00	12:00	39	329	72	Cloudy
21/01/06	15:30	16:30	79	300	89	Cloudy
24/01/06	16:00	17:00	82	320	96	Sunny
26/01/06	13:00	14:00	52	329	145	Sunny
27/01/06	16:40	17:40	53	363	118	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	
03/01/06	11:00	12:00	82	356	107	Sunny
05/01/06	13:10	14:10	79	343	104	Cloudy
07/01/06	15:20	16:20	77	319	104	Cloudy
10/01/06	16:30	17:30	78	329	116	Cloudy
12/01/06	13:08	14:08	85	346	127	Sunny
14/01/06	15:15	16:15	73	360	124	Sunny
17/01/06	17:00	18:00	79	358	122	Cloudy
19/01/06	16:20	17:20	52	368	88	Cloudy
21/01/06	14:00	15:00	91	346	118	Cloudy
24/01/06	14:30	15:30	94	345	114	Sunny
26/01/06	09:45	10:45	49	373	124	Sunny
27/01/06	17:46	18:46	59	397	141	Cloudy

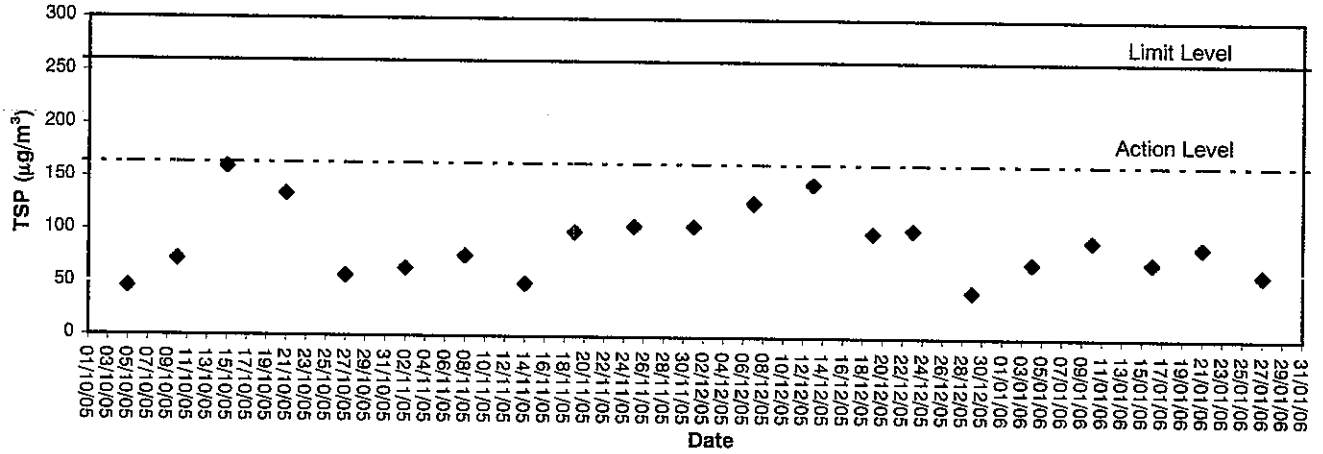


Appendix B3

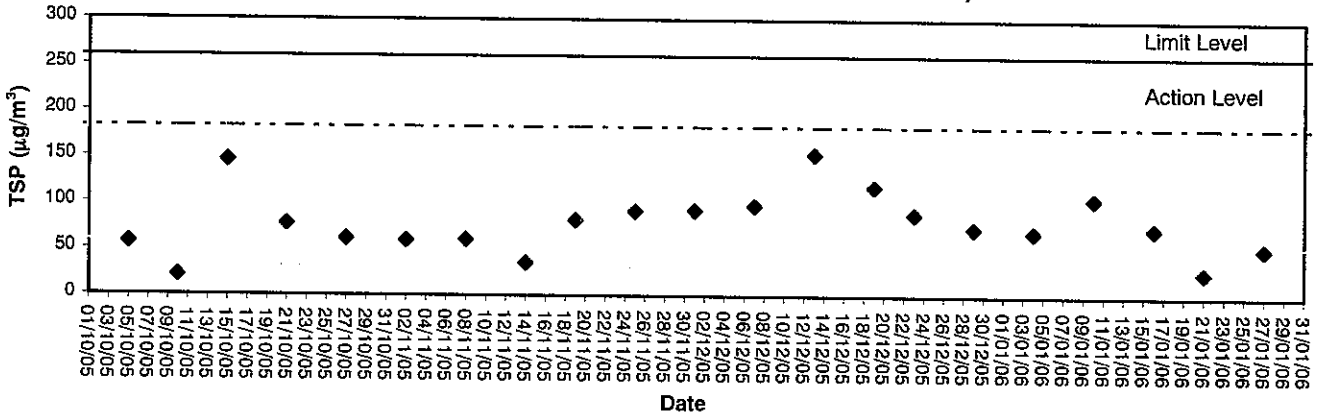
Graphical Plots of Air Quality Monitoring Data



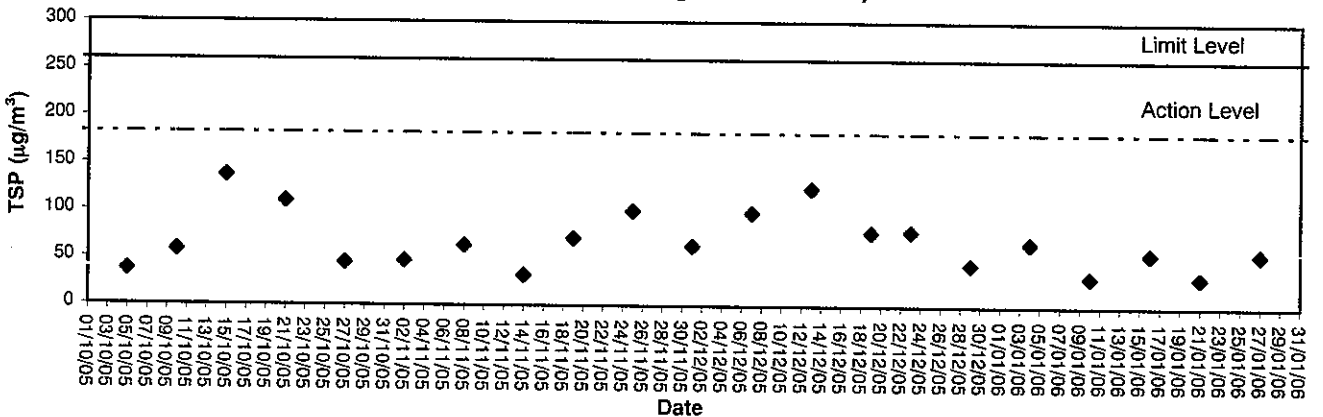
24-hour TSP level at AM1 (HKIB Staff Accommodation)



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

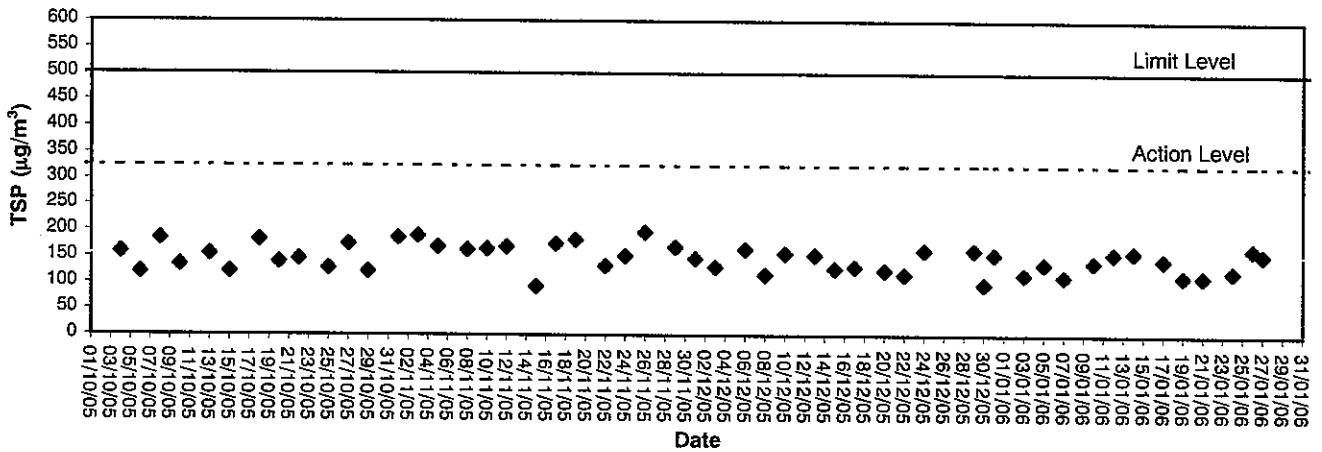


**24-hour TSP level at AM5
(Wen Chih Tang at the CUHK)**

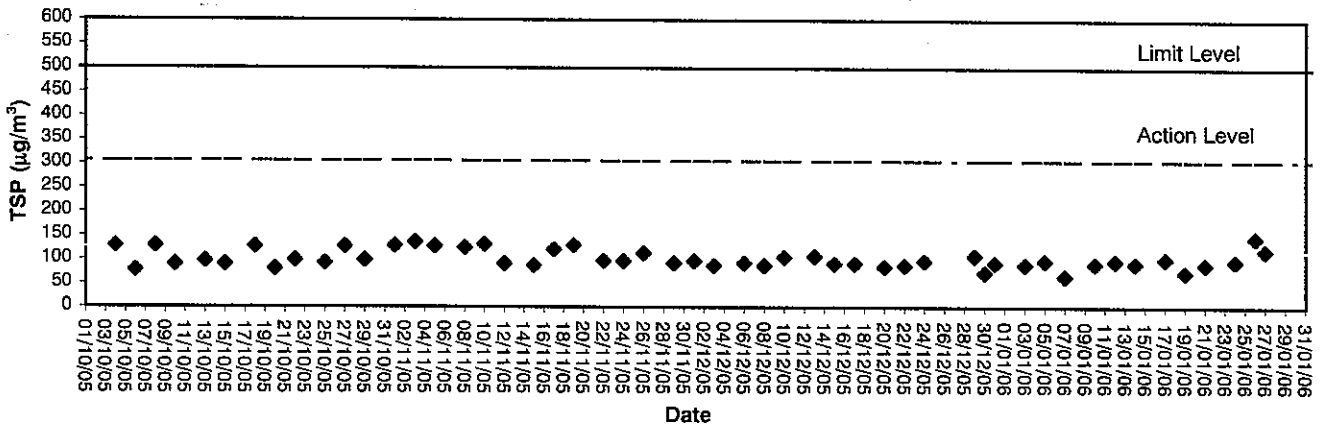




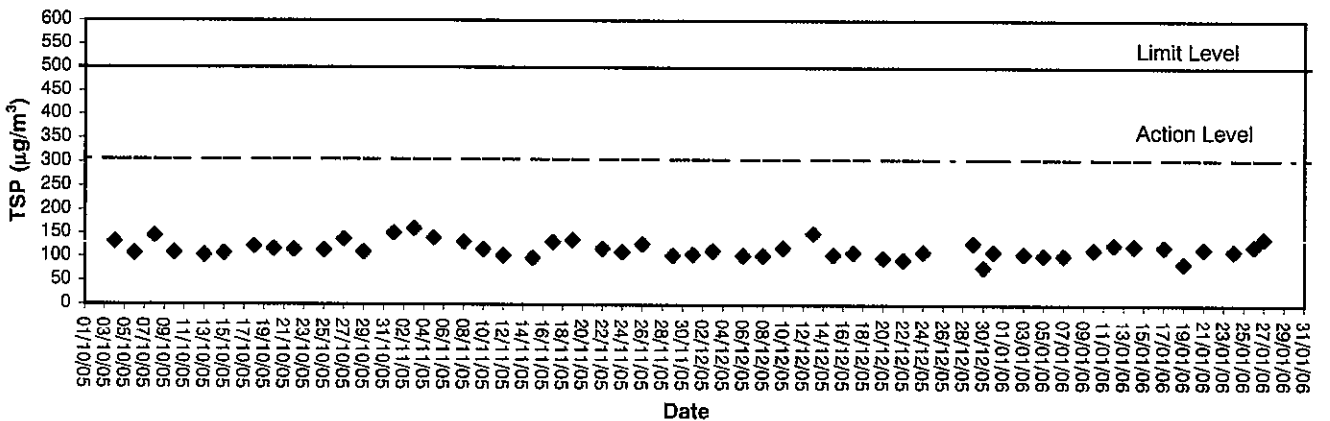
1-hour TSP level at AM1, HKIB Staff Accommodation



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



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





Appendix C1

Calibration Certificates for Noise Monitoring Equipments



Hong Kong Calibration Ltd.

香港校正有限公司

Calibration Certificate

Certificate No. 51472

Page 1 of 3 Pages

Customer : ETS-Testconsult Limited

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

Order No. : Q50535

Date of receipt : 7-Apr-05

Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31

Serial No. : 00531142

Test Conditions

Date of Test : 20-Apr-05

Supply Voltage : --

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

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

Test Specifications

Calibration check according to customer's requirement.

Calibration procedure : Z01.

Test Results

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

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

Test equipment used:

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

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

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

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

Calibrated by : 

Approved by : 
Alan Chu - Manager

Date: 20-Apr-05

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. 51472

Page 2 of 3 Pages

Results :

1. SPL Accuracy

UUT Setting			UUT Reading (dB)	Correction (dB)
Level Range (dB)	Weight	Response		
20 - 100	L _A	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L _C	Fast		0.0
	L _p	Fast		0.0
30 - 120	L _A	Fast	94.0	+ 0.1
		Slow		+ 0.1
	L _C	Fast		+ 0.1
	L _p	Fast		+ 0.1
30 - 120	L _A	Fast	114.0	+ 0.1
		Slow		+ 0.1
	L _C	Fast		0.0
	L _p	Fast		0.0

IEC 651 Type 1 Spec. : ± 0.7 dB

Uncertainty : ± 0.2 dB

2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. : ± 0.3 dB

Uncertainty : ± 0.01 dB



Calibration Certificate

Certificate No. 51472

Page 3 of 3 Pages

3. Frequency Weighting

A weighting

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

Uncertainty : ± 0.1 dB

4. Time Averaging

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

Uncertainty : ± 0.1 dB

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

----- END -----



Hong Kong Calibration Ltd.

香港校正有限公司

Calibration Certificate

Certificate No. 51473

Page 1 of 2 Pages

Customer : ETS-Testconsult Limited

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

Order No. : Q50535

Date of receipt : 7-Apr-05

Item Tested

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

Manufacturer : Rion

Model : NC-73

Serial No. : 10196943

Test Conditions

Date of Test : 20-Apr-05

Supply Voltage : --

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

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

Test Specifications

Calibration check according to customer's requirement.

Calibration procedure : F21, Z02.

Test Results

All results were within the manufacturer's specification.

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

Test equipment used:

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

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

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

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

Calibrated by :

Approved by :

Alan Chu - Manager

This Certificate is issued by:
Hong Kong Calibration Ltd.

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

Date: 20-Apr-05



Calibration Certificate

Certificate No. 51473

Page 2 of 2 Pages

Results :

1. Level Accuracy (at 1 kHz)

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

Uncertainty : ± 0.2 dB

2. Frequency Accuracy

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

Uncertainty : ± 0.1 %

3. Level Stability : 0.0 dB

Uncertainty : ± 0.01 dB

4. Total Harmonic Distortion : < 0.3 %

Mfr's Spec. : < 3 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

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

3. Atmospheric Pressure : 1 000 hPa

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

----- END -----



Appendix C2

Noise Monitoring Results



Day-time Noise Monitoring

Monitoring Location: NM1 (HKIB Staff Accommodation)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L _{eq} (30min)	L10	L90		
03/01/06	08:35	60.8	62.2	55.5	3.1	Sunny
10/01/06	08:02	58.7	60.7	57.6	0.9	Cloudy
17/01/06	10:05	60.0	61.6	55.1	0.6	Cloudy
24/01/06	09:35	59.5	60.4	58.4	2.1	Sunny

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		
03/01/06	16:35	58.5	60.3	54.3	2.6	Sunny
10/01/06	17:45	55.6	58.3	53.3	0.8	Cloudy
17/01/06	11:20	59.8	61.4	56.5	0.9	Cloudy
24/01/06	11:30	56.3	57.4	55.0	1.5	Sunny

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		
03/01/06	13:05	54.7	57.0	50.1	1.1	Sunny
10/01/06	13:02	52.8	55.0	49.4	1.0	Cloudy
17/01/06	15:20	53.1	54.8	48.3	0.7	Cloudy
24/01/06	16:10	56.9	58.6	55.0	1.1	Fine

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		
03/01/06	11:05	60.4	61.6	55.8	2.4	Sunny
10/01/06	16:32	57.0	59.5	54.9	1.2	Cloudy
17/01/06	17:30	61.2	62.8	56.8	0.9	Cloudy
24/01/06	14:35	61.4	62.2	59.5	1.5	Fine

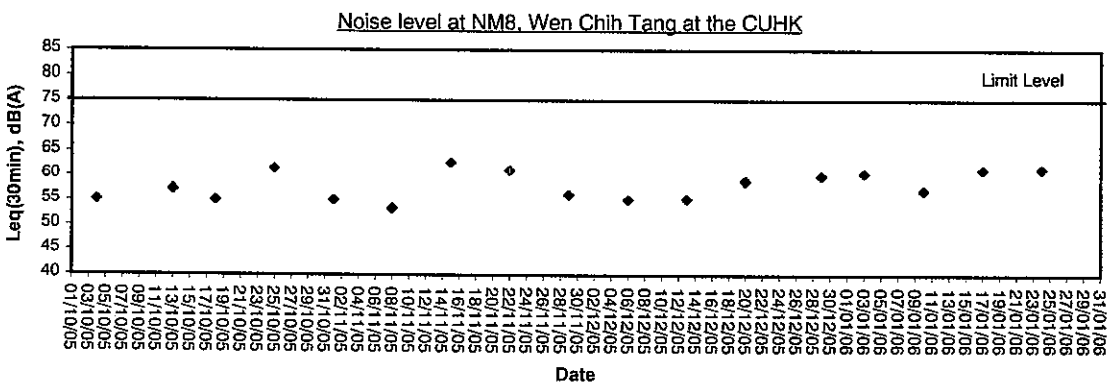
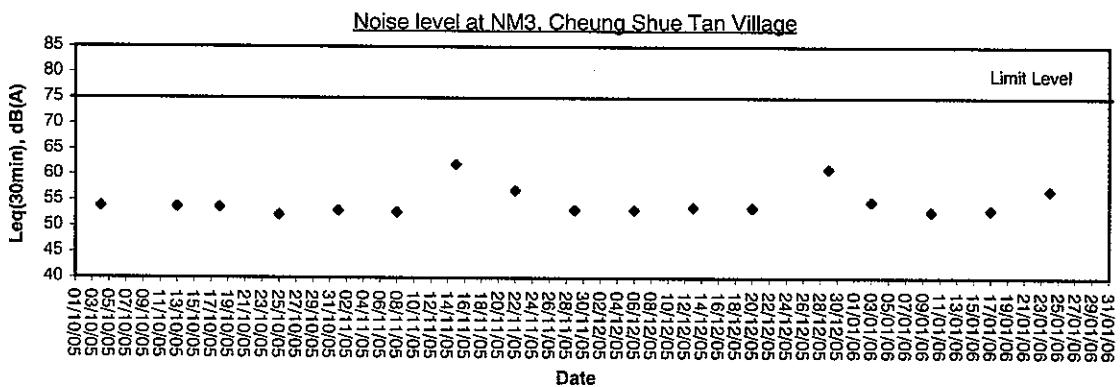
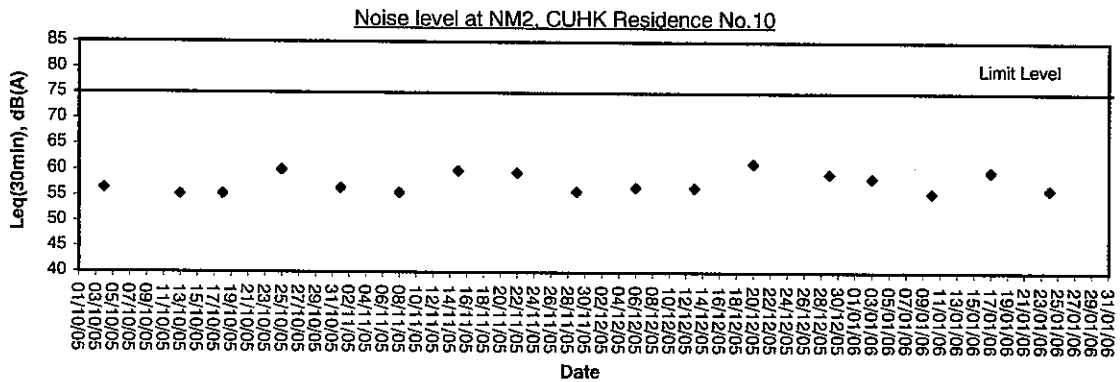
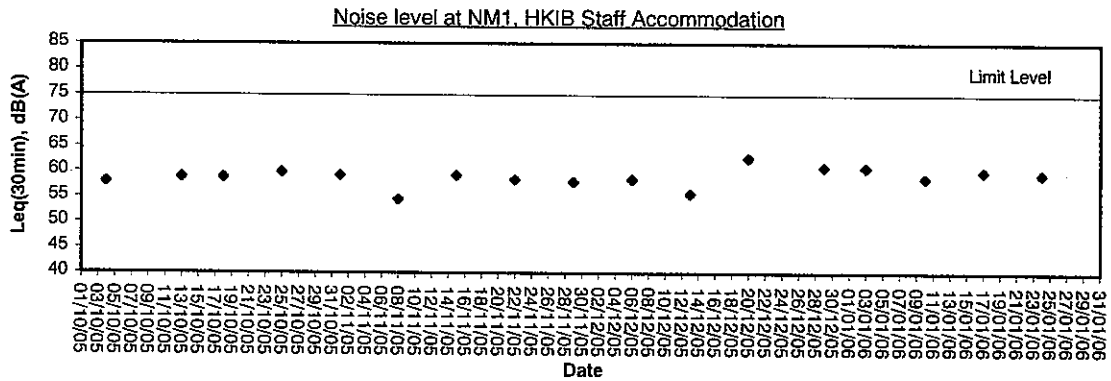


Appendix C3

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)
01/01/06	-	21.6	17.7	82	E	<5
02/01/06	-	21.3	17.1	80	E	<5
03/01/06	-	18.3	16.2	83	NE	<5
04/01/06	Trace	20.1	17.2	85	NE	<5
05/01/06	-	19.6	13.3	80	N	<5
06/01/06	-	13.3	9.4	67	N	<5
07/01/06	-	12.7	8.0	59	N	<5
08/01/06	-	13.5	10.8	61	NE	<5
09/01/06	-	14.8	10.8	57	N	<5
10/01/06	Trace	17.0	14.3	77	NE	<5
11/01/06	-	18.9	14.9	79	NE	<5
12/01/06	-	21.0	17.4	83	NE	<5
13/01/06	-	22.8	17.0	83	SE	<5
14/01/06	-	19.7	17.5	86	NE	<5
15/01/06	-	21.4	17.1	81	NE	<5
16/01/06	-	22.0	18.3	58	NE	<5
17/01/06	0.7	19.9	18.1	89	E	<5
18/01/06	0.8	19.6	17.7	93	E	<5
19/01/06	0.3	19.1	18.4	100	NE	<5
20/01/06	1.3	18.7	14.1	88	NE	<5
21/01/06	4.3	14.3	11.4	93	N	<5
22/01/06	Trace	13.4	11.7	88	N	<5
23/01/06	-	14.9	10.5	87	N	<5
24/01/06	Trace	15.8	11.1	84	N	<5
25/01/06	-	18.7	13.7	62	N	<5
26/01/06	-	17.6	12.8	68	N	<5
27/01/06	Trace	18.2	13.5	83	N	<5
28/01/06	6.8	15.8	13.5	96	NE	<5
29/01/06	2.1	19.9	15.2	71	NE	<5
30/01/06	-	21.4	17.3	59	NE	<5
31/01/06	-	23.6	18.3	62	N	<5

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

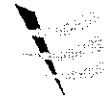


Appendix E

Event-Action Plans

Event / Action Plan for Construction Noise

EVENT	ACTION			CNOTRACTOR
	ET Leader	IC(E)	ER	
Action Level	<ol style="list-style-type: none"> 1. Notify IC(E) and Contractor 2. Carry out investigation 3. Report the results of investigation to the IC(E) and Contractor 4. Discuss with the Contractor and formulate remedial measures 5. Increase monitoring frequency to check mitigation effectiveness 	<ol style="list-style-type: none"> 1. Review the analyzed results submitted by the ET 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly 3. Supervise the implementation of remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analyzed noise problem 4. Ensure remedial measures are properly implemented 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposal to IC(E) 2. Implement noise mitigation proposals
Limit Level	<ol style="list-style-type: none"> 1. Notify IC(E), ER, and Contractor 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 6. Inform IC(E), ER and EPD the causes & action taken for the exceedances 7. Assess effectiveness of Contractor's remedial action and keep IC(E), EPD and ER informed to the results 8. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET and Contractor on the potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advice 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	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Labo Start	Labo Finish	Latv Start	Latv Finish
AZMB001200	Construct Centre Barrier	36	1d	0	21SEP06	03NOV06	22SEP06	04NOV06		
Microtunneling works										
AZBMAW0100	Install Drainage System	18	7d	0	05OCT06	20OCT06	14OCT06	04NOV06		
AZBMAW0200	Install Aluminium Rail	18	7d	0	05OCT06	20OCT06	14OCT06	04NOV06		
AZBMAW0300	Install Public Lighting Post	12	13d	0	27OCT06	10NOV06	13NOV06	25NOV06		
AZBMAW0400	Soft Lighting	6	45d	0	05AUG06	11AUG06	27SEP06	03OCT06		
Roads and Pavement										
AZBMRP0100	North Abutment - Backfill to Formation	40	96d	0	08APR06	23MAY06	08AUG06	18SEP06		
AZBMRP0200	North Abutment - Lay Subbase	6	96d	0	30JUN06	10JUL06	28OCT06	04NOV06		
AZBMRP0300	Road Pavement	18	16d	0	04NOV06	24NOV06	08NOV06	25NOV06		
Road Marking, Traffic Signs and Fencing										
AZBMRM0100	Apply Road Marking	6	1d	0	25NOV06	01DEC06	27NOV06	02DEC06		
AZBMRM0200	Erect Signage	12	1d	0	11NOV06	24NOV06	13NOV06	25NOV06		
Retaining Wall										
AZREEA0100	Remove Ext SurchARGE Mound	22	45d	0	24OCT06	17NOV06	15DEC06	11JAN06		
Earthworks										
AZREWA0100	Bay 1	16	45d	0	18NOV06	08DEC06	12JAN06	01FEB06		
AZREWA0200	Bay 2	14	45d	0	07DEC06	22DEC06	02FEB06	17FEB06		
AZREWA0300	Bay 3	14	45d	0	23DEC06	10JAN06	18FEB06	08MAR06		
AZREWA0400	Bay 4	14	45d	0	11JAN06	28JAN06	07MAR06	28MAR06		
AZREWA0500	Bay 5	14	47d	0	18NOV06	03DEC06	14JAN06	01FEB06		
AZREWA0600	Bay 6	14	47d	0	05DEC06	20DEC06	02FEB06	17FEB06		
AZREWA0700	Bay 7	14	47d	0	12DEC06	07JAN06	18FEB06	08MAR06		
AZREWA0800	Bay 8	14	47d	0	06JAN06	24JAN06	07MAR06	28MAR06		
AZREWA0900	Bay 9	14	29d	0	28DEC06	12JAN06	02FEB06	17FEB06		
AZREWA1000	Bay 10	14	29d	0	13JAN06	28JAN06	18FEB06	08MAR06		
AZREWA1100	Bay 11	14	29d	0	01FEB06	18FEB06	07MAR06	22MAR06		
AZREWA1200	Filling to Road Formation Levels	20	29d	0	08FEB06	28FEB06	11MAR06	03APR06		
Road D1										
Drainage Works										
AZRDDW0100	Decide Exact Location of Manholes & Catchpits	1	123d	0	30SEP06	30SEP06	28FEB06	28FEB06		
AZRDDW0200	S615 - S705	36	5d	0	13FEB06	25MAR06	16FEB06	31MAR06		
AZRDDW0300	S628 - S628	31	99d	0	24MAY06	28JUN06	18SEP06	25OCT06		
AZRDDW0400	S618 - S628	24	85d	0	01MAR06	28MAR06	12JUN06	10JUL06		
AZRDDW0500	S698 - S710	27	56d	0	21DEC06	23JAN06	01MAR06	31MAR06		
AZRDDW0600	S810A - S810 (TTA No. 01)	20	19d	0	14FEB06	08MAR06	08MAR06	30MAR06		
AZRDDW0700	S810 - S710 (TTA No. 04)	22	26d	0	30MAY06	24JUN06	30JUN06	26JUL06		
AZRDDW0800	Replace 600 Pipe by 900 Pipe (TTA No. 04)	20	20d	0	30MAY06	22JUN06	23JUN06	17JUL06		
AZRDDW0900	Reconstruct Ext MH w/ 1800 Chamber (TTA No. 08)	22	31d	0	22AUG06	18SEP06	27SEP06	23OCT06		
AZRDDW1000	Construct Gutters to Existing Pipe (TTA No. 06)	18	5d	0	12SEP06	02OCT06	18SEP06	06OCT06		
Utility Works										
AZRDUT0300	NWT & HGC - Laying Cable Duct	17	5d	0	27MAR06	18APR06	01APR06	21APR06		
AZRDUT0400	NWT & HGC Cable Connection	27	13d	0	17APR06	18MAY06	03MAY06	03JUN06		
AZRDUT0500	WT&T - Laying Cable Duct	17	5d	0	17APR06	09MAY06	22APR06	12MAY06		
AZRDUT0600	WT&T - Cable Connection	26	170d	0	08MAY06	07JUN06	27NOV06	28DEC06		
AZRDUT0700	PCCW - Laying Cable Duct	40	5d	0	17APR06	03JUN06	22APR06	06JUN06		
AZRDUT0800	PCCW - Cable Connection	26	147d	0	05JUN06	03JUL06	27NOV06	28DEC06		

Act ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Labo Start	Labo Finish	Latv Start	Latv Finish
AZMB001200	Construct Centre Barrier	36	1d	0	21SEP06	03NOV06	22SEP06	04NOV06		
Microtunneling works										
AZBMAW0100	Install Drainage System	18	7d	0	05OCT06	20OCT06	14OCT06	04NOV06		
AZBMAW0200	Install Aluminium Rail	18	7d	0	05OCT06	20OCT06	14OCT06	04NOV06		
AZBMAW0300	Install Public Lighting Post	12	13d	0	27OCT06	10NOV06	13NOV06	25NOV06		
AZBMAW0400	Soft Lighting	6	45d	0	05AUG06	11AUG06	27SEP06	03OCT06		
Roads and Pavement										
AZBMRP0100	North Abutment - Backfill to Formation	40	96d	0	08APR06	23MAY06	08AUG06	18SEP06		
AZBMRP0200	North Abutment - Lay Subbase	6	96d	0	30JUN06	10JUL06	28OCT06	04NOV06		
AZBMRP0300	Road Pavement	18	16d	0	04NOV06	24NOV06	08NOV06	25NOV06		
Road Marking, Traffic Signs and Fencing										
AZBMRM0100	Apply Road Marking	6	1d	0	25NOV06	01DEC06	27NOV06	02DEC06		
AZBMRM0200	Erect Signage	12	1d	0	11NOV06	24NOV06	13NOV06	25NOV06		
Retaining Wall										
AZREEA0100	Remove Ext SurchARGE Mound	22	45d	0	24OCT06	17NOV06	15DEC06	11JAN06		
Earthworks										
AZREWA0100	Bay 1	16	45d	0	18NOV06	08DEC06	12JAN06	01FEB06		
AZREWA0200	Bay 2	14	45d	0	07DEC06	22DEC06	02FEB06	17FEB06		
AZREWA0300	Bay 3	14	45d	0	23DEC06	10JAN06	18FEB06	08MAR06		
AZREWA0400	Bay 4	14	45d	0	11JAN06	28JAN06	07MAR06	28MAR06		
AZREWA0500	Bay 5	14	47d	0	18NOV06	03DEC06	14JAN06	01FEB06		
AZREWA0600	Bay 6	14	47d	0	05DEC06	20DEC06	02FEB06	17FEB06		
AZREWA0700	Bay 7	14	47d	0	12DEC06	07JAN06	18FEB06	08MAR06		
AZREWA0800	Bay 8	14	47d	0	06JAN06	24JAN06	07MAR06	28MAR06		
AZREWA0900	Bay 9	14	29d	0	28DEC06	12JAN06	02FEB06	17FEB06		
AZREWA1000	Bay 10	14	29d	0	13JAN06	28JAN06	18FEB06	08MAR06		
AZREWA1100	Bay 11	14	29d	0	01FEB06	18FEB06	07MAR06	22MAR06		
AZREWA1200	Filling to Road Formation Levels	20	29d	0	08FEB06	28FEB06	11MAR06	03APR06		
Road D1										
Drainage Works										
AZRDDW0100	Decide Exact Location of Manholes & Catchpits	1	123d	0	30SEP06	30SEP06	28FEB06	28FEB06		
AZRDDW0200	S615 - S705	36	5d	0	13FEB06	25MAR06	16FEB06	31MAR06		
AZRDDW0300	S628 - S628	31	99d	0	24MAY06	28JUN06	18SEP06	25OCT06		
AZRDDW0400	S618 - S628	24	85d	0	01MAR06	28MAR06	12JUN06	10JUL06		
AZRDDW0500	S698 - S710	27	56d	0	21DEC06	23JAN06	01MAR06	31MAR06		
AZRDDW0600	S810A - S810 (TTA No. 01)	20	19d	0	14FEB06	08MAR06	08MAR06	30MAR06		
AZRDDW0700	S810 - S710 (TTA No. 04)	22	26d	0	30MAY06	24JUN06	30JUN06	26JUL06		
AZRDDW0800	Replace 600 Pipe by 900 Pipe (TTA No. 04)	20	20d	0	30MAY06	22JUN06	23JUN06	17JUL06		
AZRDDW0900	Reconstruct Ext MH w/ 1800 Chamber (TTA No. 08)	22	31d	0	22AUG06	18SEP06	27SEP06	23OCT06		
AZRDDW1000	Construct Gutters to Existing Pipe (TTA No. 06)	18	5d	0	12SEP06	02OCT06	18SEP06	06OCT06		
Utility Works										
AZRDUT0300	NWT & HGC - Laying Cable Duct	17	5d	0	27MAR06	18APR06	01APR06	21APR06		
AZRDUT0400	NWT & HGC Cable Connection	27	13d	0	17APR06	18MAY06	03MAY06	03JUN06		
AZRDUT0500	WT&T - Laying Cable Duct	17	5d	0	17APR06	09MAY06	22APR06	12MAY06		
AZRDUT0600	WT&T - Cable Connection	26	170d	0	08MAY06	07JUN06	27NOV06	28DEC06		
AZRDUT0700	PCCW - Laying Cable Duct	40	5d	0	17APR06	03JUN06	22APR06	06JUN06		
AZRDUT0800	PCCW - Cable Connection	26	147d	0	05JUN06	03JUL06	27NOV06	28DEC06		

Legend

- █ Early bar
- █ Progress bar
- █ Critical bar
- █ Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point

Legend

- █ NWT & HGC - Laying Cable Duct
- █ NWT & HGC Cable Connection
- █ WT&T - Laying Cable Duct
- █ WT&T - Cable Connection
- █ PCCW - Laying Cable Duct
- █ PCCW - Cable Connection

Legend

- █ S615 - S705
- █ S618 - S628
- █ S698 - S710
- █ S810A - S810 (TTA No. 01)
- █ S810 - S710 (TTA No. 04)
- █ Replace 600 Pipe by 900 Pipe (TTA No. 04)
- █ Reconstruct Ext MH w/ 1800 Chamber (TTA No. 08)
- █ Construct Gutters to Existing Pipe (TTA No. 06)
- █ Contract Gutters to Existing Pipe (TTA No. 06)
- █ NWT & HGC - Laying Cable Duct
- █ NWT & HGC Cable Connection
- █ WT&T - Laying Cable Duct
- █ WT&T - Cable Connection
- █ PCCW - Laying Cable Duct
- █ PCCW - Cable Connection

Legend

- █ Remove Ext SurchARGE Mound
- █ Bay 1
- █ Bay 2
- █ Bay 3
- █ Bay 4
- █ Bay 5
- █ Bay 6
- █ Bay 7
- █ Bay 8
- █ Bay 9
- █ Bay 10
- █ Bay 11
- █ Filling to Road Formation Levels
- █ Decide Exact Location of Manholes & Catchpits
- █ S615 - S705
- █ S618 - S628
- █ S698 - S710
- █ S810A - S810 (TTA No. 01)
- █ S810 - S710 (TTA No. 04)
- █ Replace 600 Pipe by 900 Pipe (TTA No. 04)
- █ Reconstruct Ext MH w/ 1800 Chamber (TTA No. 08)
- █ Construct Gutters to Existing Pipe (TTA No. 06)
- █ Contract Gutters to Existing Pipe (TTA No. 06)
- █ NWT & HGC - Laying Cable Duct
- █ NWT & HGC Cable Connection
- █ WT&T - Laying Cable Duct
- █ WT&T - Cable Connection
- █ PCCW - Laying Cable Duct
- █ PCCW - Cable Connection

Legend

- █ Construct Centre Barrier
- █ Install Drainage
- █ Install Aluminium Rail
- █ Install Public Lighting
- █ Soft Lighting
- █ North Abutment - Backfill to Formation
- █ North Abutment - Lay Subbase
- █ Road Pavement
- █ Road Marking, Traffic Signs and Fencing
- █ Apply Road Marking
- █ Erect Signage
- █ Retaining Wall
- █ Remove Ext SurchARGE Mound
- █ Earthworks
- █ Bay 1
- █ Bay 2
- █ Bay 3
- █ Bay 4
- █ Bay 5
- █ Bay 6
- █ Bay 7
- █ Bay 8
- █ Bay 9
- █ Bay 10
- █ Bay 11
- █ Filling to Road Formation Levels
- █ Decide Exact Location of Manholes & Catchpits
- █ Drainage Works
- █ Utility Works

Legend

- █ Construct Centre Barrier
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- █ Install Public Lighting
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Legend

- █ Construct Centre Barrier
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- █ Bay 1
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- █ Bay 3
- █ Bay 4
- █ Bay 5
- █ Bay 6
- █ Bay 7
- █ Bay 8
- █ Bay 9
- █ Bay 10
- █ Bay 11
- █ Filling to Road Formation Levels
- █ Decide Exact Location of Manholes & Catchpits
- █ Drainage Works
- █ Utility Works

A1 ID	Description	Orig Dur	Total	Percent	Early Start	Early Finish	Late Start	Late Finish
AZSRP0100	Laying Lighting Cross Road Duct (TTA No. 05)	4	101d	0	06JUN08	12JUN08	05OCT08	10OCT08
AZSRP0200	Laying Lighting Cross Road Duct (TTA No. 06)	4	101d	0	26JUN08	26JUN08	24OCT08	27OCT08
AZSRP0300	Demolish Existing Island (TTA No. 05)	8	101d	0	28MAY08	07JUN08	28SEP08	04OCT08
AZSRP0400	Construct Proposed Island (TTA No. 06)	8	101d	0	13JUN08	21JUN08	11OCT08	18OCT08
AZSRP0500	Demolish Existing Kerb (TTA No. 06)	2	101d	0	23JUN08	24JUN08	21OCT08	23OCT08
AZSRP0600	Lay Kerb (TTA No. 06)	8	101d	0	30JUN08	10JUL08	28OCT08	07NOV08
AZSRP0700	Demolish Existing Roundabout (TTA No. 07)	8	101d	0	14JUL08	22JUL08	11NOV08	20NOV08
AZSRP0800	Reconstruct Roundabout (TTA No. 07)	8	101d	0	24JUL08	01AUG08	21NOV08	28NOV08
AZSRP0900	Reinstare Road Pavement (TTA No. 06)	2	101d	0	11JUL08	12JUL08	08NOV08	08NOV08
AZSRP1000	Resurfacing Wearing Course	8	101d	0	02AUG08	10AUG08	30NOV08	08DEC08
AZSRP1100	Construct Proposed Island (TTA No. 06)	12	7d	0	04DEC08	16DEC08	12DEC08	26DEC08
AZSRM0100	Apply Road Marking	2	101d	0	25AUG08	28AUG08	23DEC08	25DEC08
AZSRM0200	Erect Signage	12	101d	0	11AUG08	24AUG08	09DEC08	27DEC08
AZSRM0300	Install Railing, Fencing & etc	12	101d	0	11AUG08	24AUG08	09DEC08	27DEC08
AZSRM0400	Install Public Lighting Post	8	81d	0	03OCT08	12OCT08	16DEC08	23DEC08
AZSRM0500	Lay Kerb (TTA No. 03)	8	46d	0	13JUN08	21JUN08	07AUG08	15AUG08
AZSRM0600	Cable Duct Laying on Island (TTA No. 08)	6	75d	0	20AUG08	01SEP08	24NOV08	30NOV08
AZSRM0700	Cable Duct Laying on Reserve (TTA No. 06)	6	87d	0	06SEP08	11SEP08	13NOV08	18NOV08
AZSRM0800	Demolish Existing Parapet (TTA No. 03)	12	114d	0	20MAY08	12JUN08	12OCT08	26OCT08
AZSRM0900	Demolish Island & Paved Area (TTA No. 03)	12	46d	0	28MAY08	12JUN08	24JUL08	05AUG08
AZSRM1000	Road Pavement (TTA No. 03)	8	46d	0	22JUN08	30JUN08	16AUG08	24AUG08
AZSRM1100	Construct Roundabout on V-Abutment (TTA No. 03)	8	114d	0	13JUN08	21JUN08	28OCT08	04NOV08
AZSRM1200	Remove Pavement at Proposed Island (TTA No. 08)	4	75d	0	22AUG08	25AUG08	20NOV08	23NOV08
AZSRM1300	Construct Traffic Island (TTA No. 06)	8	75d	0	02SEP08	11SEP08	01DEC08	08DEC08
AZSRM1400	Construct Remaining Roundabout (TTA No. 06)	12	81d	0	22AUG08	04SEP08	27NOV08	09DEC08
AZSRM1500	Demolish Existing Central Reserve (TTA No. 06)	12	57d	0	22AUG08	04SEP08	28OCT08	11NOV08
AZSRM1600	Construct New Central Reserve (TTA No. 06)	16	57d	0	12SEP08	02OCT08	20NOV08	06DEC08
AZSRM1700	Apply Road Marking (TTA No. 03)	1	46d	0	03JUL08	03JUL08	25AUG08	25AUG08
AZSRM1800	Apply Road Marking (TTA No. 06)	1	57d	0	18OCT08	18OCT08	25DEC08	25DEC08
AZSRM1900	Erect Signage	12	57d	0	03OCT08	17OCT08	11DEC08	23DEC08
AZSRM2000	Install Railing, Fencing & etc	12	57d	0	03OCT08	17OCT08	11DEC08	23DEC08
AZSRM2100	Apply Road Marking (TTA No. 03)	1	86d	0	08MAY08	30MAY08	19AUG08	12SEP08
AZSRM2200	CP632 - S684	10	88d	0	01JUN08	16JUN08	13SEP08	30SEP08
AZSRM2300	Install Public Lighting Post	8	108d	0	14AUG08	22AUG08	16DEC08	26DEC08
AZSRM2400	Construct Dwarf Wall	23	86d	0	20JUN08	17JUL08	02OCT08	28OCT08
AZSRM2500	Lay Kerb	8	88d	0	04AUG08	12AUG08	17NOV08	28NOV08

Activity ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A3CPR0020	Public Lighting Concrete	10/11/06	23/JUL/06	06/DEC/06	18/NOV/06				
A3CPR0040	Lighting Ductwork & Cable Duct	15/8/06	03/AUG/06	31/OCT/06	16/NOV/06				
Roads and Pavement									
A3CPR00100	Trim Formation & Lay Subbase	8/9/06	22/AUG/06	06/DEC/06	14/DEC/06				
A3CPR00200	Road Pavement	8/9/06	31/AUG/06	15/DEC/06	23/DEC/06				
A3CPR00300	Construct Footpath	18/8/06	02/SEP/06	27/NOV/06	18/DEC/06				
Road Markings, Traffic Signs and Fencing									
A3CPR00400	Apply Road Marking	2/8/06	12/SEP/06	28/DEC/06	28/DEC/06				
A3CPR00500	Erect Signage	6/8/06	06/SEP/06	18/DEC/06	23/DEC/06				
A3CPR00600	Install Railing, Fencing & etc	6/8/06	06/SEP/06	18/DEC/06	23/DEC/06				
Armed/Avia									
Drainage Works									
A3AMW00100	Construct U-Channels	18/11/06	07/AUG/06	06/DEC/06	28/DEC/06				
Utility Works									
A3AMU00100	Water Point WP1-3 to Water Meter No.1	18/6/06	28/SEP/06	22/NOV/06	12/DEC/06				
A3AMU00200	Water Point WP2-3 to Water Meter No.2	17/13/06	18/JUL/06	07/DEC/06	20/DEC/06				
A3AMU00300	Water Point WP3-8 to Water Meter No.3	20/10/06	21/AUG/06	27/NOV/06	28/DEC/06				
A3AMU00400	Water Point WP6-2 to Water Meter No.8	12/6/06	30/SEP/06	14/OCT/06	18/DEC/06				
SECTION 3									
K3 Liu Shui Subway									
Earthworks									
A3MSA0100	Remove Surcharge Mound	16/5/06	30/SEP/05	22/OCT/05	28/OCT/05				
Pump House Construction									
A3MSP0100	Construct Base Slab	8/5/06	07/NOV/05	12/NOV/05	21/NOV/05				
A3MSP0200	Construct Wall upto Barrel Base Slab	8/5/06	16/NOV/05	22/NOV/05	30/NOV/05				
A3MSP0300	Construct Wall up to Top Slab	12/5/06	06/DEC/05	22/DEC/05	30/DEC/05				
A3MSP0400	Construct Top Slab	12/5/06	06/JAN/06	18/JAN/06	03/FEB/06				
A3MSP0500	Install Hoisting Beam	8/5/06	02/JAN/06	07/JAN/06	13/JAN/06				
Subway General Construction									
A3MSS0100	Excavation	24/5/06	24/OCT/05	19/NOV/05	29/OCT/05	25/NOV/05			
A3MSS0200	Construct Subway #1 Base Slab	9/30/06	21/NOV/05	30/NOV/05	28/DEC/05	06/JAN/06			
A3MSS0300	Construct Subway #2 Base Slab	9/17/06	17/NOV/05	28/NOV/05	07/DEC/05	16/DEC/05			
A3MSS0400	Construct Subway #3 Base Slab	9/10/06	07/NOV/05	18/NOV/05	18/NOV/05	28/NOV/05			
A3MSS0500	Construct Subway #4 Base Slab	12/5/06	23/NOV/05	08/DEC/05	01/DEC/05	14/DEC/05			
A3MSS0600	Construct Subway #1 Wall + Top Slab	16/10/06	24/DEC/05	13/JAN/06	07/JAN/06	25/JAN/06			
A3MSS0700	Construct Subway #2 Wall + Top Slab	16/10/06	06/DEC/05	23/DEC/05	17/DEC/05	06/JAN/06			
A3MSS0800	Construct Subway #3 Wall + Top Slab	18/10/06	17/NOV/05	05/DEC/05	28/NOV/05	18/DEC/05			
A3MSS0900	Construct Subway #4 Wall + Top Slab	19/5/06	08/JAN/06	26/JAN/06	14/JAN/06	03/FEB/06			
A3MSS1000	Backfilling	18/5/06	20/JAN/06	11/FEB/06	26/JAN/06	17/FEB/06			
Subway Exit Ramp Construction									
A3MSSE0100	Excavation (East Ramp)	24/5/06	31/OCT/05	28/NOV/05	05/NOV/05	02/DEC/05			
A3MSSE0200	Construct E1 Ramp Base Slab	8/11/06	12/DEC/05	17/DEC/05	24/DEC/05	02/JAN/06			
A3MSSE0300	Construct E2 Ramp Base Slab	6/11/06	08/DEC/05	10/DEC/05	17/DEC/05	23/DEC/05			
A3MSSE0400	Construct E3 Ramp Base Slab	6/9/06	28/NOV/05	03/DEC/05	08/DEC/05	14/DEC/05			
A3MSSE0500	Construct E4 Ramp Base Slab	8/8/06	18/NOV/05	28/NOV/05	28/NOV/05	07/DEC/05			
A3MSSE0600	Construct E5 Ramp Base Slab	6/11/06	02/DEC/05	10/DEC/05	18/DEC/05	23/DEC/05			
A3MSSE0700	Construct E6 Ramp Base Slab	8/9/06	03/NOV/05	01/DEC/05	03/DEC/05	12/DEC/05			
A3MSSE0800	Construct E7 Ramp Base Slab	12/5/06	08/NOV/05	22/NOV/05	18/NOV/05	28/NOV/05			

Legend:

- Entry bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

Primevera Systems, Inc.

Leader - Wal Kee (C&T) Joint Venture
TP37/03 - Revised Works Programme - RP04

Activity	Orig Dur	Total	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Foundation Construction							
A1PTFC0100	6	36d	0	29SEP05	06OCT05	12NOV05	18NOV05
Excavation to Formation Level							
A1PTFC0200	1	36d	0	07OCT05	07OCT05	19NOV05	19NOV05
Subsoil Inspection by Structural Engineer							
A1PTFC0300	1	36d	0	08OCT05	08OCT05	21NOV05	21NOV05
Blinding							
A1PTFC0400	6	36d	0	10OCT05	17OCT05	22NOV05	28NOV05
Steel Fixing for Footing							
A1PTFC0500	4	36d	0	18OCT05	21OCT05	28NOV05	02DEC05
Formwork							
A1PTFC0600	1	36d	0	22OCT05	22OCT05	03DEC05	03DEC05
Concreting							
A1PTFC0700	3	36d	0	24OCT05	26OCT05	05DEC05	07DEC05
Steel Fixing for Walls & Columns							
A1PTFC0800	4	36d	0	27OCT05	31OCT05	08DEC05	12DEC05
Formwork							
A1PTFC0900	1	36d	0	01NOV05	01NOV05	13DEC05	13DEC05
Concreting							
A1PTFC1000	6	36d	0	02NOV05	08NOV05	14DEC05	20DEC05
Remove Formwork							
A1PTFC1100	12	36d	0	09NOV05	22NOV05	21DEC05	05JAN06
Backfilling							
Ground Floor Slab Construction							
A1PTGF0100	6	36d	0	23NOV05	28NOV05	06JAN06	12JAN06
Erect Propping & Formwork							
A1PTGF0200	3	36d	0	30NOV05	02DEC05	13JAN06	16JAN06
Ground Slab Steel Fixing							
A1PTGF0300	2	36d	0	03DEC05	05DEC05	17JAN06	16JAN06
Formwork							
A1PTGF0400	1	36d	0	06DEC05	06DEC05	19JAN06	19JAN06
Concreting							
A1PTGF0500	3	36d	0	07DEC05	09DEC05	20JAN06	23JAN06
Erect Scaffolding							
A1PTGF0600	3	36d	0	10DEC05	13DEC05	24JAN06	26JAN06
Walls & Columns Formwork							
A1PTGF0700	3	36d	0	14DEC05	16DEC05	27JAN06	29JAN06
Steel Fixing for Walls & Columns							
A1PTGF0800	3	36d	0	17DEC05	20DEC05	27JAN06	29JAN06
Formwork							
A1PTGF0900	1	36d	0	21DEC05	21DEC05	02FEB06	04FEB06
Concreting							
A1PTGF1000	12	36d	0	02JAN06	14JAN06	15FEB06	28FEB06
Remove Formwork & Propping							
Mezzanine Slab Construction							
A1PTMF0100	6	36d	0	16JAN06	21JAN06	01MAR06	07MAR06
Erect Propping & Formwork							
A1PTMF0200	3	36d	0	23JAN06	25JAN06	08MAR06	10MAR06
Mezzanine Slab Steel Fixing							
A1PTMF0300	2	36d	0	26JAN06	27JAN06	11MAR06	13MAR06
Formwork							
A1PTMF0400	1	36d	0	28JAN06	28JAN06	14MAR06	14MAR06
Concreting							
A1PTMF0500	3	36d	0	01FEB06	03FEB06	15MAR06	17MAR06
Walls & Columns Formwork							
A1PTMF0600	3	36d	0	04FEB06	07FEB06	18MAR06	21MAR06
Steel Fixing for Walls & Columns							
A1PTMF0700	3	36d	0	06FEB06	10FEB06	22MAR06	24MAR06
Formwork							
A1PTMF0800	1	36d	0	11FEB06	11FEB06	25MAR06	25MAR06
Concreting							
A1PTMF0900	12	36d	0	21FEB06	09MAR06	05APR06	18APR06
Remove Formwork & Propping							
Upper Mezzanine Floor Slab Construction							
A1PTUF0100	6	36d	0	07MAR06	13MAR06	16APR06	25APR06
Erect Propping & Formwork							
A1PTUF0200	3	36d	0	14MAR06	16MAR06	28APR06	28APR06
Upper Mezzanine Slab Steel Fixing							
A1PTUF0300	2	36d	0	17MAR06	18MAR06	28APR06	02MAY06
Formwork							
A1PTUF0400	1	36d	0	20MAR06	20MAR06	03MAY06	03MAY06
Concreting							
A1PTUF0500	12	36d	0	28MAR06	12APR06	12MAY06	25MAY06
Remove Formwork & Propping							
Structural Steelwork							
A1PTSS0100	30	33d	90	01SEP05	30SEP05	01SEP05	10NOV05
Prepare & Submit Shop Drawings							
A1PTSS0200	12	33d	0	03OCT05	17OCT05	11NOV05	24NOV05
Engineer Approval of Shop Drawings							
A1PTSS0300	120	33d	0	16OCT05	10MAR06	28NOV05	18APR06
Procurement of Structural Steel							
A1PTSS0400	12	33d	0	11MAR06	24MAR06	20APR06	04MAY06
Delivery of Structural Steel Materials							
A1PTSS0500	18	33d	0	25MAR06	15APR06	05MAY06	25MAY06
Inspection & Testing							

Legend:

- █ Early bar
- ▨ Progress bar
- ▩ Critical bar
- ▬ Summary bar
- ◆ Start milestone point
- ◇ Finish milestone point

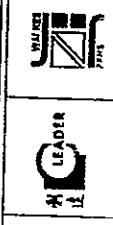
- █ Erect Propping & Formwork
- ▨ Ground Slab Steel Fixing
- ▩ Formwork
- ▬ Concreting
- ◆ Erect Scaffolding
- ◇ Walls & Columns Formwork
- ◆ Steel Fixing for Walls & Columns
- ▨ Formwork
- ▬ Concreting
- █ Remove Formwork
- ◆ Backfilling

- █ Erect Propping & Formwork
- ▨ Mezzanine Slab Steel Fixing
- ▩ Formwork
- ▬ Concreting
- ◆ Erect Scaffolding
- ◇ Walls & Columns Formwork
- ◆ Steel Fixing for Walls & Columns
- ▨ Formwork
- ▬ Concreting
- █ Remove Formwork & Propping

- █ Erect Propping & Formwork
- ▨ Upper Mezzanine Slab Steel Fixing
- ▩ Formwork
- ▬ Concreting
- ◆ Walls & Columns Formwork
- ◆ Steel Fixing for Walls & Columns
- ▨ Formwork
- ▬ Concreting
- █ Remove Formwork & Propping

- █ Erect Propping & Formwork
- ▨ Upper Mezzanine Slab Steel Fixing
- ▩ Formwork
- ▬ Concreting
- █ Remove Formwork & Propping

Prepare & Submit Shop Drawings
 Engineer Approval of Shop Drawings
 Procurement of Structural Steel
 Delivery of Structural Steel Materials
 Inspection & Testing



ID	Description	Qty	Unit	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish
A4PTSS0001	Fabrication & Painting of Steetworks	48	33d	0	17APR06	13JUN06	26MAY06	22JUL06	22JUL06	22MAY06	22JUL06	22MAY06	22JUL06	22MAY06	22JUL06	22MAY06	22JUL06
A4PTSS0002	Delivery of Prefabricated Steetworks	12	33d	0	14JUN06	27JUN06	24JUL06	05AUG06	05AUG06	24JUL06	05AUG06	24JUL06	05AUG06	24JUL06	05AUG06	24JUL06	05AUG06
A4PTSS0003	Erection of Steetworks	36	33d	0	28JUN06	06AUG06	07AUG06	16SEP06	16SEP06	06AUG06	07AUG06	06AUG06	07AUG06	06AUG06	07AUG06	06AUG06	07AUG06
A4PTSS0004	Touch Up Painting	12	33d	0	10AUG06	23AUG06	18SEP06	30SEP06	30SEP06	23AUG06	18SEP06	23AUG06	18SEP06	23AUG06	18SEP06	23AUG06	18SEP06
Architectural Buildings Works and Finishes																	
A4PTAB0100	Solid Concrete Block Work Wall	36	36d	0	13APR06	23MAY06	26MAY06	08JUL06	08JUL06	23MAY06	26MAY06	23MAY06	08JUL06	23MAY06	26MAY06	23MAY06	08JUL06
A4PTAB0200	Internal Wall Tile	24	36d	0	20MAY06	23JUN06	10JUL06	05AUG06	05AUG06	23JUN06	10JUL06	23JUN06	10JUL06	23JUN06	10JUL06	23JUN06	10JUL06
A4PTAB0300	External Wall Tile	24	33d	0	21SEP06	19OCT06	01NOV06	28NOV06	28NOV06	19OCT06	01NOV06	19OCT06	01NOV06	19OCT06	01NOV06	19OCT06	01NOV06
A4PTAB0400	Toilet Accessories Installation	24	36d	0	24JUN06	22JUL06	07AUG06	02SEP06	02SEP06	24JUN06	22JUL06	24JUN06	22JUL06	24JUN06	22JUL06	24JUN06	22JUL06
A4PTAB0500	Floor Tile	24	36d	0	24JUL06	16AUG06	04SEP06	30SEP06	30SEP06	24JUL06	16AUG06	24JUL06	16AUG06	24JUL06	16AUG06	24JUL06	16AUG06
A4PTAB0600	Roof Cladding	24	33d	0	24AUG06	20SEP06	05OCT06	31OCT06	31OCT06	24AUG06	20SEP06	24AUG06	20SEP06	24AUG06	20SEP06	24AUG06	20SEP06
A4PTAB0700	Metal Works & Ironmongery Installation	24	33d	0	20OCT06	17NOV06	29NOV06	26DEC06	26DEC06	20OCT06	17NOV06	20OCT06	17NOV06	20OCT06	17NOV06	20OCT06	17NOV06
Plumbing Works																	
A4PTPL0100	Plumbing Works	24	36d	0	21AUG06	16SEP06	02OCT06	31OCT06	31OCT06	21AUG06	16SEP06	21AUG06	16SEP06	21AUG06	16SEP06	21AUG06	16SEP06
E&M Works																	
A4PTEM0100	Electrical & Mechanical Installations	48	36d	0	18SEP06	14NOV06	01NOV06	26DEC06	26DEC06	18SEP06	14NOV06	18SEP06	14NOV06	18SEP06	14NOV06	18SEP06	14NOV06

Section 5	Activity	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish
Roofing Works	Decide Exact Location of Manholes & Catchpits	1		26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A	26JUL04 A
ASRLDW0100	Hand Over 2x2500 Pipe Upstream for Connection	0		20APR05 A	20APR05 A	20APR05 A	20APR05 A	20APR05 A	20APR05 A	20APR05 A	20APR05 A	20APR05 A	20APR05 A	20APR05 A	20APR05 A	20APR05 A	20APR05 A
ASRLDW1100	S413 - S407 (2x2500)	84		10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A
ASRLDW1200	F424 to F427 (In Zone ZC)	31		10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A
ASRLDW1300	Outlet - S413 (2x2500)	33		22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A	22NOV04 A
ASRLDW2100	S407 - S407A (2x2500)	30		03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A	03JAN05 A
ASRLDW2200	Connection Point to F431 to F428 (In Zone ZC)	30		16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A	16DEC04 A
ASRLDW2300	SL4-010a - S413 & gullies	18		18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A
ASRLDW2400	SL4-0020a - S412a	12		18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A	18JAN05 A
ASRLDW2500	CP#10 - S412a	12		01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A
ASRLDW2600	SL4-023a - S412a	12		01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A	01FEB05 A
ASRLDW3100	S408 - S407 (1800)	12		01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A	01MAR05 A
ASRLDW3200	Penal Interceptor - SL017a & S412	18		03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A	03MAY05 A
ASRLDW3300	Connection Point - SL4-020a - S413	18		05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A	05MAR05 A
ASRLDW3400	S407A - Upstream	20		01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A	01JAN05 A
ASRLDW3500	SL4-025a - SL4-023a & gullies	18		05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A	05MAY05 A
ASRLDW4100	Connection Point to F435	18		07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A	07MAR05 A
ASRLDW4200	SL4-022a - SL4-020a & gullies	18		18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A	18DEC04 A
ASRLDW4300	F427 - F428	16		08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A	08MAR05 A
ASRLDW4400	F414a - F414	16		10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A	10SEP04 A
ASRLDW4500	Connection Point - S404 - S408	0	-34d	11APR05 A	28SEP05	28SEP05	11APR05 A	18AUG05	18AUG05	11APR05 A	28SEP05	11APR05 A	18AUG05	11APR05 A	28SEP05	11APR05 A	18AUG05
ASRLDW4600	CP#4 & CP#3 - SL4-008a	16	-86d	08MAR05 A	30SEP05	30SEP05	08MAR05 A	03JUN05	03JUN05	08MAR05 A	30SEP05	08MAR05 A	03JUN05	08MAR05 A	30SEP05	08MAR05 A	03JUN05
ASRLDW5100	F424 - F422	10		02JUL05 A	24AUG05 A	24AUG05 A	02JUL05 A	24AUG05 A	24AUG05 A	02JUL05 A	24AUG05 A	02JUL05 A	24AUG05 A	02JUL05 A	24AUG05 A	02JUL05 A	24AUG05 A
ASRLDW5110	F422 - F421	6		08JUL05 A	26JUL05 A	26JUL05 A	08JUL05 A	26JUL05 A	26JUL05 A	08JUL05 A	26JUL05 A	08JUL05 A	26JUL05 A	08JUL05 A	26JUL05 A	08JUL05 A	26JUL05 A
ASRLDW5200	SL4-001b - S407 & gullies	35	-98d	08JUL05 A	08APR05 A	08APR05 A	08JUL05 A	26JUL05 A	26JUL05 A	08JUL05 A	08APR05 A	08JUL05 A	26JUL05 A	08JUL05 A	08APR05 A	08JUL05 A	26JUL05 A
ASRLDW5300	CP#7 & CP#6 - S408	10	-98d	08JUL05 A	10OCT05	10OCT05	08JUL05 A	13JUN05	13JUN05	08JUL05 A	10OCT05	08JUL05 A	13JUN05	08JUL05 A	10OCT05	08JUL05 A	13JUN05
ASRLDW5400	S408 - SL4-008a	10	-86d	02AUG05 A	05OCT05	05OCT05	02AUG05 A	13JUN05	13JUN05	02AUG05 A	05OCT05	02AUG05 A	13JUN05	02AUG05 A	05OCT05	02AUG05 A	13JUN05

Decide Exact Location of Manholes & Catchpits

Hand Over 2x2500 Pipe Upstream for Connection

F424 to F427 (In Zone ZC)

Outlet - S413 (2x2500)

S407 - S407A (2x2500)

Connection Point to F431 to F428 (In Zone ZC)

SL4-023a - S412a

CP#10 - S412a

SL4-023a - S412a

S408 - S407 (1800)

Penal Interceptor - SL017a & S412

Connection Point - SL4-020a - S413

S407A - Upstream

SL4-025a - SL4-023a & gullies

Connection Point to F435

SL4-022a - SL4-020a & gullies

F427 - F428

F414a - F414

Connection Point - S404 - S408

CP#4 & CP#3 - SL4-008a

F424 - F422

F422 - F421

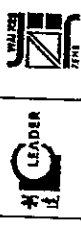
SL4-001b - S407 & gullies

CP#7 & CP#6 - S408

S408 - SL4-008a

ID	Description	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish	Start	Finish
11JUN04	Empty bar	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04	10JUN04
20OCT07	Propose bar	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07	20OCT07
28SEP05	Critical bar	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05	28SEP05
17OCT05	Summary bar	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05	17OCT05
17A	Start milestone point	17A	17A	17A	17A	17A	17A	17A	17A	17A	17A	17A	17A	17A	17A	17A	17A
	Finish milestone point																

Primevera Systems, Inc.



Act ID	Description	Orig Dur	Total Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	
ASRLPK0200	Construct Diver Wall (North)	12	-120d	0	18JAN06	08FEB06	18AUG05	28AUG05	
ASRLPK0300	Lay Kerb (South)	10	-132d	0	18NOV05	28NOV05	08JUN05	21JUN05	
ASRLPK0400	Lay Kerb (North)	22	-184d	0	07JAN06	03FEB06	23JUN05	16JUL05	
ASRLPK0500	Lay Kerb (Parking Area)	20	-35d	0	12OCT05	03NOV05	28AUG05	21SEP05	
ASRLPK0600	Drainpit & Duct (South)	22	-71d	0	18NOV05	10DEC05	22AUG05	15SEP05	
ASRLPK0700	Drainpit & Duct (North)	22	-126d	0	21JAN06	17FEB06	22AUG05	15SEP05	
ASRLPK0800	Drainpit & Duct (CT)	26	-32d	0	18OCT05	18NOV05	07SEP05	08OCT05	
Roads and Drains									
ASRLRP0100	Road Pavement, Cycle Track & Footpath	86	-164d	0	04FEB06	22APR06	20JUL05	08OCT05	
ASRLRP0200	Construct Temporary Cycle Track (Phase 1)	6		100	18APR05 A	20APR05 A	18APR05 A	20APR05 A	
ASRLRP0300	Complete Outstanding Drainage & Road Pavement	6	-59d	0	24DEC05	02JAN06	18OCT05	24OCT05	
ASRLRP0400	Removal of Temporary Cycle Track	3	-58d	0	21DEC05	23DEC05	14OCT05	17OCT05	
ASRLRP0500	Possess Additional Works Area	0		100	21APR05 A		21APR05 A		
ASRLRP0600	Construct Temporary Cycle Track (Phase 2)	10		100	22APR05 A	11MAY05 A	22APR05 A	11MAY05 A	
EB&M Works									
ASRLM0100	Erect Light Post & E&M Works	30	-126d	0	18FEB06	24MAR06	18SEP05	24OCT05	
Regal Manning - Traffic Signs and Fencing									
ASRLM0100	Erect Signage	12	-86d	0	04FEB06	17FEB06	10OCT05	24OCT05	
ASRLM0200	Apply Road Marking	14	-164d	0	24APR06	10MAY06	07OCT05	24OCT05	
ASRLM0300	Construct Fencing	30	-114d	0	04FEB06	10MAR06	18SEP05	24OCT05	
SECTION B									
Cycle Track									
Drainage Works									
ACTDW0100	Decide Exact Location of Manholes & Catchpits	1		100	27SEP04 A	27SEP04 A	27SEP04 A	27SEP04 A	
ACTDW0200	S774 - Existing Box Culvert (in ZJ)	23	-120d	80	08JUL05 A	04OCT05	08JUL05 A	11MAY05	
ACTDW0210	S773 - S774 (in ZJ)	15	-120d	80	13JUL05 A	04OCT05	13JUL05 A	11MAY05	
ACTDW0220	S784 - S780 (in ZJ)	34		100	28SEP04 A	20DEC04 A	28SEP04 A	23DEC04 A	
ACTDW0230	S780 - Culvert (in ZJ)	18	-118d	80	08JUL05 A	03OCT05	08JUL05 A	11MAY05	
ACTDW0400	S785 - S789 (in ZG1)	25	-121d	80	20APR05 A	28SEP05	20APR05 A	08MAY05	
ACTDW0410	S785 - S789 (in Remaining ZG1)	24		100	03AUG05 A	15AUG05 A	03AUG05 A	15AUG05 A	
ACTDW0600	Sewerage System (in ZJ)	42		100	10NOV04 A	30DEC04 A	10NOV04 A	30DEC04 A	
ACTDW0610	F410 - F414 (in ZG1)	24		100	21FEB05 A	08SEP05 A	21FEB05 A	08SEP05 A	
ACTDW0610	F408 - F410 (in Remaining ZG1)	24		100	02APR05 A	27AUG05 A	02APR05 A	27AUG05 A	
ACTDW0700	F409 - TM02	18		100	18SEP05 A	27SEP05 A	18SEP05 A	27SEP05 A	
Utility Works									
ACTUT0000	D.I. Pipes & Filings Delivery On Site	33	-131d	85	28JUN05 A	04OCT05	28JUN05 A	27APR05	
ACTUT0100	Watermain - Lay Fresh & Salt Main (in ZJ, South)	22	-131d	80	15AUG05 A	03OCT05	15AUG05 A	28APR05	
ACTUT0110	Watermain - Lay Fresh & Salt Main (in ZJ, North)	22	-131d	0	04OCT05	26OCT05	27APR05	24MAY05	
ACTUT0200	Watermain - Lay Fresh & Salt Main (in ZG1)	14	-131d	0	10OCT05	15NOV05	28MAY05	09JUN05	
ACTUT0200	CLP - Lay 132kV Cable (in ZJ, South)	34		100	17DEC04 A	12JAN05 A	17DEC04 A	12JAN05 A	
ACTUT0210	CLP - Lay 132kV Cable (in ZJ, North)	21	-120d	0	05OCT05	28OCT05	15MAY05	02JUN05	
ACTUT0400	CLP - Lay 132kV Cable (in ZG1)	22	-121d	0	30SEP05	27OCT05	07MAY05	02JUN05	
ACTUT0410	CLP - Lay 132kV Cable (in Remaining ZG1)	22		100	10SEP05 A	13SEP05 A	10SEP05 A	13SEP05 A	
ACTUT0600	CLP - Lay 11kV Cable (in ZJ, South)	17		100	28FEB05 A	14MAR05 A	28FEB05 A	14MAR05 A	
ACTUT0610	CLP Lay 11kV Cable (in ZJ, North)	12	-120d	0	28OCT05	08NOV05	02JUN05	16JUN05	
ACTUT0700	CLP - Lay 11kV Cable (in ZG1)	12	-121d	0	21OCT05	03NOV05	27MAY05	06JUN05	
ACTUT0710	CLP - 11kV Cable (in Remaining ZG1)	12	-103d	0	28SEP05	10OCT05	27MAY05	06JUN05	

Code	Description	Orig Dur	Total Dur	Percent Complete	Start	Finish	Est. Sub	Est. Cost
ABWPHL1000	Parapet Wall along Seawall (in ZJ ZM, ZL1)	80	256	0	28NOV05	02MAR06	24DEC05	31MAR05
ABWPHL1200	Construct Parapet (3 nos.)	72	864	0	14MAR06	08JUN06	06JUN06	28AUG06
ABWPHL1300	Water Point WP24-4 to 24-1	15	210	0	31MAR06	16APR06	26APR06	19MAY06
ABWPHL1400	Water Point WP23-3 to 22-1	18	180	0	31MAR06	22APR06	13MAY06	19MAY06
ABWPHL1500	Water Point WP21-3 to 21-1	12	288	0	05APR06	18APR06	09MAY06	22MAY06
ABWPHL1600	Water Point WP20-4 to 20-1	21	378	0	20FEB06	15MAR06	05APR06	28APR06
ABWPHL1700	Water Point WP19-4 to 19-1	15	180	0	09MAR06	24MAR06	20MAR06	16APR06
ABWPHL1800	Water Point WP18-3 to 18-2	12	210	0	09MAR06	21MAR06	01APR06	15APR06
ABWPHL1900	Water Point WP17-5 to 17-1	19	160	0	16JAN06	07FEB06	08FEB06	25FEB06
ABWPHL2000	Water Point WP16-3 to 16-1	12	228	0	16JAN06	28JAN06	18FEB06	25FEB06
ABWPHL2000	ASD's Contractor Works	300	-67d	0	28SEP05	27SEP06	22JUL05	22JUL06

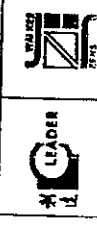
Code	Description	Orig Dur	Total Dur	Percent Complete	Start	Finish	Est. Sub	Est. Cost
ARLSMA1000	Propose Monitoring Plan for OSD's Submarine Pipe	30		100	01SEP04	06SEP04	01SEP04	06SEP04
ARLSMA1000	Engineer & OSD Approval of Monitoring Plan	36		100	07SEP04	01MAR05	07SEP04	01MAR05
ARLSMA0300	Setup Monitoring for OSD's Submarine Pipeline	30		100	14MAR05	14MAR05	14MAR05	14MAR05
ARLSMA0400	Drilling & CPPT	30		100	11SEP04	11OCT04	11SEP04	11OCT04
ARLSMA0500	Taking Up of Existing Armour to +2.5	2		100	08NOV04	08NOV04	08NOV04	08NOV04
ARLSMA0610	Taking Up of Existing Underlayer to +2.5	3		100	11NOV04	13NOV04	11NOV04	13NOV04
ARLSMA0600	Taking Up of Existing Rubble to +2.5	3		100	17NOV04	19NOV04	17NOV04	19NOV04
ARLSMA0620	Taking Up of Existing Armour Below +2.5	3		100	24NOV04	27NOV04	24NOV04	27NOV04
ARLSMA0630	Taking Up of Existing Rubble Below +2.5	3		100	05DEC04	08DEC04	05DEC04	08DEC04
ARLSMA0640	Taking Up of Existing Rubble Below +2.5	6		100	13DEC04	18DEC04	13DEC04	18DEC04
ARLSMA0700	Dredging of Marine Mud	10		100	16FEB05	11MAR05	16FEB05	11MAR05
ARLSMA0800	Placing of Rubble Foundation	20		100	18MAR05	14MAR05	18MAR05	14MAR05
ARLSMA0830	Placing Leveling Stone	15		100	28MAR05	19APR05	28MAR05	19APR05
ARLSMA0850	Block Wall Construction 2 Layers from Bottom (N)	23		100	20APR05	28SEP05	20APR05	28SEP05
ARLSMA0900	Block Wall Construction 2 Layers from Bottom (S)	6		100	04MAY05	31MAY05	04MAY05	31MAY05
ARLSMA0910	Block Wall Construction to Top Level	9		100	17JUL05	24AUG05	17JUL05	24AUG05
ARLSMA0920	Placing of Berstones	50		100	28APR05	28AUG05	28APR05	28AUG05
ARLSMA1000	Backfill the Rubble Behind	3		100	29AUG05	11SEP05	29AUG05	11SEP05
ARLSMA1100	Backfill the G200 Rockfill Behind	14	201d	80	12SEP05	20SEP05	12SEP05	22APR06
ARLSMA1100	Backfill the G200 Rockfill Behind	4	201d	0	30SEP05	03OCT05	30SEP05	28APR06
ARLSLW0100	Submit Shop Drawings & Calculation of Roof Cover	30		100	18AUG05	16SEP05	18AUG05	16SEP05
ARLSLW0200	Engineer Approval of Shop Drawings & Calculation	30	56d	80	16SEP05	10OCT05	16SEP05	18DEC05
ARLSLW0300	Procurement of Pyramid Skylight	120	86d	0	12OCT05	04MAR06	23JAN06	18JUN06
ARLSLW0500	Procurement of Structural Steel	120	56d	0	12OCT05	04MAR06	16DEC05	11MAY06
ARLSLW0600	Delivery of Pyramid Skylight	30	86d	0	09MAR06	10APR06	17JUN06	22JUL06
ARLSLW0700	Delivery of Structural Steel	30	56d	0	09MAR06	10APR06	12MAY06	16JUN06
ARLSLW0800	Inspection & Testing	30	56d	0	11APR06	18MAY06	17JUN06	22JUL06
ARLSLW0900	Fabrication & Painting of Steel Works	48	56d	0	17MAY06	13JUL06	24JUL06	16SEP06
ARLSLW1000	Concrete Coping with 10 tonne Bollard & Handrail	30	170d	0	04OCT05	08NOV05	27APR06	02JUN06
ARLSLW1100	Construct Shelter Footing	24	108d	0	23JAN06	21FEB06	03JUN06	30JUN06
ARLSLW1200	Construct Shelter Column	30	144d	0	27FEB06	28MAR06	14AUG06	16SEP06

AG ID	Description	Orig Dur	Total Dur	Percent Complete	Start	Finish	Start	Finish	Lat	Long
A1BSLW1300	Construct Shelter Roof	24	56d	0	14JUL06	10AUG06	18SEP06	19OCT06	100° 00' 00"	100° 00' 00"
A1BSLW1400	Public Lighting	8	56d	0	11AUG06	19AUG06	17OCT06	25OCT06	100° 00' 00"	100° 00' 00"
A1BSLW1500	Rubber, Step & Land Site	18	56d	0	21AUG06	08SEP06	26OCT06	16NOV06	100° 00' 00"	100° 00' 00"
A1BSLW1600	Surface Mounted Seals	18	56d	0	11SEP06	30SEP06	17NOV06	07DEC06	100° 00' 00"	100° 00' 00"
A1BSLW1700	Construct In situ Concrete Paving	18	56d	0	09OCT06	23OCT06	08DEC06	28DEC06	100° 00' 00"	100° 00' 00"

AG ID	Description	Orig Dur	Total Dur	Percent Complete	Start	Finish	Start	Finish	Lat	Long
B0RWMW0100	Demolish HY7802 CRE Office	1	107d	0	03MAR06	03MAR06	11JUL06	11JUL06	100° 00' 00"	100° 00' 00"
B0RWMW0200	Demolish HY7802 CRE Office (P1)	30	107d	0	25MAR06	28APR06	02AUG06	06SEP06	100° 00' 00"	100° 00' 00"
B0RWMW0300	Demolish HY7802 Contractor's Office	1	100	100	22NOV04	22NOV04	22NOV04	22NOV04	100° 00' 00"	100° 00' 00"
B0RWMW0400	Demolish HY7802 Contractor's Office (P1)	30	100	100	21MAY05	21MAY05	21MAY05	27MAY05	100° 00' 00"	100° 00' 00"
B0RWMW0500	Remove Run-in & Reinstalls FPCT	1	126d	0	02MAY06	02MAY06	02OCT06	02OCT06	100° 00' 00"	100° 00' 00"
B0RWMW0600	Remove Run-in & Reinstalls FPCT(P1)	18	111d	0	15JUN06	06JUL06	25OCT06	15NOV06	100° 00' 00"	100° 00' 00"
B0RWMW0700	Demolish Existing Paving	1	107d	0	02MAY06	02MAY06	06SEP06	06SEP06	100° 00' 00"	100° 00' 00"
B0RWMW0800	Demolish Existing Paving (P1)	18	107d	0	14JUN06	14JUN06	26SEP06	19OCT06	100° 00' 00"	100° 00' 00"
B0RWMW0900	IEI to Fencing Around LO Site	1	111d	0	07JUL06	07JUL06	16NOV06	16NOV06	100° 00' 00"	100° 00' 00"
B0RWMW1000	Fencing Around LO Site (P1)	18	111d	0	26JUL06	18AUG06	08DEC06	28DEC06	100° 00' 00"	100° 00' 00"

AG ID	Description	Orig Dur	Total Dur	Percent Complete	Start	Finish	Start	Finish	Lat	Long
B1AASL0100	Soil Mix (Section 5)	24	-132d	0	08FEB06	07MAR06	30AUG05	27SEP05	100° 00' 00"	100° 00' 00"
B1AASL0200	Soil Mix (in ZS, South End - 100m)	10	-87d	0	06DEC05	14DEC05	13SEP05	24SEP05	100° 00' 00"	100° 00' 00"
B1AASL0300	Soil Mix (in ZS, 100 - 200m)	10	-88d	0	11JAN06	21JAN06	13SEP05	24SEP05	100° 00' 00"	100° 00' 00"
B1AASL0400	Soil Mix (in ZS, 200 - 300m)	10	-85d	0	11JAN06	21JAN06	02NOV05	12NOV05	100° 00' 00"	100° 00' 00"
B1AASL0500	Soil Mix (in ZS, 300 - 400m)	10	-73d	0	21JAN06	10FEB06	02NOV05	12NOV05	100° 00' 00"	100° 00' 00"
B1AASL0600	Soil Mix (in ZS, 400 - North End)	10	-132d	0	17MAY06	27MAY06	07DEC05	17DEC05	100° 00' 00"	100° 00' 00"
B1AASL0700	Soil Mix (in ZL, 300m)	30	-78d	0	25JAN06	02MAR06	24OCT05	28NOV05	100° 00' 00"	100° 00' 00"
B1AASL0800	Planting Works	90	-132d	0	06MAR06	21JUN06	28SEP05	12JAN06	100° 00' 00"	100° 00' 00"
B1AASL0900	Groundcovers Works	50	-132d	0	28MAY06	27JUL06	19DEC05	18FEB06	100° 00' 00"	100° 00' 00"
B1AASL1000	Root Barrier (ZS, 100m - 200m) (VO065A)	12	-78d	0	03DEC05	18DEC05	30AUG05	12SEP05	100° 00' 00"	100° 00' 00"
B1AASL1100	Root Barrier (ZS, 200m - 300m) (VO065A)	12	-85d	0	23DEC05	06JAN06	19OCT05	01NOV05	100° 00' 00"	100° 00' 00"
B1AASL1200	Root Barrier (ZS, 300m - 400m) (VO065A)	12	-85d	0	22DEC05	06JAN06	19OCT05	01NOV05	100° 00' 00"	100° 00' 00"
B1AASL1300	Root Barrier (ZS, 400m - N. End) (VO065A)	2	-118d	0	28APR06	29APR06	03DEC05	03DEC05	100° 00' 00"	100° 00' 00"

AG ID	Description	Orig Dur	Total Dur	Percent Complete	Start	Finish	Start	Finish	Lat	Long
B2ABSL0100	Soil Mix (in ZR, 365m)	47	16d	0	22APR06	17JUN06	15MAY06	10JUL06	100° 00' 00"	100° 00' 00"
B2ABSL0200	Soil Mix (in ZK, 180m)	24	28d	0	19APR06	17MAY06	23MAY06	20JUN06	100° 00' 00"	100° 00' 00"
B2ABSL0300	Soil Mix (in ZR, 65m)	12	37d	0	24MAR06	07APR06	08MAY06	23MAY06	100° 00' 00"	100° 00' 00"
B2ABSL0400	Soil Mix (in ZS, 50m)	7	37d	0	18MAR06	23MAR06	29APR06	08MAY06	100° 00' 00"	100° 00' 00"
B2ABSL0500	Soil Mix (Z1 - Landscape Node 1 South, 260m)	30	18d	0	25MAR06	20APR06	17APR06	22MAY06	100° 00' 00"	100° 00' 00"
B2ABSL0600	Soil Mix (Z1 - Landscape Node 1 South, 260m)	71	16d	0	08FEB06	03MAY06	27FEB06	22MAY06	100° 00' 00"	100° 00' 00"
B2ABSL0700	Planting Works	90	16d	0	04MAY06	18AUG06	23MAY06	08SEP06	100° 00' 00"	100° 00' 00"
B2ABSL0800	Groundcovers Works	50	16d	0	18AUG06	17OCT06	07SEP06	09NOV06	100° 00' 00"	100° 00' 00"
B2ABSL0900	Root Barrier (in ZK) (VO065)	12	22d	0	10JAN06	25JAN06	13FEB06	23FEB06	100° 00' 00"	100° 00' 00"
B2ABSL1000	Root Barrier (in ZS) (VO065)	2	34d	0	03MAY06	01APR06	12MAY06	13MAY06	100° 00' 00"	100° 00' 00"

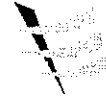


ID	Description	Unit	Start	Finish	Status	Early Start	Early Finish	Start Milestone	Finish Milestone
1301	Soil Mix (Area SA1 - South Section)	30	10APR06	15MAY06	23AUG06	26SEP06			
1302	Soil Mix (Area SA1 - North Section)	30	17APR06	22MAY06	23AUG06	26SEP06			
1303	Soil Mix (Car Park, Loading & Unloading Area)	8	02SEP06	06SEP06	03NOV06	09NOV06			
1304	Soil Mix (Area Adjacent Road SL3)	30	16JUN06	21JUL06	23AUG06	26SEP06			
1305	Planting Works	80	22JUL06	26SEP06	27SEP06	07DEC06			
1306	Planting Works (Car Park/Loading/Unloading Area)	8	06SEP06	16SEP06	20DEC06	26DEC06			
1307	Area SA6, SA9, SA16, SA18, SA17 & SA18								
1308	Landscape Soilworks								
1309	Planting Works	45	24MAY06	17JUL06	26SEP06	21NOV06			
1310	Groundcovers Works	30	16JUL06	21AUG06	22NOV06	26DEC06			
1311	Area SA9, SA11B & SA14								
1312	Establishment Works	300	-127d	21JUL07	23FEB06	17FEB07			
1313	Area SA7, SA19, SA11A, SA12 & SA13								
1314	Establishment Works	300	20d	16OCT06	12OCT07	11NOV06	06NOV07		
1315	Area SA1, SA2, SA3, SA4 & SA5								
1316	Establishment Works	320	87d	30SEP06	20OCT07	08DEC06	26DEC07		
1317	Area SA8, SA9, SA16, SA18, SA17 & SA18								
1318	Establishment Works	300	111d	22AUG06	19AUG07	02JAN07	20DEC07		

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

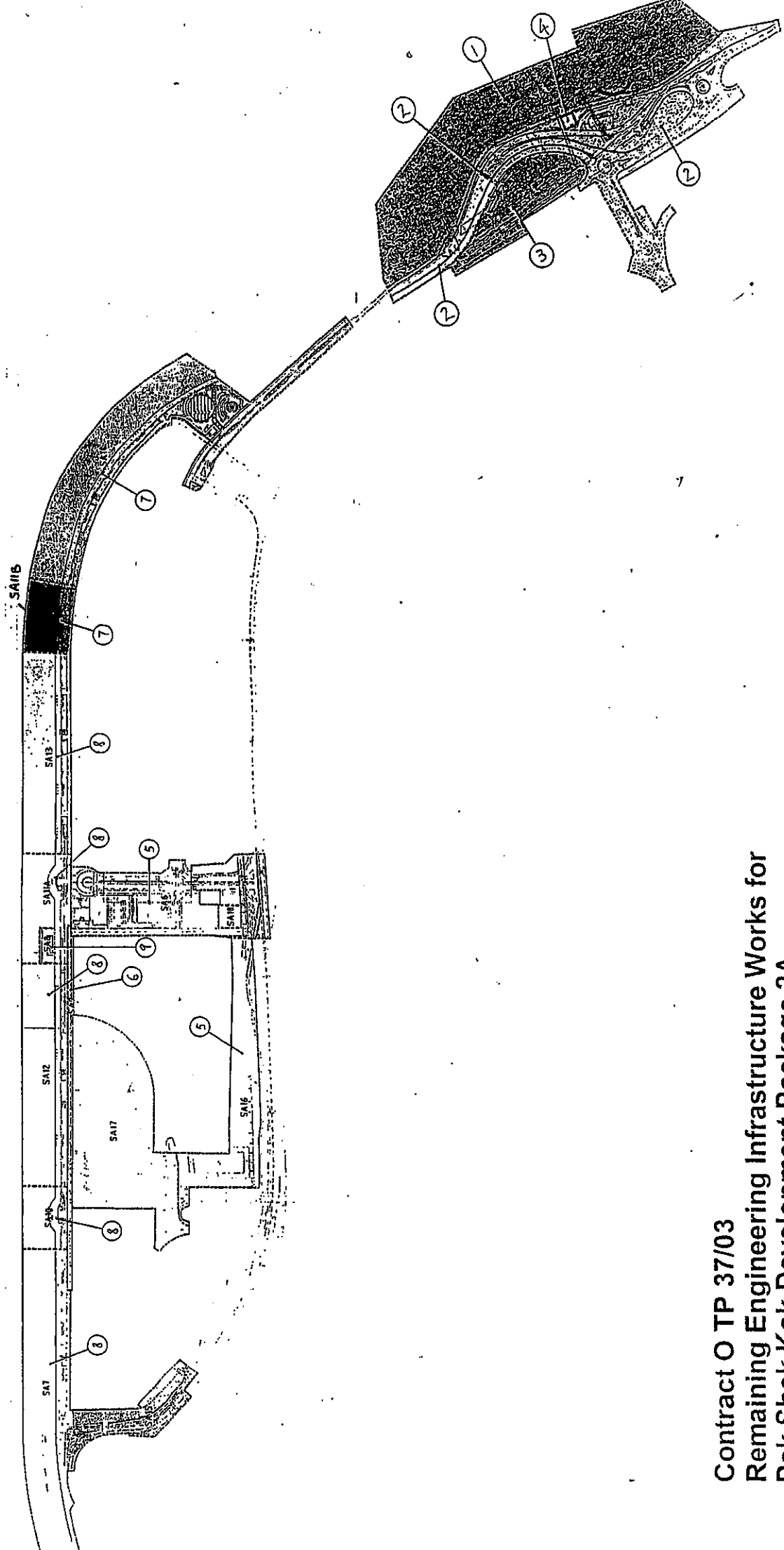
Leader - Wai Kee (C&T) Joint Venture
 TP37/03 - Revised Works Programme - RP04

LEADER
 WAI KEE
 WAI KEE
 WAI KEE



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 : 7 January 2006 Inspected by Name : (RSS) Eric Leung (LWKJM) *Eric Leung* (ET) H.T. Chow
Time : 10:00 Signature : *Eric Leung*

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 NSRFs.	<input checked="" type="checkbox"/>		
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	<input checked="" type="checkbox"/>		
▪ Noise enclosures, noise barriers, or portable noise barriers used where necessary.	<input checked="" type="checkbox"/>		
▪ Air compressors and hand held breakers should have noise labels.	<input checked="" type="checkbox"/>		
▪ Compressors and generators should operate with door closed.	<input checked="" type="checkbox"/>		
▪ Construction Noise Permits should be available for inspection.	<input checked="" type="checkbox"/>		



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

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



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	✓		✓	(2)
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓			
• Any unused chemicals or those with remaining functional capacity should be recycled.	✓			
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	✓			
• Suitable collection sites around site offices will be required. For environmental hygiene reasons and to minimize odor, refuse should not be stored for a period exceeding 48 hours, however, removal every 24 hours is preferable.	✓			
• Minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed container.	✓			
• All generators, fuel and oil storage are within bundle areas.	✓			
• Oil leakage from machinery, vehicle and plant is prevented.	✓			
• Chemical storage area, drainage systems, silt traps, sumps and oil interceptors are cleaned and maintained regularly.	✓			

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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 12 January 2006 Inspected by : Sunny Yung (LWKJM) (ET) H.T.C. Chow
 Time : 14:15 Signature : *[Signature]*
 Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong Temperature : 21°C Humidity : High / Moderate / Low

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



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Implementation Stages*			Remark
	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	
Filling Activities				
Use of silt screen around the filling face to reduce the losses to the surrounding.	<input checked="" type="checkbox"/>			#3
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.			<input checked="" type="checkbox"/>	
The works shall cause no visible foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.	<input checked="" type="checkbox"/>			
All barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material.			<input checked="" type="checkbox"/>	
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.			<input checked="" type="checkbox"/>	
Waste Management				
Marine Dredged Sediment				
Relevant licence / permits for disposal of marine dredged sediment are available for inspection.			<input checked="" type="checkbox"/>	
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.			<input checked="" type="checkbox"/>	
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.			<input checked="" type="checkbox"/>	
Transport of dredged marine sediments to the disposal site is by split barge of not less than 750m ³ capacity, well maintained and capable of rapid opening and discharge at the disposal site.			<input checked="" type="checkbox"/>	
Inspection of the barge loading to ensure that loss of material does not take place during transportation.			<input checked="" type="checkbox"/>	
Construction and Demolition (C&D) Waste				
Most of the C&D materials generated from the construction are sorted immediately in-situ to find out if they can be re-used for this job site or for other job sites.	<input checked="" type="checkbox"/>			
Sufficient spaces are identified and provided during the construction stage for the collection, temporary storage and on-site sorting of C&D materials.	<input checked="" type="checkbox"/>			
Proper protective measures, such as fences and tarpaulin, are provided, in order to protect the temporary stockpiled materials for later reuse / recycle.	<input checked="" type="checkbox"/>			
Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials)	<input checked="" type="checkbox"/>			
In order to reduce the impacts to the public, except for those sorted inert C&D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste formworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away the sensitive receivers.	<input checked="" type="checkbox"/>			
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.	<input checked="" type="checkbox"/>			
Recyclable materials sorted from the site should be collected by potential recycling contractors under the Contractor's arrangement.	<input checked="" type="checkbox"/>			
Trip ticket system will be implemented to ensure proper waste disposal at public filling and landfills	<input checked="" type="checkbox"/>			
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.	<input checked="" type="checkbox"/>			
Proper resource planning and calculations before ordering the construction materials to be used will ensure that the wastage of the materials can be minimized	<input checked="" type="checkbox"/>			



SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures on Waste Management	Implementation Stages*		Remark
	Yes	No N/A	
• 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 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 2006 Inspected by Name : (RSS) Eric Leung (LWKJM) *Eric Leung* (ET) H.T. Chow
 Time : 13:30 Signature : *[Signature]*
 Weather Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong Temperature : 20°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.	✓		



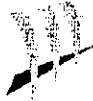
SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	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

	Mitigation Measures on Waste Management			Remark	
	Implementation Stages*		Yes		
<i>Filling Activities</i>	Yes	No		N/A	
<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. 	✓			#1 & ①	
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.				

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

Inspection Date : 26/01/06
 Time : 14:45
 Inspected by : (RSS) Eric Leung
 Signature : *Eric Leung*
 Name : (LWKJW) Ben Yip
 Signature : *Ben Yip*
 Name : (ET) Lada Lam
 Signature : *Lada Lam*
 Weather : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Condition : Sunny / Fine / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 18 °C
 Humidity : High / Moderate / Low

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

SITE INSPECTION CHECKLIST ON THE IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES

	Implementation Stages*		Remark
	Yes	No / N/A	
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.	/		Rem ①
▪ 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

Filling Activities	Implementation Stages*		Remark
	Yes	No	
Mitigation Measures on Waste Management			
<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 protective the temporary stockpiled materials for later reuse / recycle. • Avoiding cross contamination to reusable and / or recyclable materials collected (e.g. covering the reusable materials) • In order to reduce the impacts to the public, except for those sorted inert C&D materials to be reused on site, all other sorted non-inert materials (e.g. general refuse and waste formworks) shall be removed off site as soon as practicable in order to optimise the use of the on-site storage space. If the non-inert materials need to be stored on site for a short period, the materials shall be centralized and stored at specific areas far away 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.				



Appendix I

IEC and RE Comments on Monthly EM&A Report

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December 2005

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

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



Appendix J

Wastewater Monitoring

—

Test Reports of Wastewater Samples from Discharge Points



ENVIRO LABS LIMITED

環境化驗有限公司

TEST REPORT

JOB NO. : A-051003-1
DATE OF ISSUE : 21 November 2005
PAGE : 1 of 1

1. Client

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

2. Sample Identification

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

3. Test Method

Parameter	Reference Method	Testing Period
(i) Total Suspended Solids (TSS) Dried at 103-105°C	APHA ¹ 17e 2540 D	14 Nov 2005

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

4. Test Result*

Sample Label	Test Parameter	Sample No.	Test Result	Discharge Limit**	Unit
MLS Pier 1	Total Suspended Solids	051003-2	9.7	≤30	mg/L

* Test results relate only to the items received.

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

--- END OF REPORT ---



APPROVED SIGNATORY :

Kenneth Lam
(Laboratory Manager)

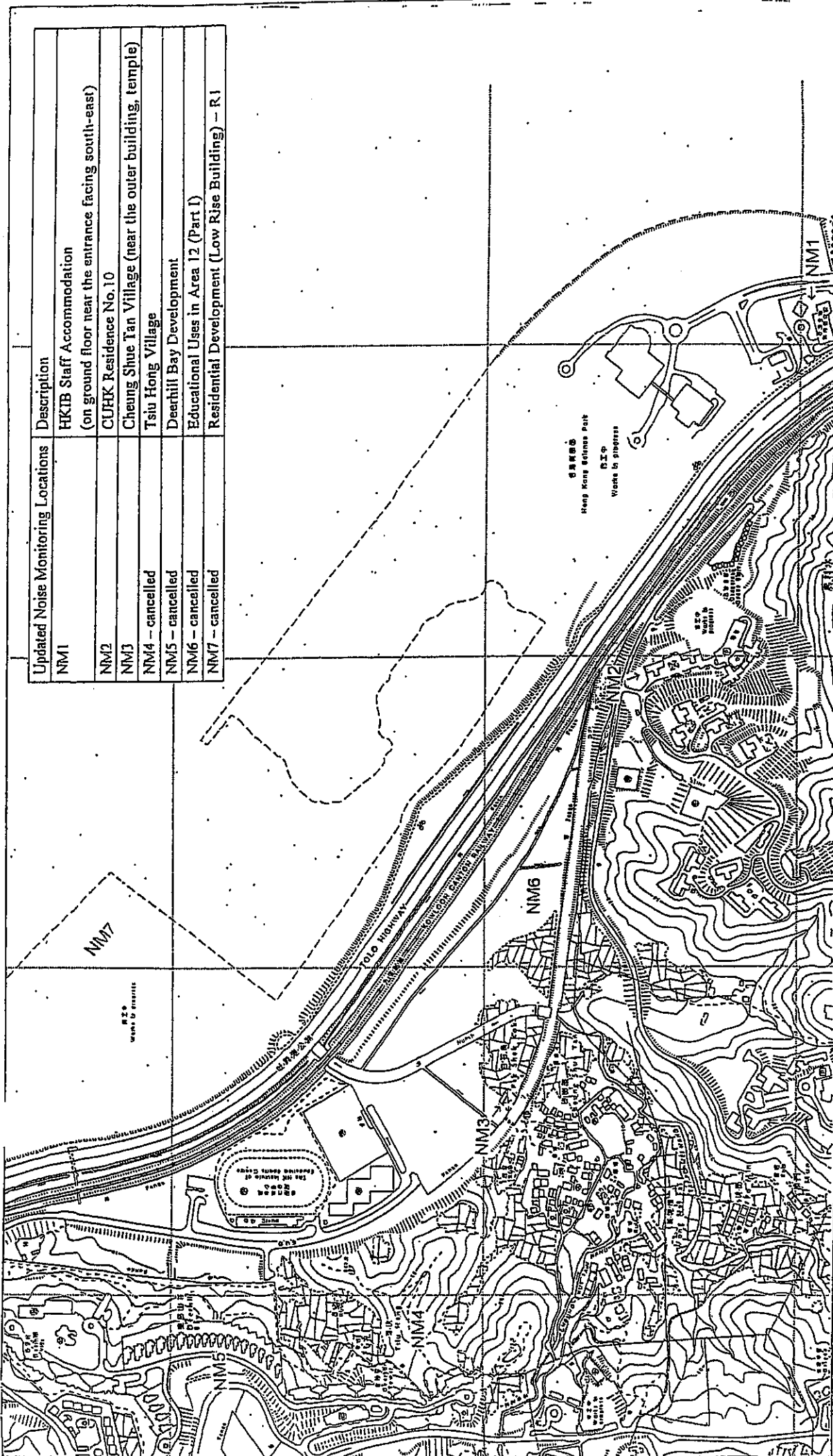
Rm 611-612, Hong Leong Plaza, 33 Lok Yip Road,
Fanling, N.T., Hong Kong

Tel: (852) 2676 2983
Fax: (852) 2676 2860

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



Figures



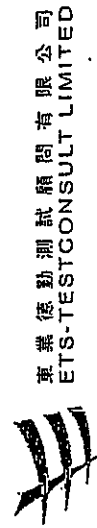
Updated Noise Monitoring Locations	Description
NM1	HKIB Staff Accommodation (on ground floor near the entrance facing south-east)
NM2	CUFK Residence No.10
NM3	Cheung Shue Tan Village (near the outer building, temple)
NM4 - cancelled	Tsui Hong Village
NM5 - cancelled	Deerhill Bay Development
NM6 - cancelled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

Scale : ---

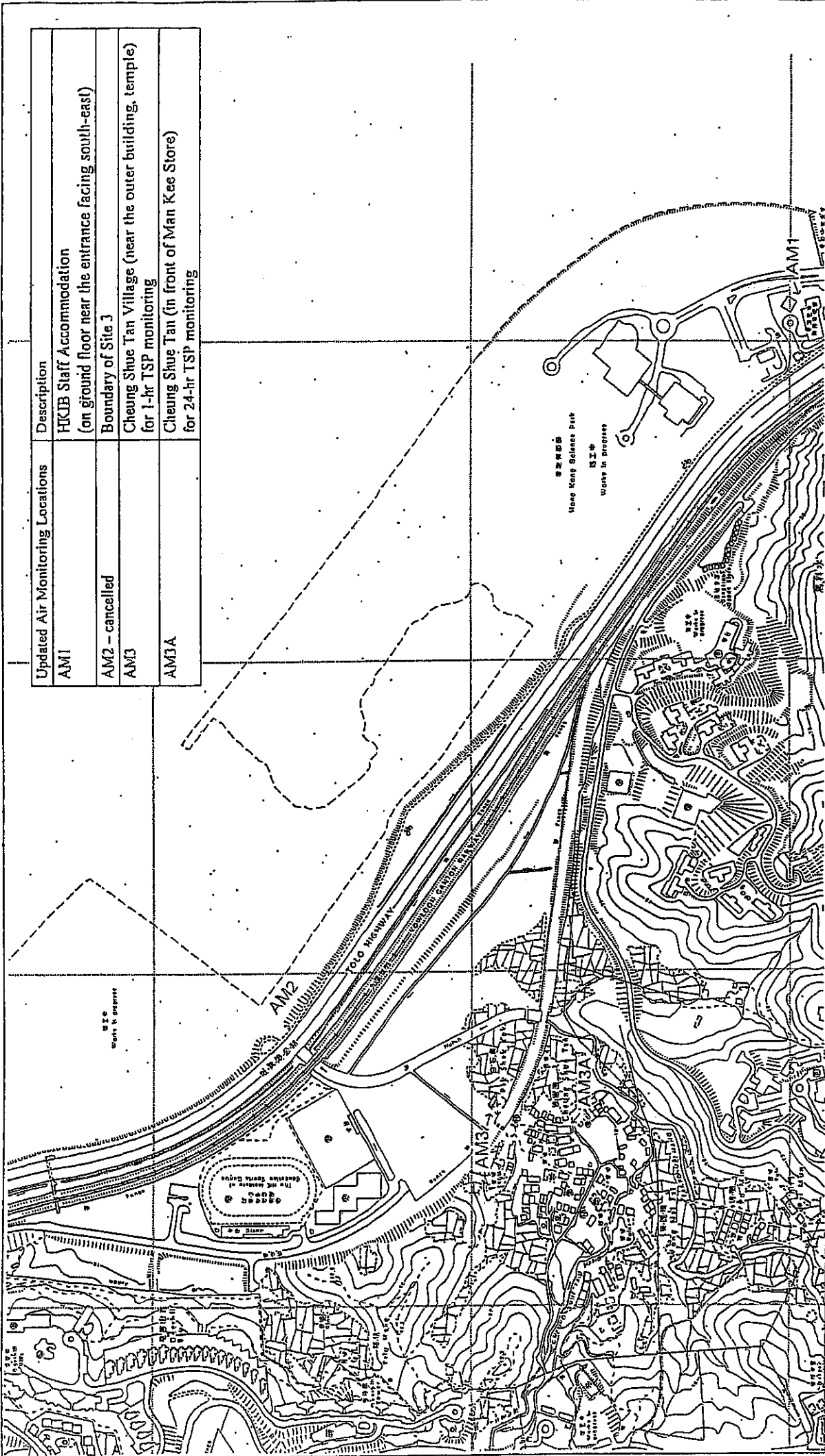
Revised Date: ...

June 2004

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



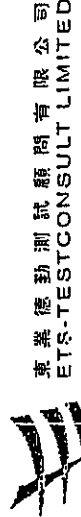
專業德勤測試顧問有限公司
 ETS-TESTCONSULT LIMITED



Scale : ---

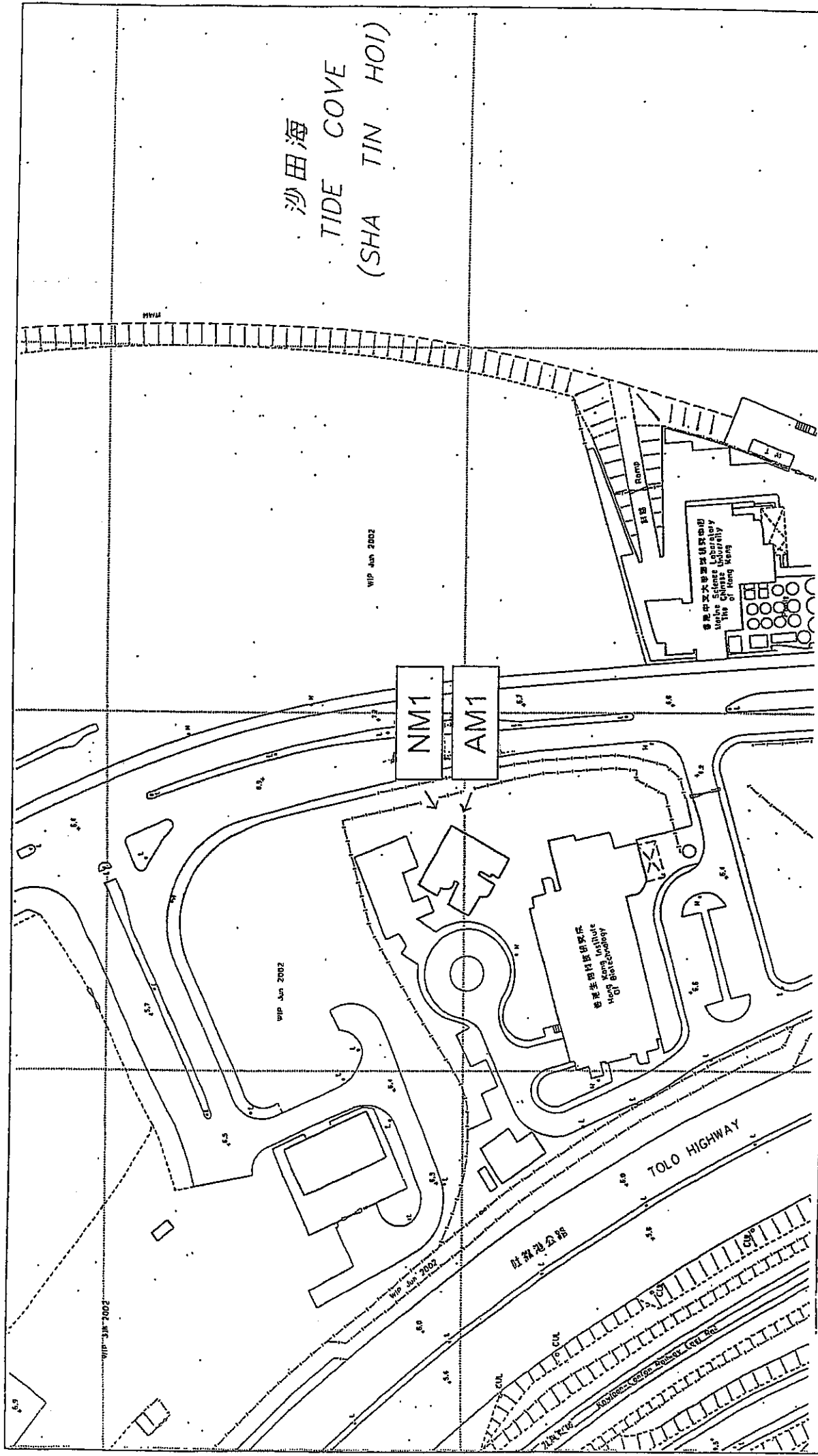
Revised Date:

June 2004



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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



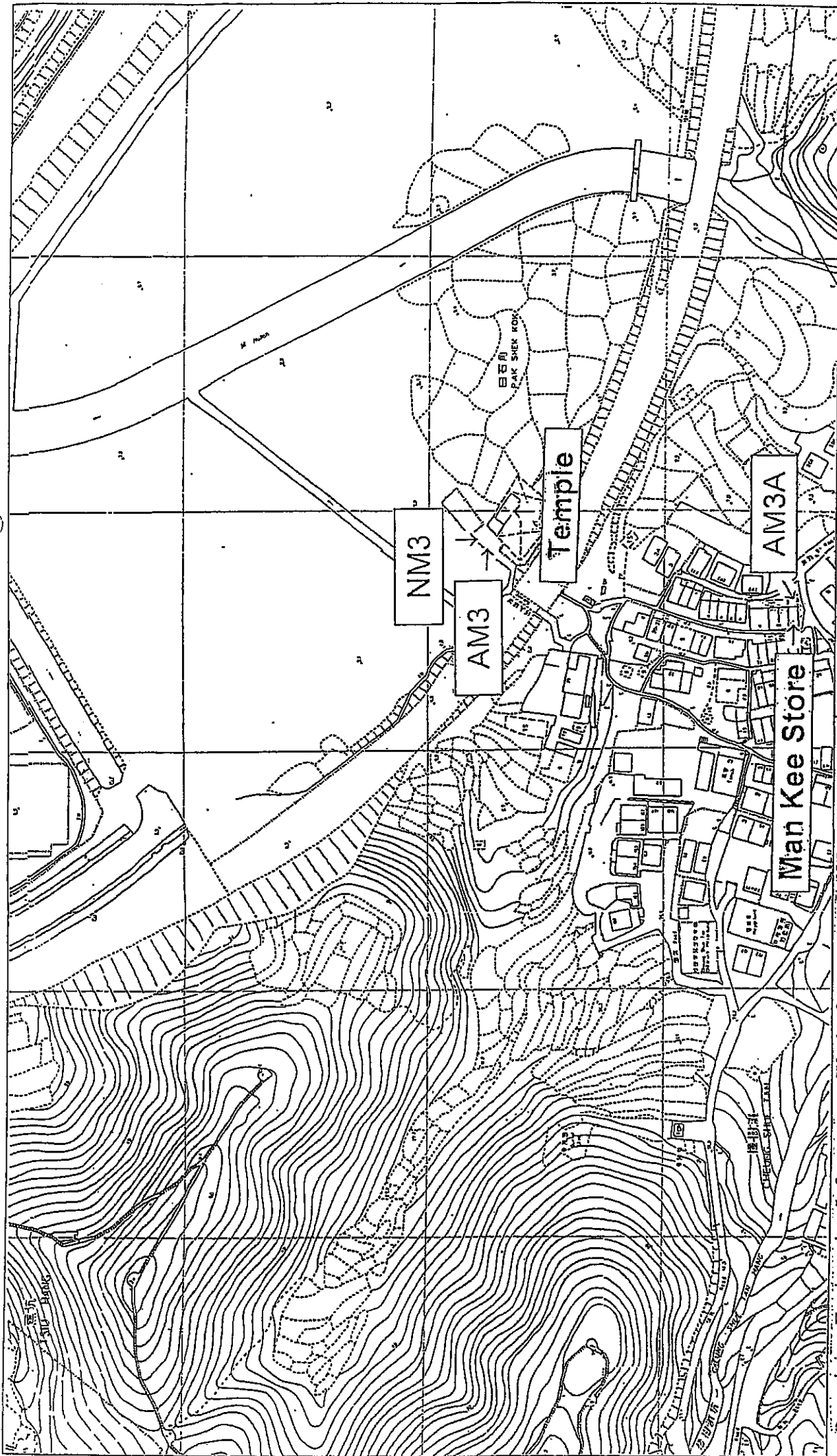
Remaining Engineering Infrastructure Works for
 Pak Shek Kok Development Package 2A
 Contract No. TP 37/03
 Figure 3 Location of Air and Noise Monitoring Stations
 at HKIB Staff Accommodation

Scale : ---

Revised Date:
 June 2004



東業德勘測試驗有限公司
 ETS-TESTCONSULT LIMITED



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

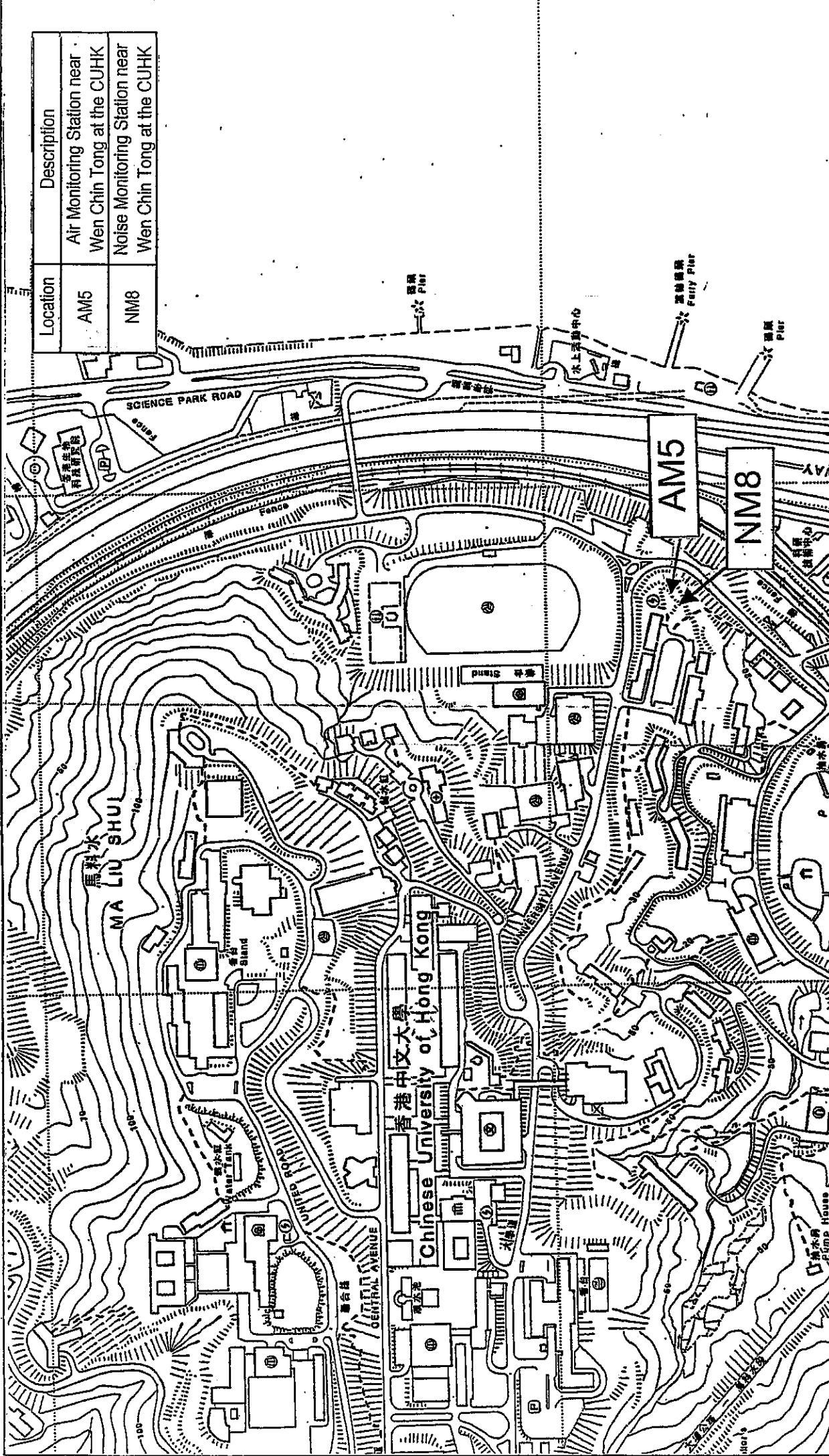
Scale : ---

Revised Date:

June 2004



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

Remaining Engineering Infrastructure Works for Pak Shek Kok Development

Package 2A Contract No. TP 37/03

Scale : ---

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

Revised Date :
October 2004



東業德動測試顧問有限公司
ETS-TESTCONSULT LIMITED