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TEST REPORT

PENTA-OCEAN CONSTRUCTION COMPANY LIMITED

REMAINING ENGINEERING INFRASTRUCTURE WORKS FOR PAK SHEK KOK DEVELOPMENT PACKAGE 1 (CONTRACT NO.: TP 35/02)

QUARTERLY EM&A SUMMARY REPORT (FROM JANUARY TO MARCH 2003)

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Checked by:
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Approved by:
Tony Wong
Operations Manager

Reporting period: 27 December 2002 to 31 March 2003

Conditions of issue of this report are printed overleaf.

INDEPENDENT ENVIRONMENTAL CHECKER

CHECK CERTIFICATE

Verified: _____
Independent Environmental Checker

Name: Ms Jacquelyn Anderson
Associate Director
Hyder Consulting Limited

TABLE OF CONTENTS

Figure

Tables

EXECUTIVE SUMMARY

This report is the first quarterly EM&A summary report (No.1) and 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 1 (Contract No: TP 35/02) during the reporting period from 27 December 2002 to March 2003.

Construction Progress in this Quarter

The major construction works in this reporting period included erecting and servicing Engineer's and Contractor's Site Accommodation, erecting hoarding, signboards and temporary gate, constructing and maintaining wheel-washing facilities, concrete block panels, excavation, constructing drainage and sewerage system, preloading mound formation, RE wall construction, removal of existing mounds, relocation of Temporary cycle track, ground investigation and general site clearance.

Environmental Monitoring Progress

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

- Noise Monitoring (Day-time): 13 Occasions at 3 designated locations;
- Noise Monitoring (Evening-time): 13 Occasions at 3 designated locations;
- Noise Monitoring (Holiday): 13 Occasions at 3 designated locations;
- 24-hour TSP Monitoring: 15 Occasions at 1 designated location;
- 1-hour TSP Monitoring: 39 Occasions at 2 designated locations;
- Weekly-site inspection: 14 Occasions.

Noise Monitoring

According to the summary of monitoring exceedances, no exceedances of Action and Limit levels for noise monitoring were recorded in this quarter.

Air Monitoring

No 24-hour TSP monitoring was carried out at HKIB Staff Accommodation in the reporting period because the application for the permission to set up and providing power supply for the monitoring equipment (High Volume Sampler) is still under process. 24-hour TSP monitoring is pending approval by CUHK of access to monitoring location. Hence, only 1-hour TSP monitoring at HKIB Staff Accommodation was conducted to monitor the air quality in this reporting period.

No exceedances of Action and Limit levels were recorded for 24-hr TSP and 1-hr TSP monitoring in this quarter.

Environmental Complaints

No environmental complaints were received in this reporting period.

Notification of summons and successful prosecutions

No notification of summons and prosecutions with respect to environmental issues registered in this quarter.

The monitored environmental data indicated that no unacceptable environmental impacts arising from the Project had been caused to the surrounding sensitive receivers. The environmental measures had been effective in controlling potential impacts to within acceptable sensitive receivers. However, the Contractor had been recommended to introduce more effort on environmental mitigation measures to minimize the environmental impact from the Project.

1.0 INTRODUCTION

Penta-Ocean Construction Co., Ltd. (POC) appointed Environmental Team (ET) of ETS-Testconsult Limited (ETL) to undertake the Environmental Monitoring and Audit for Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1 (Contract No.: TP 35/02).

Under the requirements of 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 quarterly EM&A summary report summarizes the impact monitoring results and audit findings of the EM&A program during the reporting period form 27 December 2002 to 31 March 2003. It covers 3 monthly reports produced for December 2002 to January 2003, February 2003 and March 2003.

2.0 PROJECT INFORMATION

2.1 Background

Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1 (Contract No.: TP 35/02) was planned and designed by the Territory Development Department (TDD).

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

2.2 Site Description

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

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

2.3 Construction Programme

The details of construction programme (from December to June 2003) 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.
TDD	Employer	Mr. H W Lau	2158 5629	---
Hyder	Engineer	Mr. Herman Fong	2911 2233	2805 5028
Hyder	Independent Environmental Checker	Ms Jacquelyn Anderson	2911 2233	2827 2891
POC	Contractor	Mr. Roger Lau	9870 6390	2691 6012
ETL	Contractor's Environmental Team	Mr C L Lau (Environmental Team Leader)	2946 7792	2695 3944

3.0 CONSTRUCTION PROGRESS IN THIS QUARTER

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

A summary of the major construction activities undertaken in this quarter is shown in Table 3.1.

Table 3.1 Major Construction Activities in this quarter

Major Construction Activity	Location
Erecting and Serving Engineer's and Contractor's Site Accommodation	Site 3
CRE & HKC site office setup	Area 13A
Preloading mound formation	Zone C (Phase 2), Zone F (Phase 2B & 3B), S2
Formation of earth mound	Zone J
Erecting hoarding, signboards and temporary gates	Zone L, Q, SRW
Concrete block panels	Zone F (Phase 3), Zone G (Phase 3)
Excavation	Zones C & D, Section 9 (Area 5), Portion 1 at Promenade N. end, Zones C & D, Zone S3 (Area 9B), Section 16
Drainage and sewage	Section 10 (Areas 9A, 9B / Zone S3), Section 16 (Area 15+Remainder), Area 1, Area 5, Zone N1, Section 1(Area 1), Section 7 (Area 8A), Section 9 (Area 5), S7780-S7785and Q
Construct and maintain wheel-washing facilities	Zone A, E, L and Q, Zone A, L, E and Q
Relocation of the existing wheel washing facility	Zone A
Ground investigation	Section S6
RE Wall works	Zone F, Zone C
Relocation of temporary cycle track	Zone P & Zone G
Subway SB1 construction work	Zone N3
Subway and pump house	SB1 Ramps,
General site clearance	---

4.0 AIR QUALITY MONITORING

4.1 Monitoring Locations

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

- HKIB Staff Accommodation (on ground floor near the entrance facing south-east) for 1-hr TSP monitoring;
- 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.

No 24-hour TSP monitoring was carried out at HKIB Staff Accommodation in the reporting period because the application for the permission to set up and providing power supply for the monitoring equipment (High Volume Sampler) is still under process. 24-hour TSP monitoring is pending approval by CUHK of access to monitoring location. Hence, only 1-hour TSP monitoring was conducted to monitor the air quality in this reporting period.

4.2 Monitoring Parameters, Frequency, Duration and Schedule

Table 4.1 summarizes the monitoring parameters, monitoring duration and frequencies of air quality monitoring. The air quality monitoring schedule for 24-hr and 1-hr TSP monitoring at designated monitoring locations in this quarter is summarized in table 4.2.

Table 4.1 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

Table 4.2 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	---				27/12/02	09:45	10:45
						28/12/02	09:45	10:45
						31/12/02	08:30	09:30
						02/01/03	17:00	18:00
						04/01/03	08:15	09:15
						07/01/03	09:15	10:15
						09/01/03	09:15	10:15
						11/01/03	09:00	10:00
						14/01/03	15:00	16:00
						16/01/03	08:20	09:20
						18/01/03	09:45	10:45
						21/01/03	08:50	09:50
						23/01/03	13:42	14:42
						25/01/03	09:15	10:15
						28/01/03	10:11	11:11
						30/01/03	09:00	10:00
						04/02/03	15:14	16:14
						06/02/03	08:15	09:15
						08/02/03	08:30	09:30
						11/02/03	11:00	12:00
						13/02/03	13:02	14:02
						15/02/03	09:40	10:40

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	---				18/02/03	09:30	10:30
						20/02/03	13:00	14:00
						22/02/03	17:00	18:00
						25/02/03	16:15	17:15
						27/02/03	15:30	16:30
						04/03/20	10:50	11:50
						06/03/20	17:10	18:10
						08/03/20	08:35	09:35
						11/03/20	14:10	15:10
						13/03/20	10:40	11:40
						15/03/20	10:05	11:05
						18/03/20	10:30	11:30
						20/03/20	17:10	18:10
						22/03/20	14:17	15:17
						25/03/20	10:00	11:00
						27/03/20	08:58	09:58
						29/03/20	17:08	18:08
AM3	Cheung Shue Tan Village (near the outer building, temple)	---				27/12/02	09:45	10:45
						28/12/02	11:00	12:00
						31/12/02	09:45	10:45
						02/01/03	10:15	11:15
						04/01/03	10:45	11:45
						07/01/03	16:45	17:45
						09/01/03	15:15	16:15
						11/01/03	10:30	11:30
						14/01/03	13:18	14:18
						16/01/03	15:30	16:30
						18/01/03	10:58	11:58
						21/01/03	10:40	11:40
						23/01/03	15:59	16:59
						25/01/03	08:00	09:00
						28/01/03	15:30	16:30
						30/01/03	16:30	17:30
						04/02/03	13:15	14:15
						06/02/03	16:30	17:30
						08/02/03	14:00	15:00
						11/02/03	13:06	14:06
						13/02/03	15:23	16:23
						15/02/03	13:00	14:00
						18/02/03	15:40	16:40
						20/02/03	16:30	17:30
						22/02/03	09:15	10:15
						25/02/03	09:56	10:56
						27/02/03	11:10	12:10
						04/03/20	16:10	17:10
						06/03/20	10:36	11:36
						08/03/20	13:00	14:00
						11/03/20	09:47	10:47
						13/03/20	14:25	15:25
						15/03/20	14:30	15:30
						18/03/20	15:30	16:30
						20/03/20	10:35	11:35
						22/03/20	09:26	10:26
						25/03/20	14:30	15:30
						27/03/20	15:08	16:08
						29/03/20	10:00	11:00

Air quality monitoring stations	Location	Monitoring Period						
		24-hr TSP				1-hr TSP		
		Start		Finish		Date	Start	Finish
		Date	Time	Date	Time			
AM3A	Cheung Shue Tan (in front of Man Kee Store)	31/12/02	---	01/01/03	---			
		03/01/03	10:15	04/01/03	10:14			
		09/01/03	16:20	10/01/03	16:20			
		15/01/03	09:30	16/01/03	09:30			
		21/01/03	11:10	22/01/03	11:11			
		27/01/03	14:39	28/01/03	14:39			
		04/02/03	13:05	05/02/03	13:05			
		10/02/03	14:48	11/02/03	14:48			
		14/02/03	10:05	15/02/03	10:05			
		20/02/03	16:37	21/02/03	16:37			
		26/02/03	16:30	27/02/03	16:30			
		06/03/03	10:44	07/03/03	10:44			
		10/03/03	18:05	11/03/03	18:05			
		14/03/03	09:48	15/03/03	09:48			
		20/03/03	11:10	21/03/03	11:10			
		26/03/03	10:09	27/03/03	10:09			

4.3 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 period are shown in Appendix D.

4.4 Action and Limit Levels

Action and Limit levels for 24-hr TSP and 1-hr TSP derived as illustrated in Table 4.3.

Table 4.3 Action and Limit Levels for 24-hr TSP and 1-hr TSP

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

* = 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

4.5 Event-Action Plans

Please refer to Appendix E for details.

4.6 Air Quality Monitoring Results

4.6.1 24-hour TSP Monitoring

Only 24-hour TSP monitoring was carried out at monitoring station, AM3A in the reporting period. 24-hour TSP monitoring at monitoring station, AM1 was not

carried out in this reporting period because the permission for setting up the monitoring equipment, High Volume Sampler, at HKIB Staff Accommodation is still under processing. Graphical presentation of 24-hour TSP monitoring results for these reporting months is shown in Appendix B.

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

4.6.2 1-hour TSP Monitoring

1-hour TSP monitoring was carried out at monitoring stations, AM1 and AM3 in the reporting period. Graphical presentation of 1-hour TSP monitoring results for these reporting months is shown in Appendix B.

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

5.0 Noise Monitoring

5.1 Monitoring Locations

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.

5.2 Monitoring Parameters, duration, Frequency and Schedule

Noise monitoring for the A-weighted levels Leq, L10 and L90 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 $L_{eq(5\text{-}min)}$);
- One set of measurements between 1900-2300 hours (3 consecutive $L_{eq(5\text{-}min)}$)*;
- One set of measurements between 2300-0700 hours of next day (3 consecutive $L_{eq(5\text{-}min)}$)*;
- One set of measurements between 0700-1900 hours on holidays (3 consecutive $L_{eq(5\text{-}min)}$)*.

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

Duration, frequencies and parameters of noise measurement are presented in Table 5.1.

Table 5.1 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

The noise monitoring programme of monitoring locations (Day-time, Evening-time, Holiday and Night-time) is summarized in Table 5.2.

Table 5.2 Monitoring Schedule for noise monitoring stations

Noise monitoring stations	Monitoring Period							
	Day-time		Evening-time		Holiday		Night-time	
NM1	31/12/02	08:10	30/12/02	20:35	29/12/02	14:55	---	---
	07/01/03	09:20	07/01/03	19:45	05/01/03	16:31	---	---
	14/01/03	13:05	14/01/03	19:47	12/01/03	15:52	---	---
	21/01/03	09:45	21/01/03	19:45	19/01/03	15:25	---	---
	28/01/03	10:10	28/01/03	19:07	26/01/03	15:30	---	---
	04/02/03	15:16	4/02/03	20:11	02/02/03*	---	---	---
	11/02/03	11:05	1/02/03	19:00	09/02/03	15:58	---	---
	18/02/03	11:28	8/02/03	19:42	16/02/03	11:17	---	---
	25/02/03	16:18	5/02/03	19:47	23/02/03	14:00	---	---
	06/03/03	17:12	06/03/03	20:08	02/03/03	16:36	---	---
	13/03/03	10:45	13/03/03	21:23	09/03/03	11:45	---	---
	20/03/03	17:15	20/03/03	19:55	16/03/03	14:10	---	---
	27/03/03	09:00	27/03/03	21:05	23/03/03	15:42	---	---
	---	---	---	---	30/03/03	10:10	---	---
NM2	31/12/02	16:00	30/12/02	19:34	29/12/02	14:32	---	---
	07/01/03	17:00	07/01/03	19:22	05/01/03	17:33	---	---
	14/01/03	13:25	14/01/03	19:26	12/01/03	15:24	---	---
	21/01/03	15:00	21/01/03	19:24	19/01/03	14:58	---	---
	28/01/03	10:50	28/01/03	19:32	26/01/03	14:55	---	---
	04/02/03	14:32	04/02/03	19:46	02/02/03*	---	---	---
	11/02/03	14:26	11/02/03	19:48	09/02/03	16:32	---	---
	18/02/03	16:58	18/02/03	20:36	16/02/03	11:42	---	---
	25/02/03	11:10	25/02/03	20:10	23/02/03	13:35	---	---
	06/03/03	11:25	06/03/03	19:44	02/03/03	16:08	---	---
	13/03/03	13:30	13/03/03	20:46	09/03/03	10:44	---	---
	20/03/03	13:05	20/03/03	19:25	16/03/03	14:40	---	---
	27/03/03	15:27	27/03/03	20:30	23/03/03	16:17	---	---
	---	---	---	---	30/03/03	11:26	---	---
NM3	31/12/02	10:00	30/12/02	20:06	29/12/02	14:00	---	---
	07/01/03	16:50	07/01/03	19:00	05/01/03	17:06	---	---
	14/01/03	13:20	14/01/03	19:00	12/01/03	14:56	---	---
	21/01/03	10:30	21/01/03	19:00	19/01/03	14:26	---	---
	28/01/03	15:32	28/01/03	19:58	26/01/03	14:12	---	---
	04/02/03	13:17	04/02/03	19:20	02/02/03*	---	---	---
	11/02/03	13:09	11/02/03	19:23	09/02/03	15:18	---	---
	18/02/03	15:42	18/02/03	20:14	16/02/03	14:30	---	---
	25/02/03	09:55	25/02/03	20:37	23/02/03	13:08	---	---
	06/03/03	10:37	06/03/03	19:16	02/03/03	15:41	---	---
	13/03/03	14:30	13/03/03	20:18	09/03/03	11:10	---	---
	20/03/03	10:37	20/03/03	19:00	16/03/03	15:12	---	---
	27/03/03	15:12	27/03/03	21:45	23/03/03	16:32	---	---
	---	---	---	---	30/03/03	10:50	---	---

Remark (*): The noise monitoring cancelled due to no construction works.

5.3 Action and Limit Levels

The Action and Limit levels for noise levels derived as illustrated in Table 5.3.

Table 5.3 Action and Limit Levels for noise monitoring

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

* = Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.
** = Area Sensitivity Rating (ASR) C is selected from the "Technical Memorandum on Noise from Construction Work Other Than Percussive Piling".

5.4 Event-Action Plans

Please refer to the Appendix E for details.

5.5 Noise Monitoring Results

Day-time, Evening-time and Holiday noise monitoring were carried out at monitoring stations, NM1, NM2 and NM3 in this reporting period. No night-time noise monitoring were required since no construction works were processed during the night-time period. Graphical presentation of the monitoring results for these reporting months are shown in Appendix C.

No day-time, evening-time and holiday noise monitoring results at all monitoring stations exceeded the Action Level since no documented complaints were received in this reporting period. Besides, no exceedances in Limit Level were recorded according to the results from day-time, evening-time and holiday noise monitoring.

6.0 Review of the Reasons for and the implications of Non-compliance

According to the summary of environmental monitoring results, no exceedances of noise and air quality monitoring were recorded in this quarter. Hence, no further mitigation measures and action were required.

7.0 Summary of Environmental Complaints

No environmental complaints on this Project were received in this quarter. A statistical summary of environmental complaints is presented in Table 7.1.

Table 7.1 Statistical Summary of Environmental Complaints

Reporting Month	Complaints Statistics		
	Frequency	Cumulative	Complaint Nature
Dec. 2002 and Jan. 2003	0	0	N/A
Feb. 2003	0	0	N/A
Mar. 2003	0	0	N/A

8.0 Environmental Summons

No notifications of summon or prosecutions were recorded during this quarter.

9.0 Status of Environmental Licensing and Permitting

All permits/licenses obtained in this quarter are summarises in Table 9.1.

Table 9.1 Summary of environmental licensing and permit status

Description	Permit No.	Valid Period		Section
		From	To	
Environmental Permit	EP-108/2001	05/11/02	---	Whole work site
Construction Noise Permit	GW-TN0444-2002	03/11/02	02/05/03	Group A: • 2 Dump trucks • 2 Excavator, tracked • 1 Generator, super silenced, 70dB(A) at 7m • 1 Lorry

Description	Permit No.	Valid Period		Section
		From	To	
Construction Noise Permit	GW-TN0444-2002	03/11/02	02/05/03	Group B: • 2 Drill rig • 2 Air compressor, with Noise Emission Label showing a sound power level of ≤ 102dB(A) • 1 Generator, super silenced, 70dB(A) at 7m • 2 Band drain rig
Construction Noise Permit	GW-TN0083-2003	28/03/03	27/09/03	Group A: • 2 Dump trucks (CNP 067) • 2 Excavator, tracked (CNP 081) • 1 Generator, super silenced, 70dB(A) at 7m (CNP 103) • 1 Lorry (CNP 141) Group B: • 1 Dump trucks (CNP 067) • 2 Excavator, tracked (CNP 081) • 1 Generator, super silenced, 70dB(A) at 7m (CNP 103) • 1 Water pump (electric) (CNP 141) Group C: • 1 Dump trucks (CNP 067) • 2 Excavator, tracked (CNP 081) • 1 Generator, super silenced, 70dB(A) at 7m (CNP 103) • 1 Water pump (electric) (CNP 141) • 1 Crane, mobile (diesel) (CNP 048)
Waste Producer	5213 729 P2800 11	03/10/02	---	Generating waste at the work site
Wastewater Discharge License	No. 2946	18/12/02	18/12/07	Discharge of trade Effluent, surface run-off and all other wastewater arising from the construction site and sedimentation tank

10.0 WASTE MANAGEMENT

10.1 Summary of Waste Quantities

The summary of waste generated at the site in the reporting period is summarized in Table 10.1.

Table 10.1 Summary of Quantities of Waste generated at this reporting period

Type of Waste	Quantity	Disposal Location
C&D Material (Inert)	0	NA
C&D material (Non-inert)	2.5m^3	Disposed of al NENT landfills
General Refuse	15m^3, 0.57Ton	Disposed of al NENT landfills
Chemical Waste (m^3)	200L	Collected by licensed waste haulier

11.0 SITE INSPECTION / AUDIT

11.1 Summary of Weekly Site Inspection and Monthly Joint Site Audit Findings

Weekly site inspection was carried out by the ET. A total 14 weekly site inspections were undertaken in this quarter. Monthly joint site audit was carried out by the RE, the IEC, POC and ET at 22 January, 18 February and 26.March 2003 in this quarter. The summary of weekly site inspection and monthly joint site audit findings from this quarter is shown in Table 11.1.

Table 11.1 Summary of Weekly Site Inspection and Monthly Joint Site Audit Findings

December 2002 to January 2003				
Item	IEC/ET	Aspects	Findings	Mitigation Measures Taken / Proposed
1	IEC/ ET	Water	Accumulation of sand in the perimeter cut off drains and storm drain was observed at Northern Access.	• To provide more manpower to clean up of sand and soil accumulated in the U-channel; • To place enough sand bags or other protection next the drains to prevent the surface runoff to the drains; • To divert the site runoff to sedimentation tanks/traps before any directly discharge to the drainage.
2	IEC/ ET	Water	Oil was found in perimeter cut off drain at Southern Exit.	• To clean up oily surface runoff and dispose them as chemical waste; • To place enough sand bags or other protection next the U-channel to prevent the oily surface runoff discharge to the drainage; • To check and maintain all the site machines to prevent oil leakage; • To provide drip trays for the generator or other site machines which may perform the leakage of oil; • To provide briefing to the concerned site staff on remedial actions in case of oil spillage, such as handling method of chemical waste.
3	IEC/ ET	Water	Sedimentation tank in U-channel, which is still in progress along the site boundary at/near the bicycle track, may not be adequate capacity during rainy season. Besides, according to the design of U-channel, overflow may occur from the site near the U-channel.	• To select larger sedimentation tank to ensure the discharge comply with the discharge standard; • To use more adequate measures to protect the U-channel.
4	IEC/ ET	Air	Some stockpile and slope area are not covered or hydroseeded.	• To cover and hydroseed stockpiles and slope area; • Open stockpiles with a volume of greater than $50m^3$ should be covered by clean tarpaulin sheets; • Watering applied to stockpile and exposed loose soil surface of site works; • To perform more frequent water spraying activities to enhance the effectiveness for the grass growth during dry season.

December 2002 to January 2003				
Item	IEC/ET	Aspects	Findings	Proposed Mitigation Measures
5	IEC/ ET	Waste	Rubbish was observed at the drain.	• To remove the rubbish at the drain immediately; • To remind staff to clean the rubbish accumulated more frequently as necessary; • To provide rubbish bin/skips in that area for collected the rubbish; • To remind staff to dispose rubbish into the rubbish bins/skips as possible.
6	IEC/ ET	General	Records for general refuses disposal are not available for inspection.	• To be well prepared and kept and be available in the next site audit.
7	IEC/ ET	Waste	Chemical waste containers are not well labeled.	• To label all chemical waste containers as chemical waste.
February 2003				
Item	IEC/ET	Aspects	Findings	Proposed Mitigation Measures
1	IEC/ ET	Air	Stockpiles were not covered and hydroseeding was not performing well.	• To cover and hydroseed stockpiles and slope area; • Open stockpiles with a volume of greater than $50m^3$ should be covered by clean tarpaulin sheets; • Watering applied to stockpile and exposed loose soil surface of site works; • To perform more frequent water spraying activities to enhance the effectiveness for the grass growth during dry season.
2	IEC/ ET	Water	Surface channel next to the cycling path: 1. The capacity of the sedimentation tank is not adequate to treat the surface runoff, especially in rainy season;	• To select larger sedimentation tank to ensure the discharge comply with the discharge standard; • To use more adequate measures to protect the channel.
2	IEC/ ET	Water	2. The sand slope next to the channel was not covered or hydroseed, potential for the sand to fall off slope accumulate in the channel. Sand was observed in the channel	• To place sand bays at the end of temporary channel in order to prevent the discharge of muddy water. • To provide more manpower to clean up of sand and soil accumulated in the channel • To divert the site runoff to sedimentation tanks/traps before any directly discharge to the drainage.
3	IEC/ ET	Waste	Rubbish was found accumulated on site. No skip or bins were provided for the workers for collecting rubbish on site.	• To remove the rubbish at the site immediately; • To remind staff to clean the rubbish accumulated more frequently as necessary; • To provide rubbish bin/skips for collected the rubbish; • To remind staff to dispose rubbish into the rubbish bins/skips as possible.

February 2003				
Item	IEC/ET	Aspects	Findings	Proposed Mitigation Measures
4	IEC	Water	Oil leakage from drip tray for the generator at the South Exit near the wheel washing facility.	• To clean up oil and dispose them as chemical waste; • To check and maintain all site machines to prevent oil leakage; • To provide suitable drip trays for the generator or other site machines which may perform the leakage of oil; • To place enough sand bags or other protection next the channel to prevent oil leaked discharge to the drainage; • To provide briefing to the concerned site staff on remedial actions in case of oil spillage, such as handling method of chemical waste.
5	IEC	Air	Bicycle track was dusty in some sections.	• To conduct regular cleaning to prevent dust emission.
March 2003				
Item	IEC/ET	Aspects	Findings	Proposed Mitigation Measures
1	IEC/ ET	Water	The sedimentation tank at the channel (next to cycle track) might not have adequate capacity to treat surface runoff, especially in rainy season. Muddy water was observed in the tank.	• To select larger sedimentation tank to ensure the discharge comply with the discharge standard; • To use more adequate measures to protect the channel; • To remove the sand/silt in the tank regularly; • To inspect and maintain the drain/tank regularly to ensure proper and efficient operation at all times.
2	IEC/ ET	Air	Stockpiles (in South exit next to Science Park) were not covered and hydroseed.	• To cover and hydroseed stockpiles and slope area; • Open stockpiles with a volume of greater than 50m^3 should be covered by clean tarpaulin sheets; • Watering applied to stockpile and exposed loose soil surface of site works; • To perform more frequent water spraying activities to enhance the effectiveness for the grass growth during dry season.
3	IEC/ ET	Water	Measures were taken to prevent sand from slope entering the channel, however, potential sand runoff might occur during rainstorm.	•To divert the site runoff to sedimentation tanks/traps before any directly discharge to the drainage; •To place sand bays at the end of channel in order to prevent any washing away of soil/sand into the drainage system; •To provide more manpower to clean up of sand and soil accumulated in the channel.
4	IEC/ ET	Water	Washing tank was provided at the North exit, however, the haul road after leaving the site was not properly paved. Vehicles might bring mud to the public roads. Muddy water was accumulated in the washing tank should be clear regularly.	• To remove the soil on the haul road which carried by the vehicle more frequently; • To remove the sand/silt in the tank regularly; • To pave the haul road after leaving the site properly; • To process wheel wash within working site and divert the silty water to the sedimentation tanks before discharge.

March 2003				
Item	IEC/ET	Aspects	Findings	Proposed Mitigation Measures
5	IEC/ ET	Waste	Rubbish was found accumulated on site.	• To remove the rubbish at the site immediately; • To remind staff to clean the rubbish accumulated more frequently as necessary; • To provide rubbish bin/skips for collected the rubbish; • To remind staff to dispose rubbish into the rubbish bins/skips as possible.
6	IEC/ ET	Air	Sand was found on a section of the cycle track.	•To remove the sand on the cycle track regularly; •To keep the cycle track clean and free from dust.

12.0 IMPLEMENTATION STATUS

12.1 Implementation Status of Environmental Mitigation Measures

POC has been implementing the required environmental mitigation measures according to Implementation of Mitigation Measures (clause 4.2, 5.2 and 6.2) in Environmental Management Plan for Contract No. TP 35/02 Remaining Engineering Infrastructure Works for PaK Shek Kok Development Package 1 (Revision 2). A summary of the implementation schedule of the mitigation measures is presented in Appendix H.

Air Quality

Only partial stockpiles were covered by using tarpaulin sheets and hydroseeded. The Contractor was reminded to water, hydro-seed or cover all the stockpiles by using clean tarpaulin sheets.

Noise

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

Water Quality

The Contractor was reminded to provide more effort to implement mitigation measures, such as prevent oil leakage from the drip tray for all site machines, discharge of site runoff after suitable treatment processes, proper maintenance of sedimentation system and drainage facilities (e.g. sedimentation tank and U-channels), and remove the sand /rubbish accumulated in the drain/channel and sedimentation tanks regularly.

Waste Management

POC has been implementing most mitigation measures on waste management. However, several small chemical waste containers were not well labeled. The Contractor was recommended to label all chemical waste containers as chemical waste. Besides, rubbish was observed at the site and no skips or bins were provided for collecting rubbish at site. The Contractor was also recommended to provide more manpower to clean up of rubbish accumulated at the site and provide rubbish bin/skips for collected the rubbish.

12.2 Implementation Status of Environmental Complaint Handling

No complaints had been received during this quarter.

13.0 Conclusions and Recommendations

All 1hr-TSP and 24hr-TSP levels measured in this quarter were below the Action and Limit levels and no air quality monitoring exceedances were recorded. Besides, no noise monitoring exceedances were recorded in this monitoring period. Hence, no further mitigation measures and actions were required.

No complaints were received in this quarter.

The monitored environmental data indicated that no unacceptable environmental impacts arising from the Project had been caused to the surrounding sensitive receivers. The environmental measures had been effective in controlling potential impacts to within acceptable sensitive receivers. However, the Contractor had been recommended to introduce more effort on environmental mitigation measures to minimize the environmental impact from the Project.

Based on the site inspections and audit findings during the reporting period, the following recommendation for further improvement of the current conditions are as below:

- All stockpiles with a volume of greater than $50m^3$ should be covered with clean tarpaulin sheets, watering or hydro-seeding to avoid wind and water erosion;
- Placing enough sand bags or other protection should be applied to prevent the slity surface runoff onto the drains system;
- Site inspection and maintenance of all sedimentation system and drainage facilities by the contractor's site staff should be conducted regularly to ensure proper and efficient operation all the times;
- Removing the oil in the drain and treat as chemical waste regularly
- Checking and maintaining all the site machines to prevent oil leakage regularly;
- Providing rubbish bin/skips for collected the rubbish;
- Providing more manpower to clean up of sand and rubbish accumulated in the drains and sedimentation tanks;
- Maintain good waste management at the site.

Appendix A

Organization Chart and Lines of Communication

Contract No. TP 35/02
Remaining Engineering Infrastructure Works for
Pak Shek Kok Development, Package 1
Site Tel : 2602 2895 Fax : 2691 6012

Project Site Organization Chart (with contact details)

Rev. E

Date : 6 Feb 03

PENTA-OCEAN CONST.

Project Director
Ying Yeh Cheong
2833 1098

Project Manager
H Takedagawa
2833 1098

Safety Manager
Wong Po Wah
2833 1098

Contract Manager
Jerry Sin
2833 1098

QA/Environmental Manager
M. H. Lee
2833 1098

Backup from Head Office

On Site

Deputy Project Manager
T Hirai
9855 2139

Site Agent
Roger Lau
9870 6350

QA & ENVIRONMENTAL

ADMINISTRATION

SAFETY

COMMERCIAL

OPERATION

PLANNING & DESIGN

Safety Officer
Sisto Ngu Yiu
9629 1526

Project Q.S.
P H Chiu
9869 9035

Sub-Agent
L B Kwok

Administration Manager
Y Hosokawa

Q.S.
Nicky Lai
9858 3722

Civil Engineer
Hristo M Chiev
9869 6033

General Foreman
Leung Wing Bin
9869 9002

Chief Surveyor
Michael Tang

Design Engineer
Sun Yuen Pong

Environmental Engineer
John Tam
9030 8253

Planning Engineer
Wilbert Jarata
9569 9041

Safety Supervisor
Pok Ping Keung

Asst. Q.S.
Cheng Ka Wai

Asst. Q.S.
Neil Kwok

Asst. Engineer
Fai Wong

Asst. Engineer
Gilbert Lee

Asst. Engineer
TBA

Foreman
W C Yu

Foreman
K H Ng

Foreman
TBA

Electrician
Yip Kam Fai

Surveyor
Lau Chi Fai

Draughtsman
TBA

Environmental Consultant
ETS Testconsult Ltd.

Environmental Team Leader
C L Lau

Site Administrator
Tsui Chi Hing

Secretary
Mak Oi Yin, Iris

Secretary
Fung Yin Wan, Dorothy

Apprentice
Terry Chan

Apprentice
K K Lo

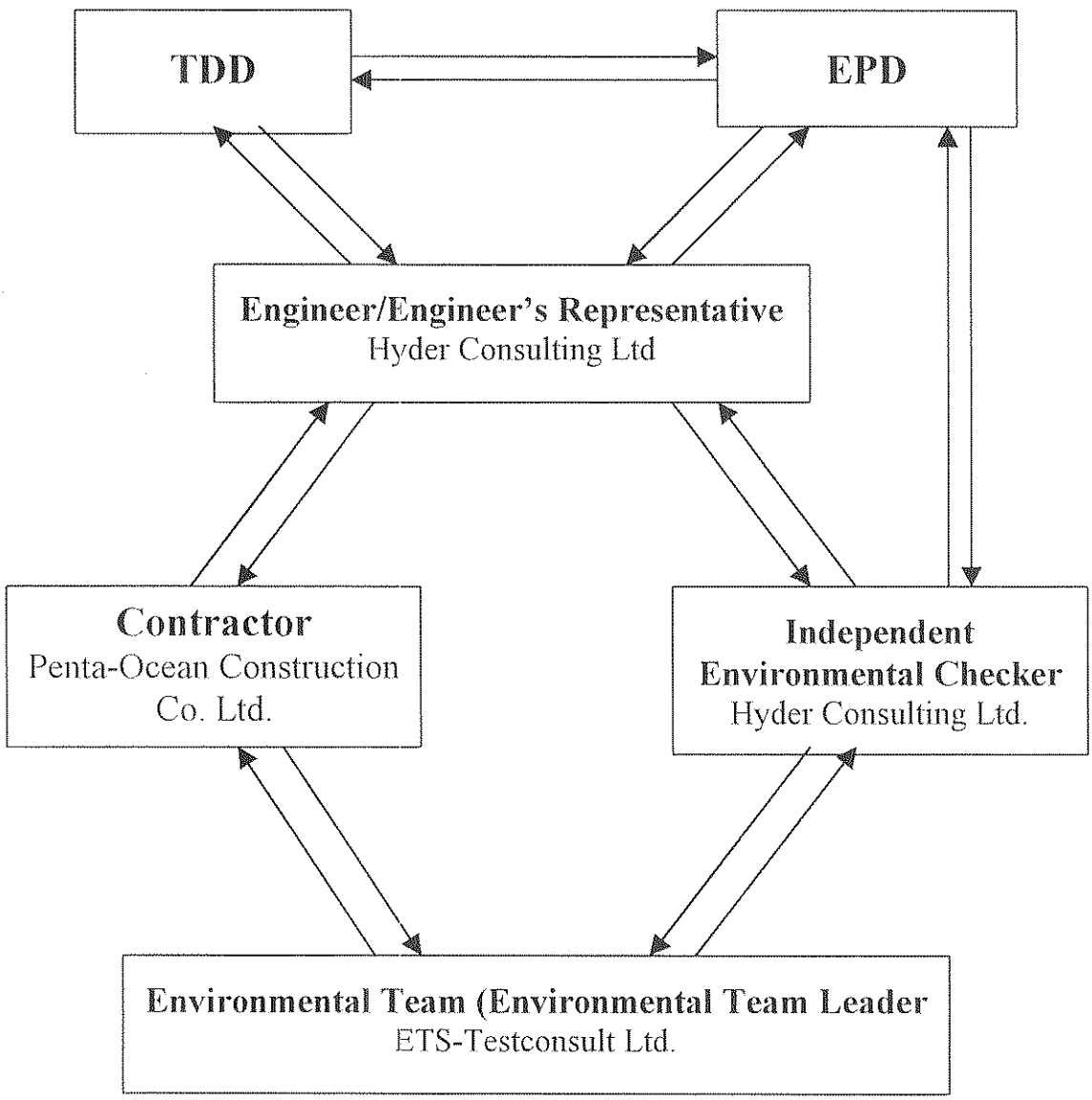
Asst. Surveyor
Tse To Long

Chainman
Ip Wai Hung

Chainman
Cheung To Ming

Amah
Ng Yuk Chun

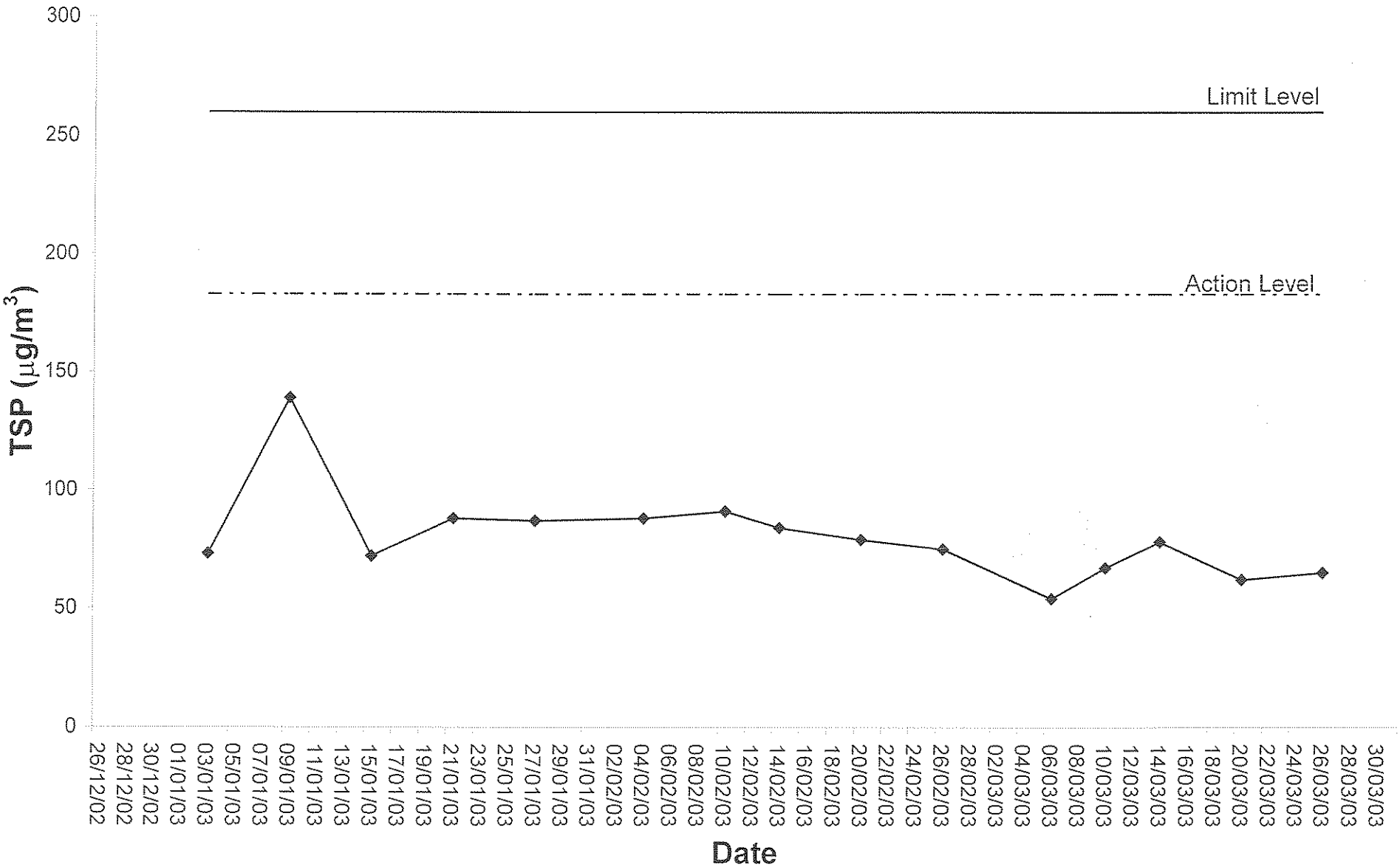
Lines of Communication



Appendix B

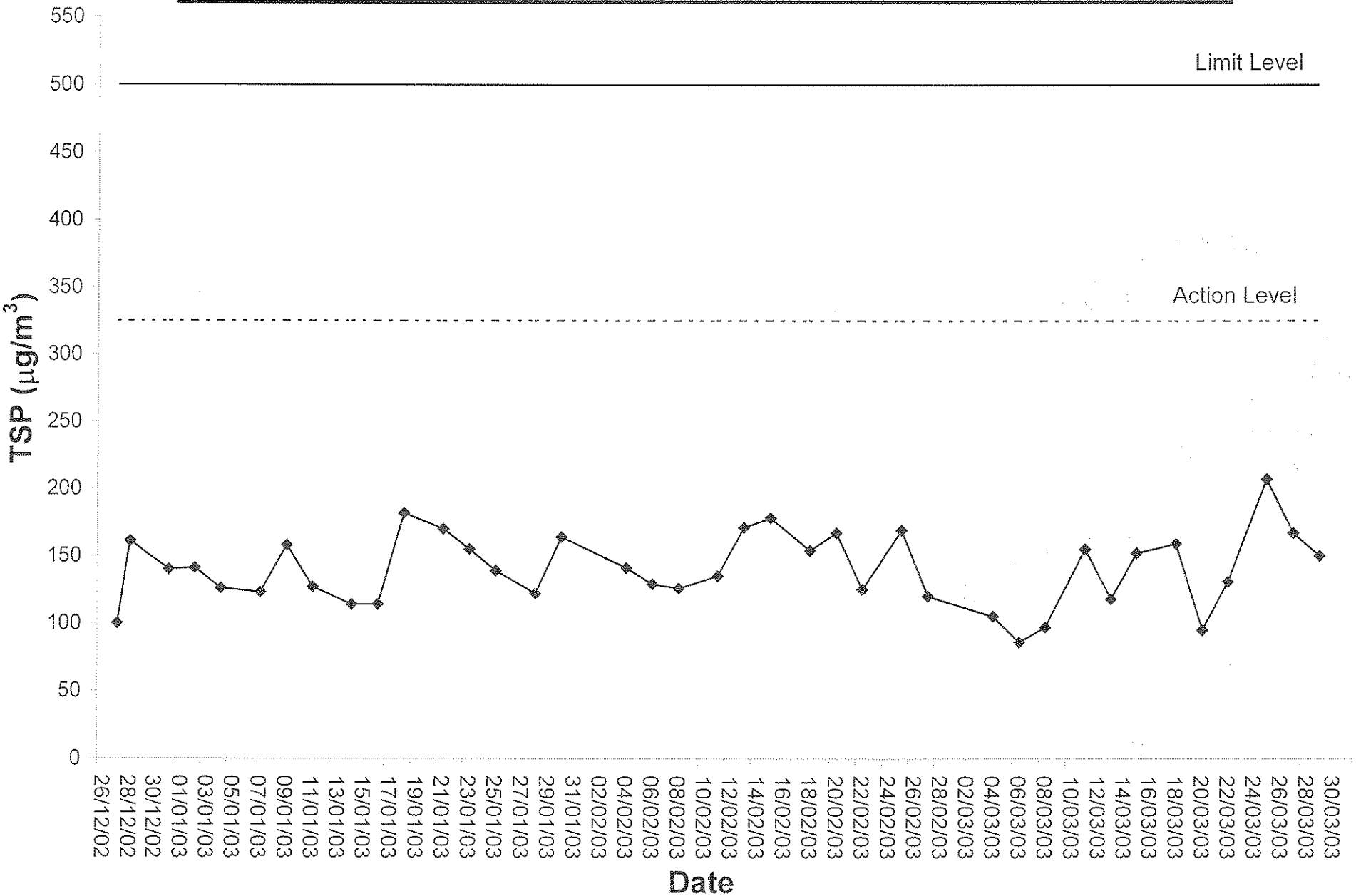
Graphical Plots of Air Quality Monitoring Data

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



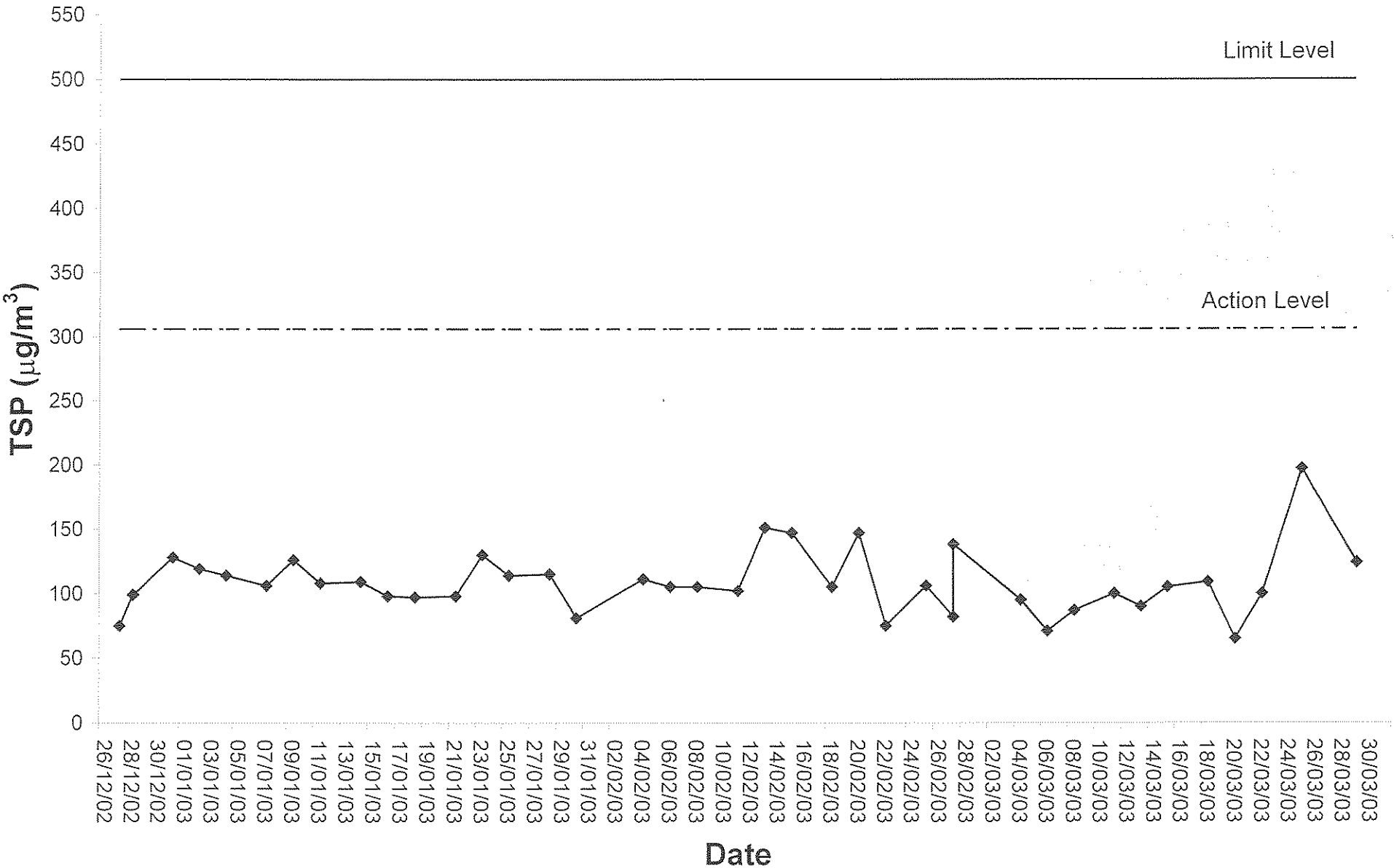
東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

1-hour TSP level at AM1, HKIB Staff Accommodation



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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



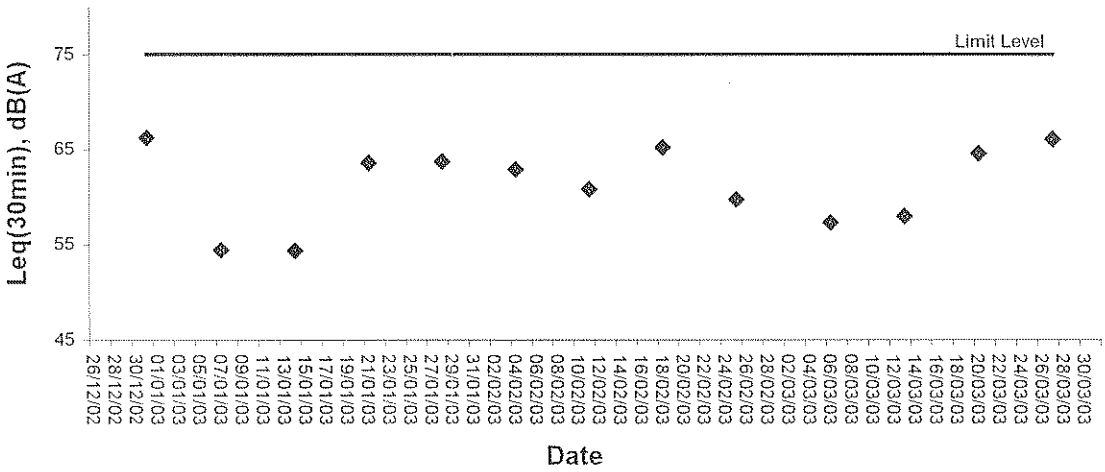
東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Appendix C

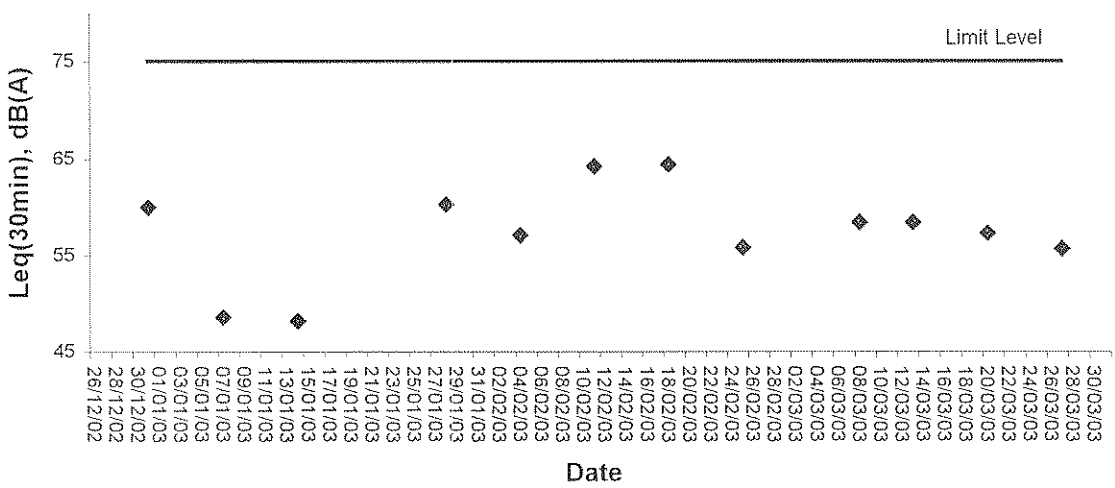
Graphical Plots of Noise Monitoring Data

Noise Monitoring (Day-time)

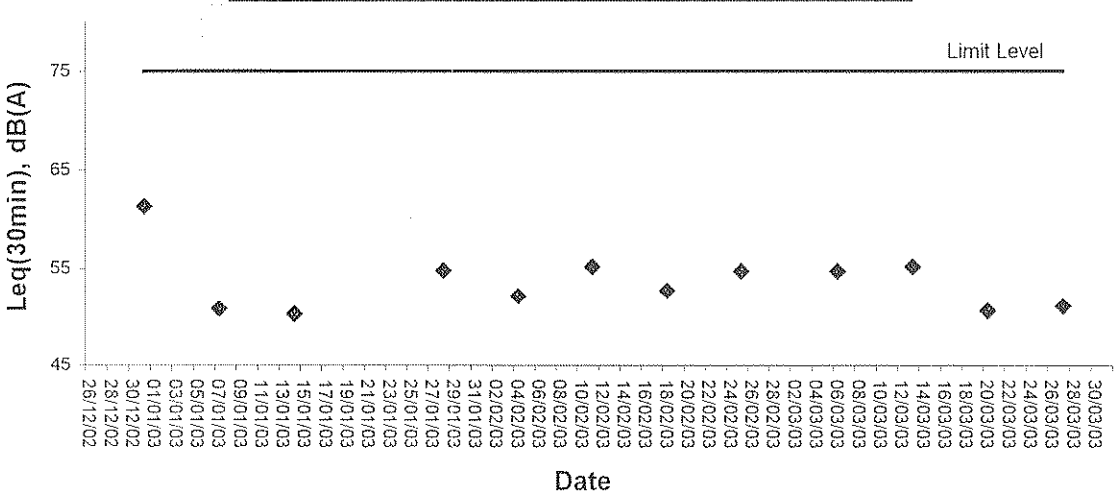
Noise level at NM1, HKIB Staff Accommodation



Noise level at NM2, CUHK Residence No.10

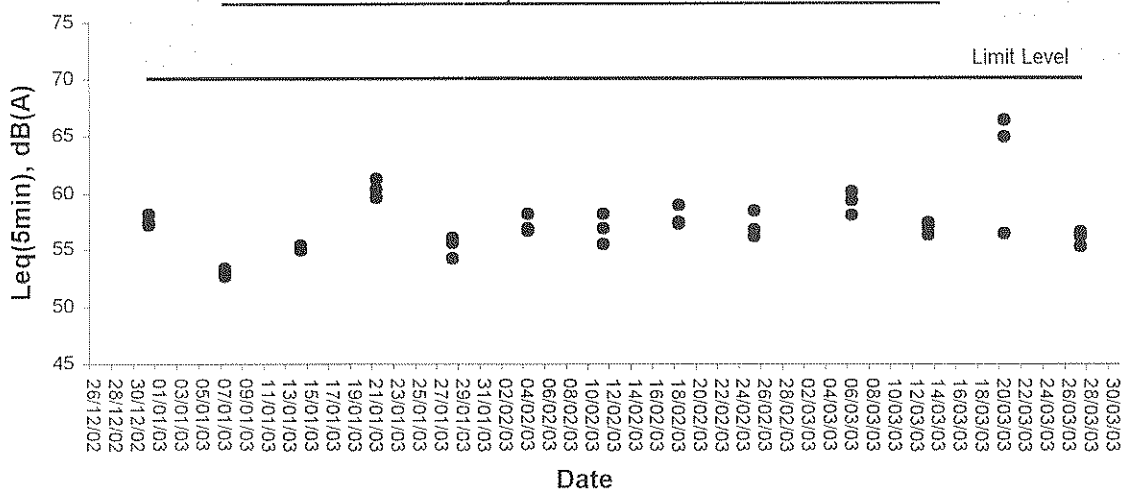


Noise level at NM3, Cheung Shue Tan Village

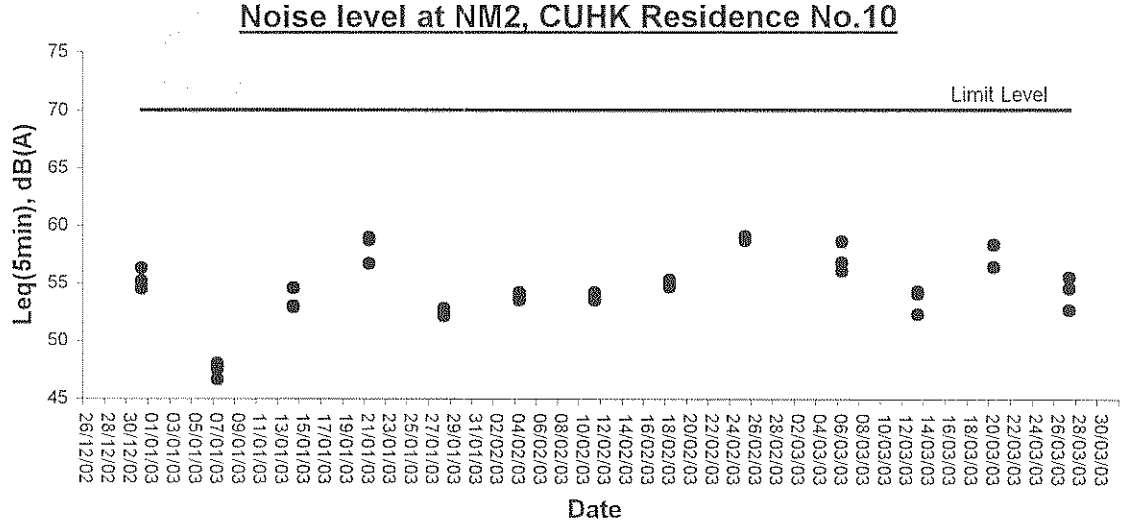


Noise Monitoring (Evening-time)

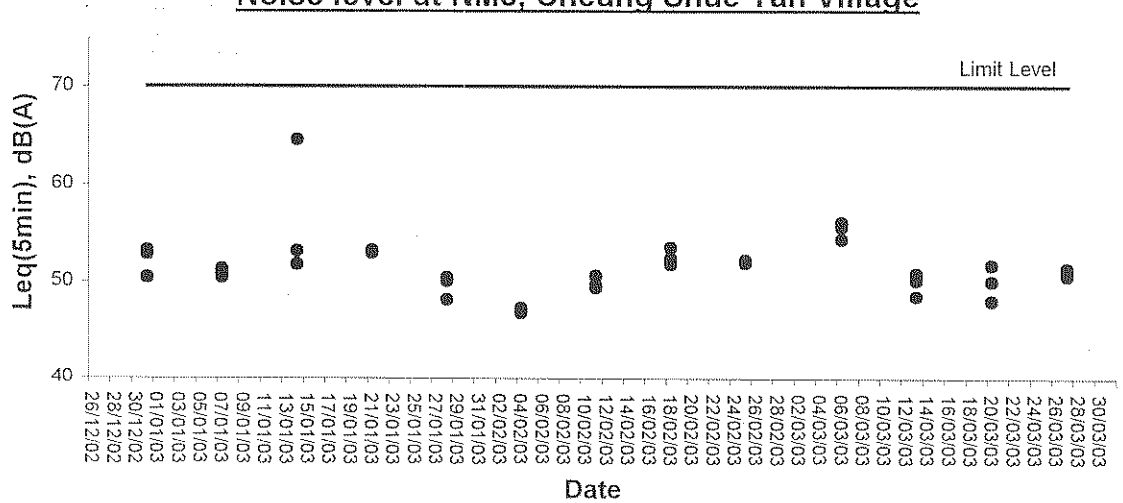
Noise level at NM1, HKIB Staff Accommodation



Noise level at NM2, CUHK Residence No.10

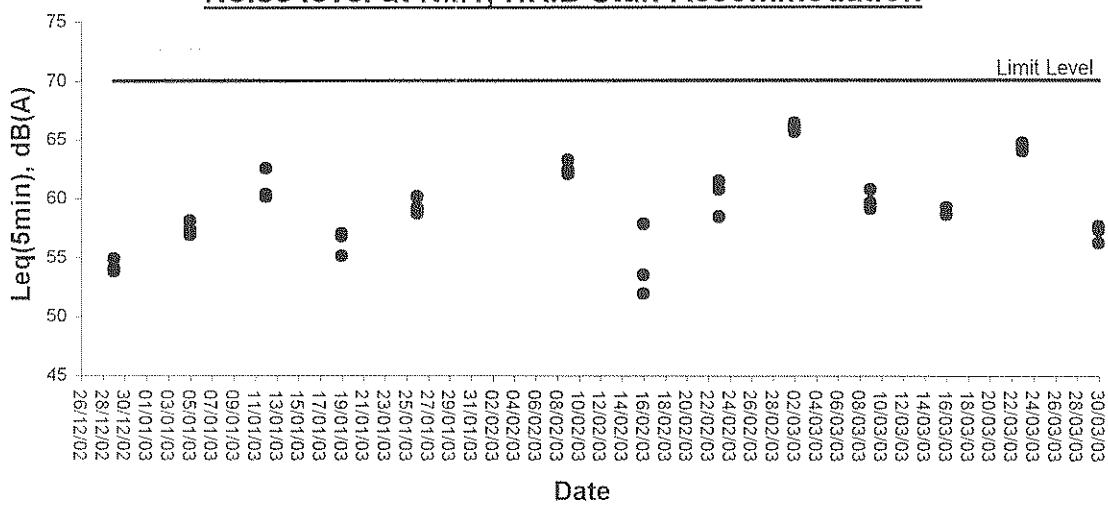


Noise level at NM3, Cheung Shue Tan Village

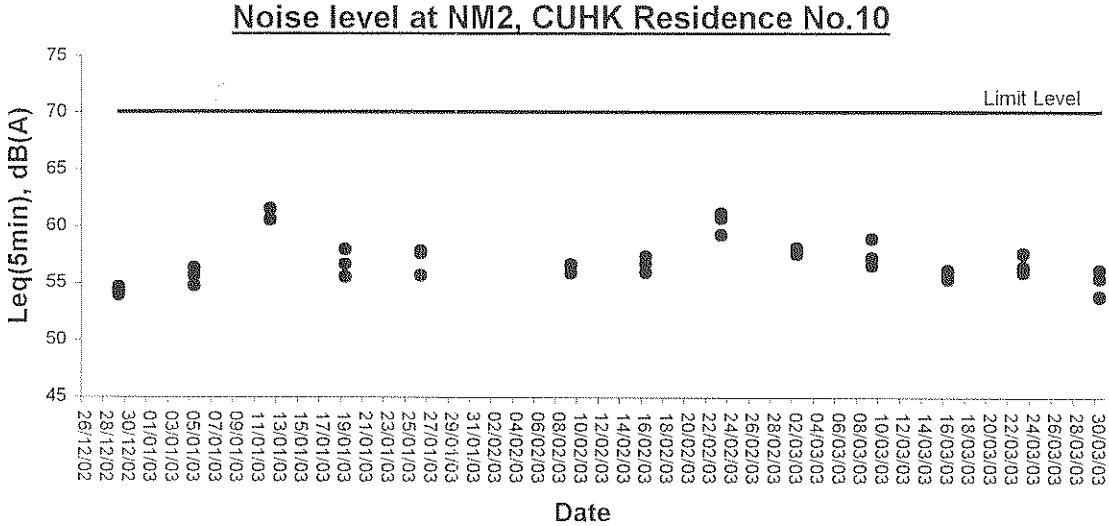


Noise Monitoring (Holiday)

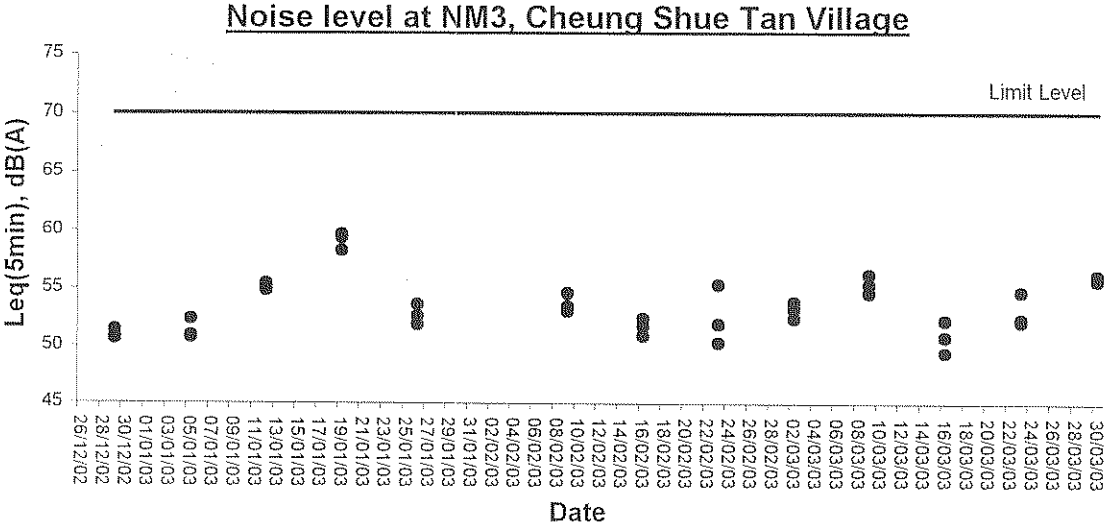
Noise level at NM1, HKIB Staff Accommodation



Noise level at NM2, CUHK Residence No.10



Noise level at NM3, Cheung Shue Tan Village



Appendix D

Weather Condition

Weather Condition (December 2002 and January 2003)

Date	Rainfall (mm)	Max. Temp (°C)	Min. Temp. (°C)	Relative Humidity (%)	Wind Direction	Wind Speed (m/s)
27/12/02	7.4	9.3	6.8	90	N	<5
28/12/02	Trace	14.7	8.9	76	N	<5
29/12/02	---	17.6	13.1	77	NE	<5
30/12/02	---	18.1	14.1	75	N	<5
31/12/02	0.5	17.2	13.6	78	N	<5
01/01/03	---	16.3	15.1	78	E	<5
02/01/03	Trace	17.8	15.6	78	E	<5
03/01/03	0.8	17.9	12.8	66	N	<5
04/01/03	---	17.2	12.7	68	N	<5
05/01/03	---	16.4	13.7	68	NE	<5
06/01/03	16.5	14.9	8.8	80	NE	<5
07/01/03	0.1	14.2	8.9	76	N	<5
08/01/03	---	15.3	10.2	72	NE	<5
09/01/03	---	17.6	12.9	68	N	<5
10/01/03	---	18.1	12.8	62	N	<5
11/01/03	---	17.7	12.4	56	N	<5
12/01/03	---	17.4	13.0	62	N	<5
13/01/03	---	19.5	13.6	69	N	<5
14/01/03	---	19.2	14.9	57	NE	<5
15/01/03	---	17.7	15.4	64	E	<5
16/01/03	---	17.8	14.7	73	NE	<5
17/01/03	---	20.4	15.0	68	NE	<5
18/01/03	---	20.3	17.5	66	E	<5
19/01/03	---	22.6	16.3	71	S	<5
20/01/03	---	19.6	16.8	73	S	<5
21/01/03	---	17.8	15.7	74	E	<5
22/01/03	---	21.0	15.7	72	W	<5
23/01/03	---	19.9	16.9	69	NE	<5
24/01/03	Trace	17.5	15.6	79	NE	<5
25/01/03	Trace	18.9	16.6	87	NE	<5
26/01/03	---	22.8	18.1	88	N	<5
27/01/03	4.3	20.6	11.8	69	N	<5
28/01/03	---	16.2	11.3	56	N	<5
29/01/03	---	17.0	13.1	68	NE	<5
30/01/03	Trace	17.0	15.0	74	NE	<5
31/01/03	--	19.9	16.6	82	NE	<5

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

Weather Condition (February 2003)

Date	Rainfall (mm)	Max. Temp (°C)	Min. Temp. (°C)	Relative Humidity (%)	Wind Direction	Wind Speed (m/s)
01/02/03	Trace	22.2	17.7	82	E	<5
02/02/03	-	17.8	14.9	76	NE	<5
03/02/03	Trace	15.9	14.7	80	E	<5
04/02/03	-	17.7	13.0	65	E	<5
05/02/03	-	16.7	12.4	60	E	<5
06/02/03	-	16.6	13.1	73	E	<5
07/02/03	Trace	16.9	15.1	76	N	<5
08/02/03	14.4	20.3	16.0	88	N	<5
09/02/03	-	20.0	17.2	92	NW	<5
10/02/03	-	22.1	18.2	87	NE	<5
11/02/03	-	23.9	18.0	85	N	<5
12/02/03	Trace	18.3	14.8	83	N	<5
13/02/03	Trace	17.1	14.2	80	NE	<5
14/02/03	Trace	18.4	16.1	84	SE	<5
15/02/03	Trace	20.7	17.8	90	E	<5
16/02/03	Trace	24.6	19.7	80	SE	<5
17/02/03	Trace	21.1	17.4	90	E	<5
18/02/03	Trace	21.5	17.6	63	NE	<5
19/02/03	Trace	22.6	18.7	70	NE	<5
20/02/03	Trace	19.8	16.7	76	E	<5
21/02/03	-	19.3	16.8	86	E	<5
22/02/03	-	24.8	18.6	50	E	<5
23/02/03	-	24.1	19.4	55	E	<5
24/02/03	Trace	24.6	19.0	60	NE	<5
25/02/03	Trace	20.2	17.8	88	E	<5
26/02/03	-	23.7	18.8	81	E	<5
27/02/03	Trace	25.7	20.3	48	E	<5
28/02/03	0.7	21.8	19.0	88	E	<5

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

Weather Condition (March 2003)

Date	Rainfall (mm)	Max. Temp (°C)	Min. Temp. (°C)	Relative Humidity (%)	Wind Direction	Wind Speed (m/s)
01/03/03	-	24.9	20.5	86	SE	<5
02/03/03	Trace	22.8	20.4	89	S	<5
03/03/03	0.3	23.6	20.4	89	S	<5
04/03/03	5.5	23.1	17.7	91	S	<5
05/03/03	10.7	19.2	17.2	94	S	<5
06/03/03	7.7	19.6	12.7	89	S	<5
07/03/03	-	16.0	11.5	67	S	<5
08/03/03	-	16.8	12.4	63	S	<5
09/03/03	0.7	15.8	13.9	70	S	<5
10/03/03	1.5	17.5	12.9	80	S	<5
11/03/03	-	18.0	14.6	66	SE	<5
12/03/03	-	19.9	16.3	80	SE	<5
13/03/03	-	21.4	17.5	80	SE	<5
14/03/03	-	19.6	16.8	81	E	<5
15/03/03	Trace	21.7	18.5	83	E	<5
16/03/03	-	24.4	20.6	88	SE	<5
17/03/03	-	26.6	21.1	86	SE	<5
18/03/03	Trace	23.0	17.9	89	S	<5
19/03/03	Trace	18.1	16.1	84	S	<5
20/03/03	8.7	16.4	14.5	88	S	<5
21/03/03	0.1	18.7	14.7	84	S	<5
22/03/03	0.4	18.8	16.2	73	S	<5
23/03/03	0.7	18.8	17.2	78	S	<5
24/03/03	2.3	21.4	16.8	89	S	<5
25/03/03	-	22.5	18.4	83	S	<5
26/03/03	-	23.3	18.7	74	S	<5
27/03/03	-	26.6	21.2	84	SE	<5
28/03/03	Trace	22.6	19.2	86	SE	<5
29/03/03	Trace	21.7	18.7	85	S	<5
30/03/03	-	22.2	20.1	88	S	<5
31/03/03	Trace	26.7	21.3	85	S	<5

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

Appendix E

Event-Action Plans

Event / Action Plan for Air Quality

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

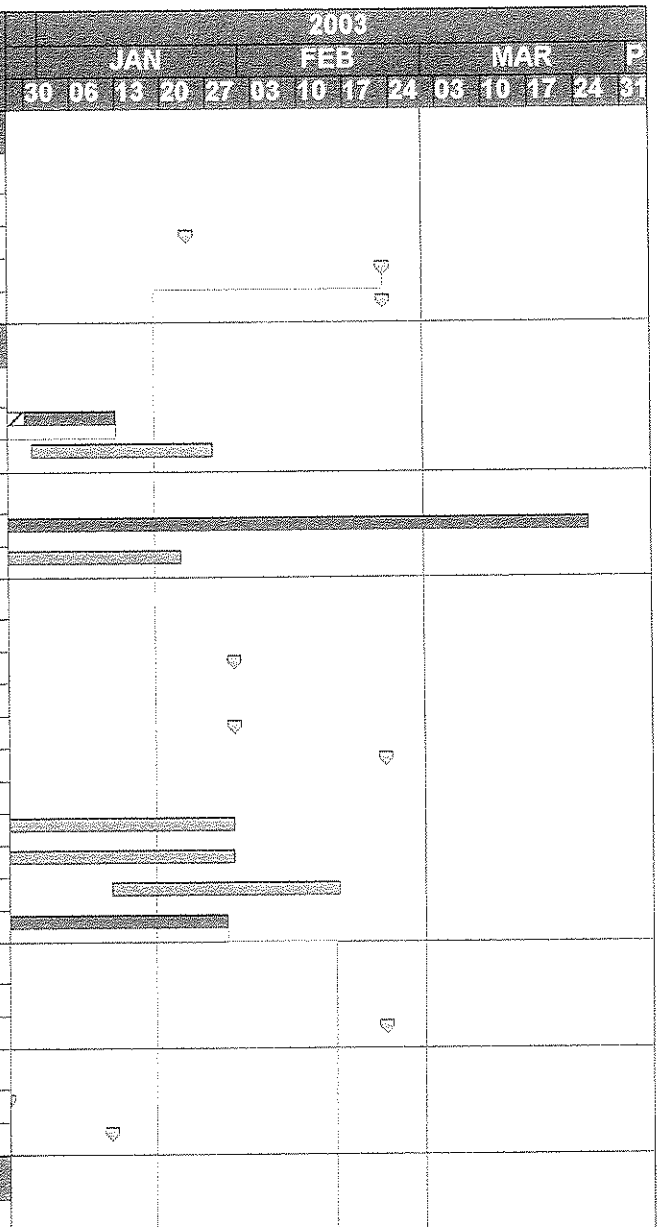
Table 3.2d Event / Action Plan for Construction Noise

EVENT	ACTION			
	ET Leader	IC(E)	ER	CNOTRACTOR
Action Level	1. Notify IC(E) and Contractor 2. Carry out investigation 3. Report the results of investigation to the IC(E) and Contractor 4. Discuss with the Contractor and formulate remedial measures 5. Increase monitoring frequency to check mitigation effectiveness	1. Review the analyzed results submitted by the ET 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analyzed noise problem 4. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposal to IC(E) 2. Implement noise mitigation proposals
Limit Level	1. Notify IC(E), ER, and Contractor 2. Identify source 3. Repeat measurement to confirm findings 4. Increase monitoring frequency 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 6. Inform IC(E), ER and EPD the causes & action taken for the exceedances 7. Assess effectiveness of Contractor's remedial action and keep IC(E), EPD and ER informed to the results 8. If exceedance stops, cease additional monitoring	1. Discuss amongst ER, ET and Contractor on the potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advice the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analysed noise problem 4. Ensure remedial measures are properly implemented 5. If exceedance continues, consider what protion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Appendix F

Construction Programme

Act ID	Description	Orig Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
KEY DATES							
Phased Possession of Site							
KD-40B2A	Zone B2, Cycle Steel Bridge	0	0	26DEC02 *		25NOV02 *	
KD-40G0	Zone G	0	0	24JAN03 *		24JAN03 *	
KD-40J0	Zone J, Rest	0	0	23FEB03 *		23FEB03 *	
KD-40S3	Zone S3	0	0	23FEB03 *		23FEB03 *	
Submission, Procurment, TTA, Diversion, etc.							
Submission & Approval							
B0-0189C1	Temp.Works &Method Statement- Drainage&	28	50	09DEC02 A	12JAN03	09DEC02	08JAN03
B0-230000	Method Statement - Waterworks	28	0	31DEC02	27JAN03	01JAN03	28JAN03
Preliminaries & Procurment							
B0-000200	Watermain Procurement	90	0	26DEC02	25MAR03	26NOV02	23FEB03
B0-000400	Sheet Piles	56	50	18DEC02 A	22JAN03	18DEC02	16MAR03
Cycle Track Traffic Management							
B0-011402	Implement Sec.1 Cycle Track Scheme-Zones B2,F,G	0	0	26DEC02		27NOV02	
B0-011404	Implement Sec.3 Cycle Track Scheme - Zone G	0	0	31JAN03		10MAY03	
B0-011406	Implement Sec.5 Cycle Track Scheme- Zone F	0	0	26DEC02		31DEC02	
B0-011408	Implement Sect.16 Cycle Track Scheme - Zone G	0	0	31JAN03		10MAY03	
B0-011410	Implement Sec.16 Cycle Track Scheme - Zone S3	0	0	23FEB03		17MAY03	
B0-011414	Implement Sect.16 Cycle Track Scheme - Zone P	0	0	26DEC02		06FEB03	
B0-011403	Submit Section 3 Cycle Track Scheme - Zone G	35	0	27DEC02	30JAN03	05APR03	09MAY03
B0-011407	Submit Section 16 Cycle Track Scheme - Zone G	35	0	27DEC02	30JAN03	05APR03	09MAY03
B0-011409	Submit Sections 16 Cycle Track Scheme - Zone S3	35	0	12JAN03	15FEB03	05APR03	09MAY03
B0-011413	Submit Sections 16 Cycle Track Scheme - Zone P	35	0	26DEC02	29JAN03	26DEC02	29JAN03
Temporary Traffic Arrangement							
B0-011504	Implement Sec. 9 Haul Road Div. - Zone A	0	0	26DEC02		28DEC02	
B0-011510	Implement Sec. 16 Haul Road Div.- Zone S3	0	0	23FEB03		25JUL03	
Temporary Diversion of Ex.Utilities & Drainage							
B0-0900D0	Section 9 - Temporary Drainage Diversion	0	0	27DEC02		15MAR03	
B0-1600D0	Section 16 - Temporary Drainage Diversion	0	0	12JAN03		13JUN03	
B-1 PRELIMINARIES							
Part 1.1 Preliminaries							



Data date	26DEC02
Page number	1A
Page count	6A
Number/Version	TP35/02/3MON/04
Company name	Penta-Ocean Construction Co. Ltd.

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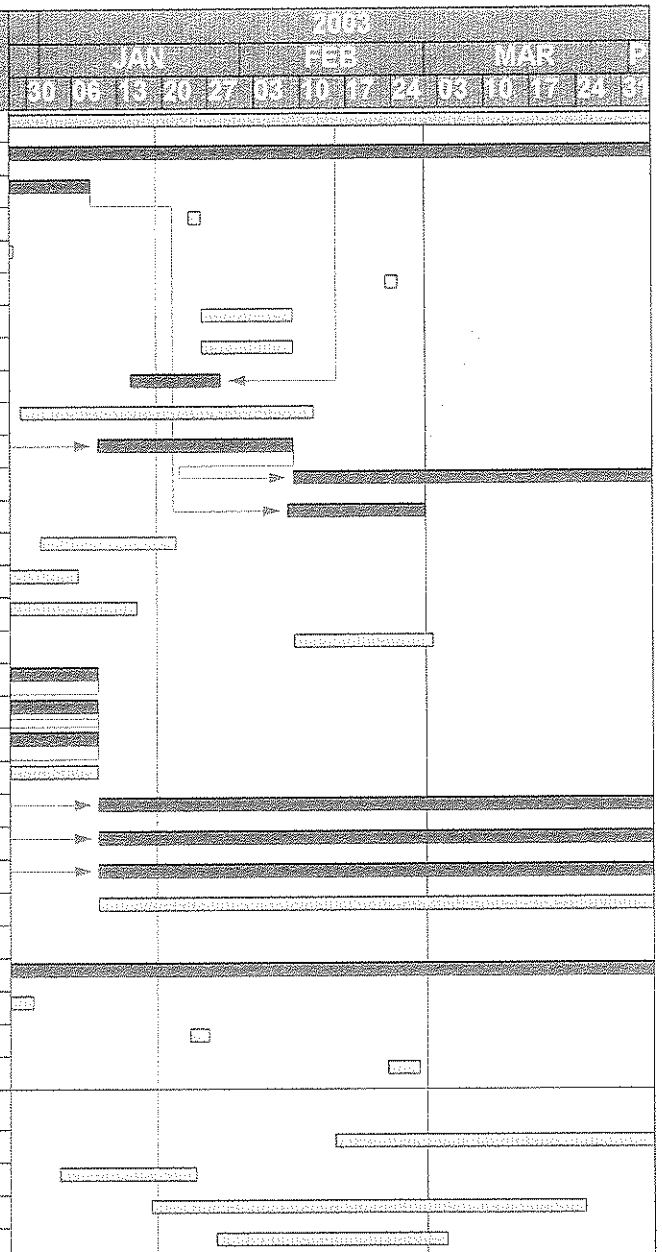
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Contract No. TP35/02
Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1
3-Month Rolling Programme as of 26 DECEMBER 2002

Act ID	Description	Orig Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
B1-0101B0	Servicing Engineer's Site Accommodation	1037	1	25DEC02 A	17OCT05	25DEC02	24OCT05
B1-0101D5	Servicing Contractor's Site Accommodation	1045	1	16DEC02 A	25OCT05	16DEC02	24OCT05
B1-0101E1	T/O measures-Traffic flow maintenance, Rest	14	0	26DEC02	08JAN03	14DEC02	27DEC02
B1-0101E2	T/O measures-Traffic flow maintenance, Zone G	2	0	24JAN03	25JAN03	23APR03	24APR03
B1-0101E3	T/O measures-Traffic flow maintenance, Zone P	2	0	26DEC02	27DEC02	13JAN03	14JAN03
B1-0101E5	T/O measures-Traffic flow maintenance, Zone S3	2	0	23FEB03	24FEB03	23APR03	24APR03
B1-0101F2	Provide measures- Traffic flow maint. S3/ Zone G	14	0	26JAN03	08FEB03	25APR03	08MAY03
B1-0101F4	Provide measures- Traffic flow maint. S16/Zone G	14	0	26JAN03	08FEB03	25APR03	08MAY03
B1-0101F7	Provide measures- Traffic flow maint. S16/Zone P	14	0	15JAN03	28JAN03	15JAN03	28JAN03
B1-0102C2	Install computer facilities for Engineer	45	0	29DEC02	11FEB03	14FEB03	30MAR03
B1-0103AL	Erect Hoarding at Zone L	30	0	10JAN03	08FEB03	15DEC02	13JAN03
B1-0103AT	Erect Hoarding around site boundary	650	0	09FEB03	19NOV04	14JAN03	24OCT04
B1-0103B1	Erect Signboards, 1nr at Zone A	21	0	08FEB03	28FEB03	27JAN03	16FEB03
B1-0103B3	Erect Signboard, 1nr at SRE Site Office	21	0	01JAN03	21JAN03	10MAR03	30MAR03
B1-0103C2	Erect Temporary Gate, 6mWx1.8mH at Zone Q	21	43	17DEC02 A	06JAN03	17DEC02	09MAR03
B1-0103C3	Erect Temporary Gate, 6mWx1.8mH at SRE Office	21	0	26DEC02	15JAN03	10MAR03	30MAR03
B1-0103C4	Erect Temporary Gate at Zone L, 6mWx1.8mH,	21	0	09FEB03	01MAR03	10MAR03	30MAR03
B1-0103I1	Construct W.Washing Facilities, WB1 at Zone E	15	0	26DEC02	09JAN03	28NOV02	12DEC02
B1-0103I2	Construct W.Washing Facilities, WB2 at Zone Q	15	0	26DEC02	09JAN03	26DEC02	09JAN03
B1-0103I4	Construct W.Washing Facilities, WB4 at Zone L	15	0	26DEC02	09JAN03	25NOV02	09DEC02
B1-0103I5	Construct W.Washing Facilities, WB5 at Zone A	15	0	26DEC02	09JAN03	17JAN03	31JAN03
B1-0103J1	Maintain W.Washing Facilities, WB1 at Zone E	667	0	10JAN03	06NOV04	13DEC02	09OCT04
B1-0103J2	Maintain W.Washing Facilities, WB2 at Zone Q	639	0	10JAN03	09OCT04	10JAN03	09OCT04
B1-0103J4	Maintain W.Washing Facilities, WB4 at Zone L	670	0	10JAN03	09NOV04	10DEC02	09OCT04
B1-0103J5	Maintain W.Washing Facilities, WB5 at Zone A	617	0	10JAN03	17SEP04	01FEB03	09OCT04
B1-0107H0	Take over Ex.Cyclist/Pedestrain Bridge@N.RoundA	1	0	26DEC02	26DEC02	03DEC02	03DEC02
B1-0107I0	Maintain Ex.Cyclist/Pedestrain Bridge@N.RoundA	631	0	27DEC02	17SEP04	04DEC02	25AUG04
B1-0108B04	Site Clearance- Zone P	5	0	26DEC02	30DEC02	23JAN03	27JAN03
B1-0108B05	Site Clearance- Zone G	3	0	24JAN03	26JAN03	28JAN03	30JAN03
B1-0108B06	Site Clearance- Zone S3 & J Rest	5	0	23FEB03	27FEB03	28MAR03	01APR03
Part 1.2 Preliminaries - Site Accom. (HY/98/02)							
B1-1410C0	Site Accommodation for Contractor, HY/98/02	66	0	15FEB03	21APR03	17FEB03	23APR03
B1-1410G0	Concrete Paving to HY/98/02 S.Offices	21	0	04JAN03	24JAN03	06JAN03	26JAN03
B1-14110A	Site Accommodation for Engineer, HY/98/02	66	0	18JAN03	24MAR03	20JAN03	26MAR03
B1-141700	Secondary Office (Container), HY/98/02	35	0	28JAN03	03MAR03	06MAR03	09APR03



Data date	26DEC02
Page number	2A
Page count	6A
Number/Version	TP35/02/3MON/04
Company name	Penta-Ocean Construction Co. Ltd.

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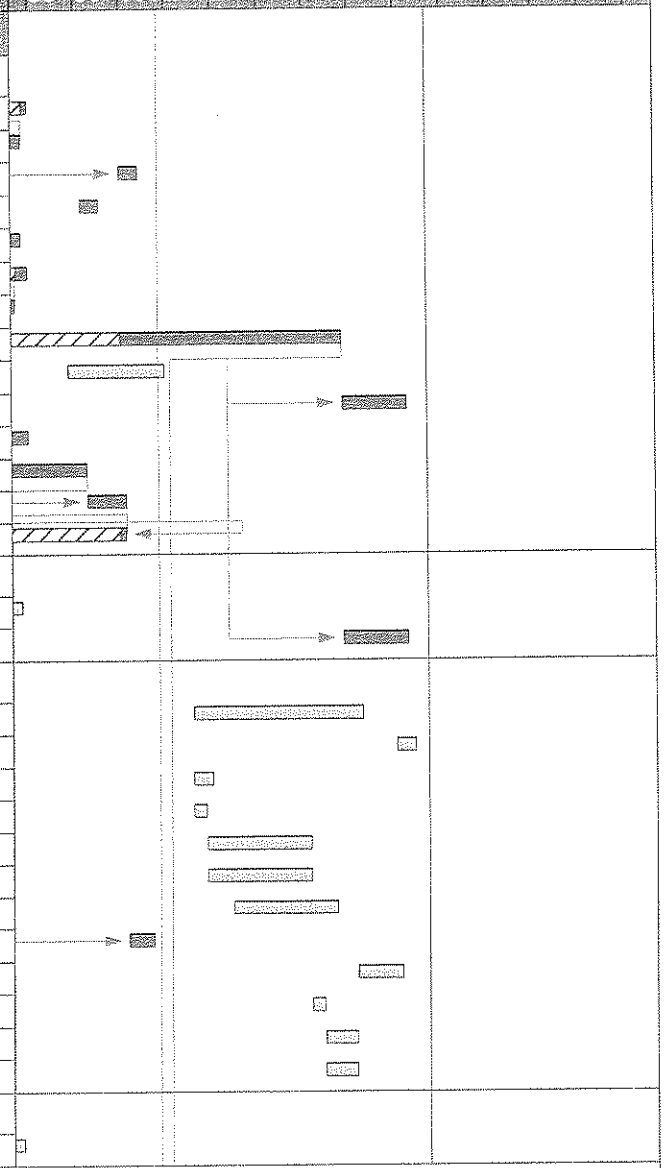
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Contract No. TP35/02
Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1
3-Month Rolling Programme as of 26 DECEMBER 2002

Act ID	Description	Orig Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
B3 EARTHWORKS							
Part 3.1 Earthworks - Section 1							
B3-0101A5	Vibrating wire pizometer, No. 2P5	6	80	23DEC02 A	29DEC02	23DEC02	15DEC02
B3-0101A8	Vibrating wire pizometer, No. 2P8	6	50	18DEC02 A	28DEC02	18DEC02	29NOV02
B3-0101B5	Surface Settlement Marker, No. 2M5	3	0	13JAN03	15JAN03	16DEC02	18DEC02
B3-0101B8	Surface Settlement Marker, No. 2M8	3	0	07JAN03	09JAN03	09DEC02	11DEC02
B3-0101B9	Surface Settlement Marker, No. 2M9	3	0	26DEC02	28DEC02	26NOV02	28NOV02
B3-0101C5	Subsurface Settlement Marker, No. 2M5	3	30	12DEC02 A	29DEC02	12DEC02	15DEC02
B3-0101C8	Subsurface Settlement Marker, No. 2M8	3	30	11DEC02 A	27DEC02	11DEC02	28NOV02
B3-0101L2	Zones C & D, Excavate ex.mound #2, at Road L1	31	16	16DEC02 A	15FEB03	16DEC02	17JAN03
B3-0101M0	Excavate, D1/Ch.140-240	15	0	05JAN03	19JAN03	18JUN03	02JUL03
B3-0101M2	Excavate, D1/Ch.240-320	10	0	16FEB03	25FEB03	26JAN03	12FEB03
B3-0102F1	S2, Concrete Block Panels, Zone C, Phase 1	4	0	26DEC02	29DEC02	06DEC02	09DEC02
B3-0102F2	S2, Concrete Block Panels, Zone F, Phase 1	13	0	26DEC02	07JAN03	27NOV02	09DEC02
B3-0102F3	S2, Concrete Block Panels, Zone F, Phase 2	6	0	08JAN03	13JAN03	11DEC02	16DEC02
B3-0102G2	S2, Preloading Mound Formation, Zone C, Phase 2B	7	86	10DEC02 A	13JAN03	10DEC02	16DEC02
Part 3.2 Earthworks - Section 2							
B3-0205B2	Surface Settlement Marker, No. 2M2	3	0	26DEC02	28DEC02	14FEB03	16FEB03
B3-0205D1	Zones C & D, Excavate ex.mound #2, at Road L1	10	0	16FEB03	25FEB03	16FEB03	25FEB03
Part 3.3 Earthworks - Section 3							
B3-0308A0	Vibrating wire piezometer, 3nr	18	0	24JAN03	18FEB03	28JAN03	22FEB03
B3-0308B0	Surface Settlement Marker, 2nr	3	0	24FEB03	26FEB03	27FEB03	01MAR03
B3-0308C0	Subsurface Settlement Marker, 2nr	3	0	24JAN03	26JAN03	28JAN03	30JAN03
B3-0308D0	Establish rigs for G.I.	2	0	24JAN03	25JAN03	27JAN03	28JAN03
B3-0308E0	Moving rigs, 2nr	8	0	26JAN03	10FEB03	29JAN03	13FEB03
B3-0308F0	Ground Investigation, 2nr	8	0	26JAN03	10FEB03	29JAN03	13FEB03
B3-0308I0	Fieldwork Reports	8	0	30JAN03	14FEB03	13FEB03	20FEB03
B3-0309G1	S2, Concrete Block Panels, S2, Zone G, Phase 4B	4	0	14JAN03	17JAN03	31DEC02	03JAN03
B3-0309G2	S5, Concrete Block Panels, S5, Zone G, Phase 9A	7	0	18FEB03	24FEB03	21FEB03	27FEB03
B3-0309J0	S5, Establish Equipment- PBD	2	0	11FEB03	12FEB03	14FEB03	15FEB03
B3-0309K1	S5, Move Equipment, PBD, 210nr	5	0	13FEB03	17FEB03	16FEB03	20FEB03
B3-0309L1	S5, Prefabricated Band Drain	5	0	13FEB03	17FEB03	16FEB03	20FEB03
Part 3.4 Earthworks - Section 5							
B3-0511B3	Surface Settlement Marker, No. 2M3	3	0	26DEC02	28DEC02	12MAY03	14MAY03



Data date	26DEC02
Page number	3A
Page count	6A
Number/Version	TP35/02/3MON/04
Company name	Penta-Ocean Construction Co. Ltd.

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

Contract No. TP35/02
Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1
3-Month Rolling Programme as of 26 DECEMBER 2002

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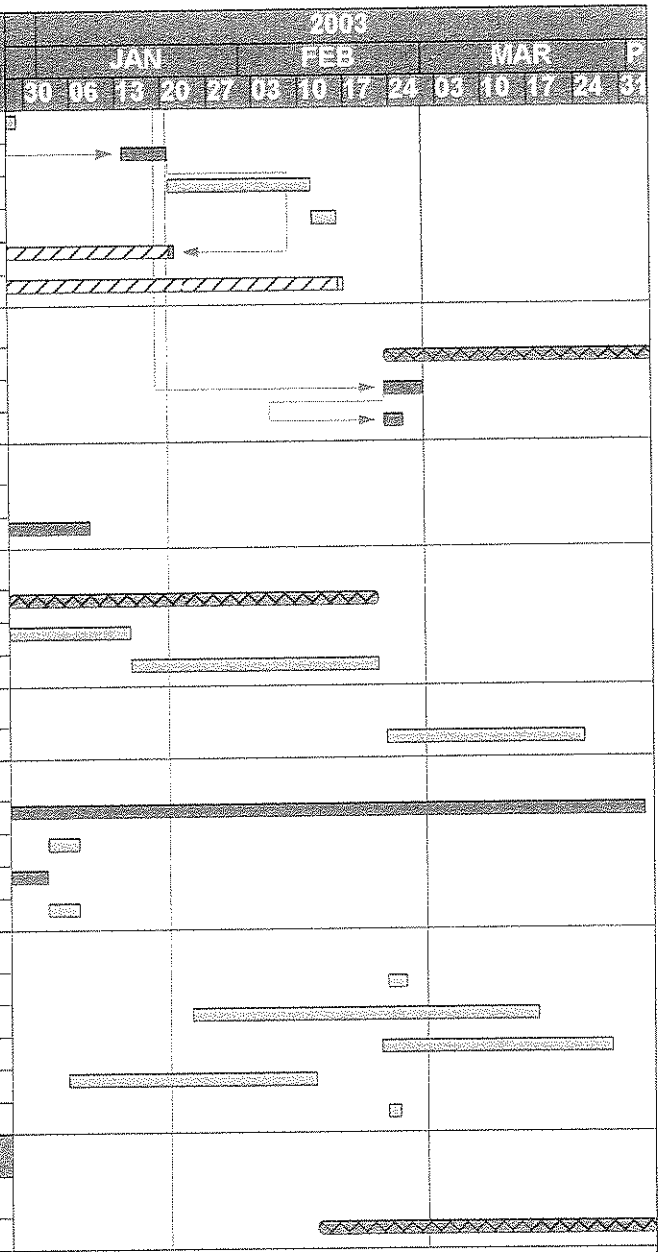
B3-0511B4	Surface Settlement Marker, No. 2M4	3	0	26DEC02	28DEC02	23JAN03	25JAN03
B3-0512G2	S2, Concrete Block Panels, Zone F, Phase 2	7	0	14JAN03	20JAN03	31DEC02	06JAN03
B3-0512G3	S2, Concrete Block Panels, Zone F, Phase 3	14	0	21JAN03	11FEB03	26MAR03	08APR03
B3-0512G4	S2, Concrete Block Panels, Zone G, Phase 3	4	0	12FEB03	15FEB03	09APR03	12APR03
B3-0512H2	S2, Preloading Mound Formation, Zone F, Phase 2B	7	86	16DEC02 A	21JAN03	16DEC02	07JAN03
B3-0512H3	S2, Preloading Mound Formation, Zone F, Phase 3B	8	88	09DEC02 A	16FEB03	09DEC02	13APR03
Part 3.5 Earthworks - Section 6							
B3-060000	Earthworks - Section 6, Area 7B	98 *	0	23FEB03	31MAY03	23FEB03	29NOV03
B3-0615A0	Vibrating wire pizometer, 1nr	6	0	23FEB03	28FEB03	23FEB03	28FEB03
B3-0615C6	Subsurface Settlement Marker, No. 4M6	3	0	23FEB03	25FEB03	23FEB03	25FEB03
Part 3.7 Earthworks - Section 8							
B3-0819A5	Area 10B, Excavate ex.mound, +6mPD, the rest	14	93	09DEC02 A	26DEC02	09DEC02	06JAN03
B3-0819A6	Misc. Works	14	0	26DEC02	08JAN03	26DEC02	08JAN03
Part 3.8 Earthworks - Section 9							
B3-090000	Earthworks - Section 9, Area 5, Excavation	50 *	0	26DEC02	21FEB03	28DEC02	12MAR03
B3-0920D1	Excavation, Portion 1 at Promenade N. end	20	0	26DEC02	14JAN03	28DEC02	16JAN03
B3-0920D2	Excavation, Portion 2 at Promenade N. end	30	0	15JAN03	21FEB03	11FEB03	12MAR03
Part 3.9 Earthworks - Section 10							
B3-1021D3	Excavation, Area 9B, Zone S3	30	0	23FEB03	24MAR03	30MAY03	28JUN03
Part 3.10 Earthworks - Section 11							
B3-1110A0	Monitoring ex.instrutmentation outside PBD Area	90	0	26DEC02	02APR03	26NOV02	03MAR03
B3-1121BI	Moving Equipment - PBD at access	5	0	02JAN03	06JAN03	15MAR03	19MAR03
B3-1121BK	Prefabricated Band Drain, 2nd portion	10	30	23DEC02 A	01JAN03	23DEC02	17DEC02
B3-1121BL	Prefabricated Band Drain at access	5	0	02JAN03	06JAN03	15MAR03	19MAR03
Part 3.11 Earthworks - Section 16							
B3-1601D0	Establish rigs for GI, S6	3	0	23FEB03	25FEB03	25FEB03	27FEB03
B3-1622M4	Excavate, D1/Ch.1500-1860	45	0	24JAN03	17MAR03	09MAR03	22APR03
B3-1622M6	Excavate, D1/Ch.1900-2180	35	0	22FEB03	28MAR03	16JUL03	19AUG03
B3-1622M9	Excavate, N.end, Promenade	30	0	05JAN03	11FEB03	14MAR04	12APR04
B3-1624C0	S5, Establish Equipment- PBD	2	0	23FEB03	24FEB03	21MAR03	22MAR03
UTILITIES WORKS (By Others)							
Section 16 - Utilities							
UT-160000	Utilities - Section 16, Remainder	469 *	0	12FEB03	01JUN04	15MAY03	22JUN04



Data date	26DEC02
Page number	4A
Page count	6A
Number/Version	TP35/02/3MON/04
Company name	Penta-Ocean Construction Co. Ltd.

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

Contract No. TP35/02
Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1
3-Month Rolling Programme as of 26 DECEMBER 2002

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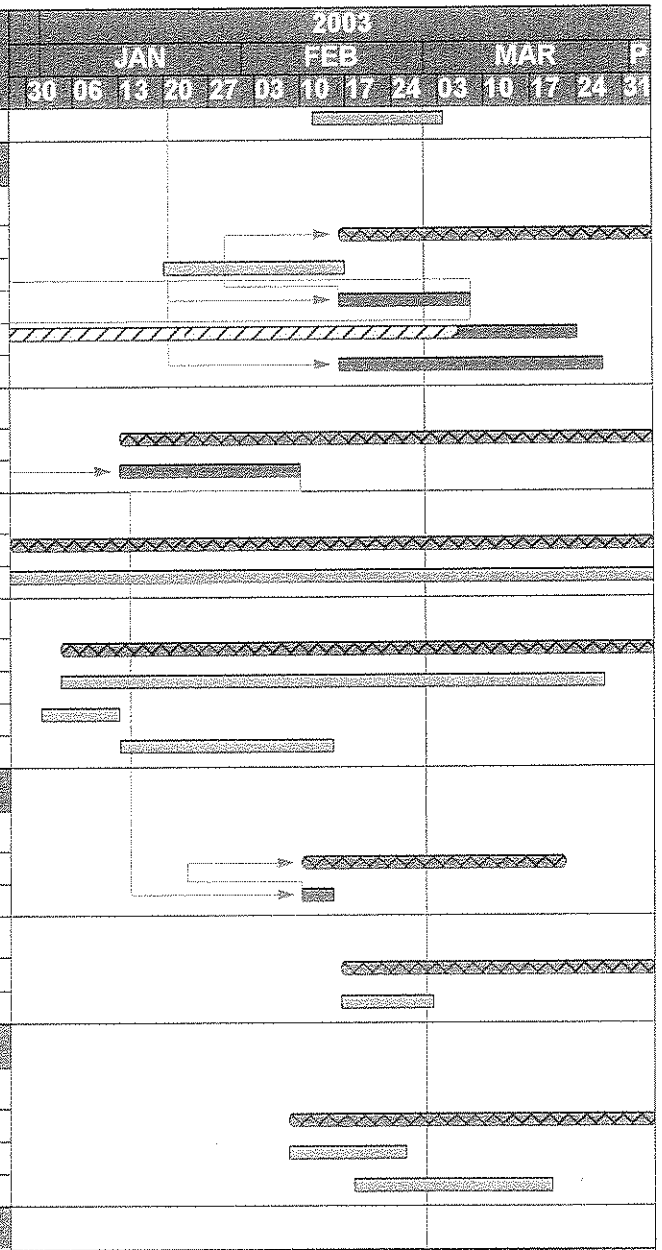
UT-1600G9	Gas Mains, N. end, Promenade	20	0	12FEB03	03MAR03	13APR04	02MAY04
B.4 DRAINAGE AND SEWERAGE							
Part 4.1 Drainage & Sewerage - Section 1							
B4-010000	Drainage& Sewerage - Section 1, Area 1	96 *	0	16FEB03	22MAY03	18JAN03	01MAY03
B4-0101F0	P/c pipe, S0003-S0010	20	0	20JAN03	16FEB03	23JUL03	11AUG03
B4-0101F1	P/c pipe, L1/S766-S768, 600d & S768-S0019, 750d	20	0	16FEB03	07MAR03	18JAN03	14FEB03
B4-0101F2	P/c pipe, D1/S0010-S0014, 1050-1500dia	20	10	09DEC02 A	23MAR03	09DEC02	02MAR03
B4-0106E1	Trapezodial channel, at L1	40	0	16FEB03	27MAR03	30JAN03	18MAR03
Part 4.9 Drainage & Sewerage - Section 9							
B4-090000	Drainage & Sewerage - Section 9, Area 5	80 *	0	13JAN03	10APR03	09JAN03	16MAY03
B4-0920D1	Drainage, P.Cycle track, S764 to S768	20	0	13JAN03	09FEB03	09JAN03	28JAN03
Part 4.10 Drainage & Sewerage - Section 10							
B4-100000	Drainage & Sewerage-Sec.10,Areas 9A, 9B/ ZoneS3	119 *	8	18DEC02 A	23APR03	18DEC02	27AUG03
B4-1071A2	Drainage, Area 9A, S7786-S7798	100	1	18DEC02 A	12APR03	18DEC02	04MAY03
Part 4.11 Drainage & Sewerage - Section 16							
B4-160000	Drainage & Sewerage-Section16, Area 15+Remainder	487 *	0	04JAN03	19MAY04	18JAN03	22JUN04
B4-1683B0	Drainage, S764-S779, NW of H.Site 1, Promenade	75	0	04JAN03	27MAR03	18JAN03	10APR03
B4-1689C1	Trapezoidal Channel, Area 13A	12	0	01JAN03	12JAN03	09APR03	20APR03
B4-1689C2	Trapezoidal Channel, NE of School Site	25	0	13JAN03	14FEB03	21APR03	15MAY03
B.6 WATERWORKS							
Part 6.8 Waterworks - Section 9							
B6-090000	Waterworks - Section 9, Area 5	40 *	0	10FEB03	21MAR03	29JAN03	27FEB03
B6-0920D0	Trial Pits	5	0	10FEB03	14FEB03	29JAN03	10FEB03
Part 6.11 Waterworks - Section 16							
B6-160000	Waterworks - Section 16, Remainder	74 *	0	16FEB03	30APR03	02MAR03	14MAY03
B6-1607A0	Trial Pits	14	0	16FEB03	01MAR03	02MAR03	15MAR03
B.9 SUBWAY SB1							
Part 9.2 Ramps							
B9-100050	Subway SB1 Ramps	278 *	0	08FEB03	12NOV03	17MAR03	19DEC03
B9-101500	Sheetpiling at HKIBT	18	0	08FEB03	25FEB03	17MAR03	03APR03
B9-102000	Excavation	30	0	18FEB03	19MAR03	27MAR03	25APR03
B.10 BOX CULVERT C10							



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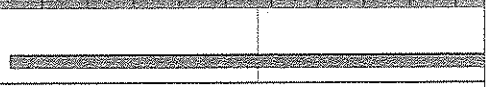
Page number	5A
Page count	6A
Number/Version	TP35/02/3MCN/04
Company name	Penta-Ocean Construction Co. Ltd.

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

Contract No. TP35/02
Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1
3-Month Rolling Programme as of 26 DECEMBER 2002

Act ID	Description	Orig Dur	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Part 10 Box Culvert C10							
BC-110170	Casting of precast units	120	0	22JAN03	29MAY03	23DEC02	29APR03



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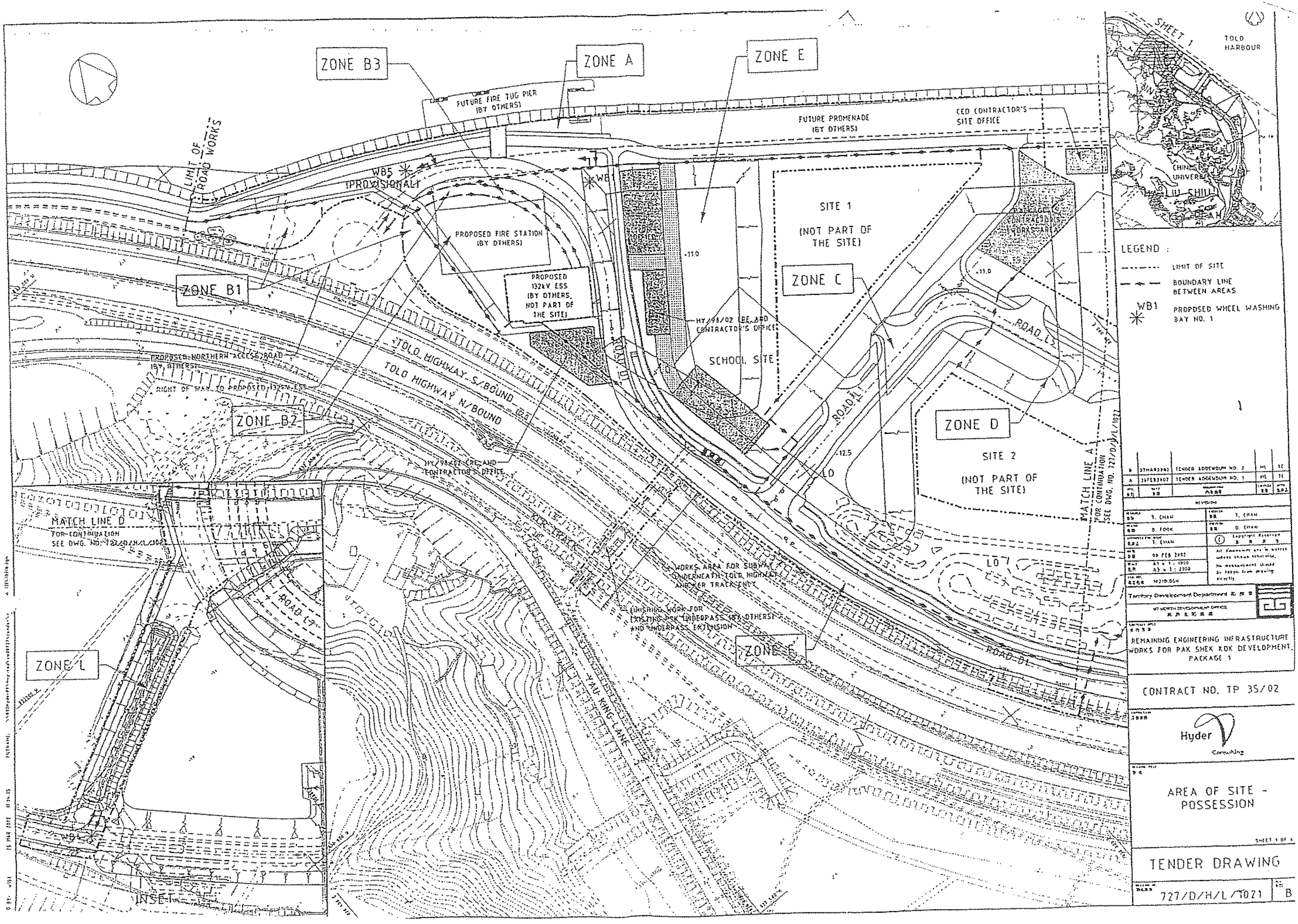
Page number	6A
Page count	6A
Number/Version	TP35/02/3MON/04
Company name	Penta-Ocean Construction Co. Ltd.

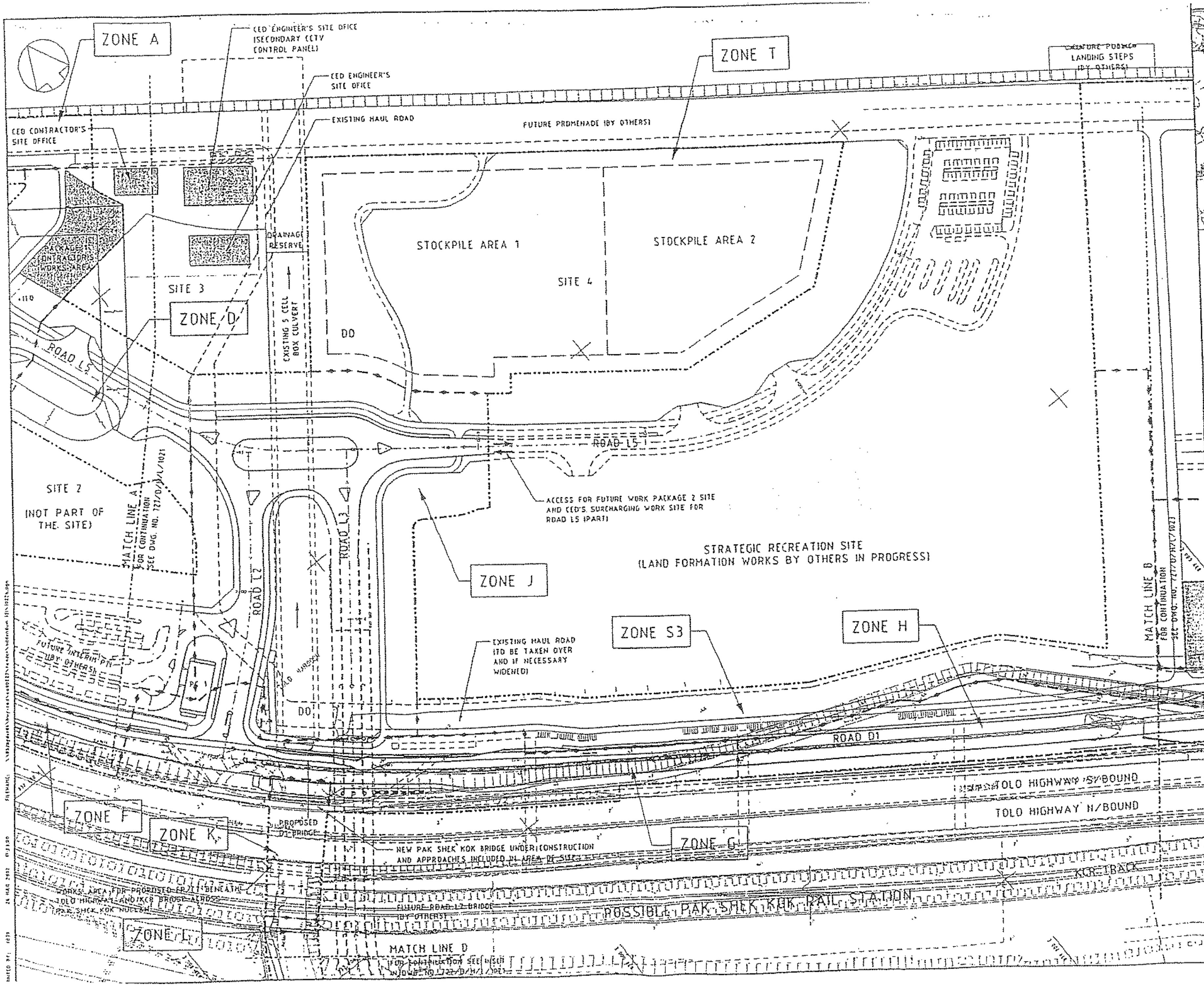
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Contract No. TP35/02
Remaining Engineering Infrastructure Works for Pak Shek Kok Development Package 1
3-Month Rolling Programme as of 26 DECEMBER 2002

Appendix G

Construction Site Area


ZONE B3
ZONE A
ZONE E
FUTURE FIRE TUG PIER (BY OTHERS)
FUTURE PROMENADE (BY OTHERS)
CED CONTRACTOR'S SITE OFFICE
LIMIT OF ROAD WORKS
WB5 (PROVISIONAL)
PROPOSED FIRE STATION (BY OTHERS)
PROPOSED 132kV ESS (BY OTHERS, NOT PART OF THE SITE)
SITE 1 (NOT PART OF THE SITE)
ZONE C
ZONE B1
HY/98/02 CRE AND CONTRACTOR'S OFFICE
SCHOOL SITE
TOLO HIGHWAY S/BOUND
TOLO HIGHWAY N/BOUND
ROAD D1
ROAD L1
ROAD L5
ZONE B2
ZONE D
SITE 2 (NOT PART OF THE SITE)
MATCH LINE A FOR CONTINUATION SEE DWG. NO. 727/D/L/1021
MATCH LINE D FOR CONTINUATION
KCR TRACK
WORKS AREA FOR SUBWAY UNDERNEATH TOLO HIGHWAY AND KCR TRACK ONLY
FINISHING WORK FOR EXISTING PSK UNDERPASS (BY OTHERS) AND UNDERPASS EXTENSION
YAU KING LANE
ZONE E
ZONE L
ROAD L7
INSET
TOLO HARBOUR
SHEET 1
LEGEND :
LIMIT OF SITE
BOUNDARY LINE BETWEEN AREAS
WB1 PROPOSED WHEEL WASHING BAY NO. 1
TENDER ADDENDUM NO. 2
TENDER ADDENDUM NO. 1
Territory Development Department
REMAINING ENGINEERING INFRASTRUCTURE WORKS FOR PAK SHEK KOK DEVELOPMENT, PACKAGE 1
CONTRACT NO. TP 35/02
Hyder Consulting
AREA OF SITE - POSSESSION
TENDER DRAWING
727/D/H/L/1021
B


ZONE A
CED ENGINEER'S SITE OFFICE (SECONDARY CCTV CONTROL PANEL)
CED ENGINEER'S SITE OFFICE
EXISTING HAUL ROAD
ZONE T
LANDING STEPS
CED CONTRACTOR'S SITE OFFICE
FUTURE PROMENADE (BY OTHERS)
DRAINAGE RESERVE
STOCKPILE AREA 1
STOCKPILE AREA 2
SITE 4
SITE 3
ZONE D
EXISTING 5 CELL BOX CULVERT
DD
ROAD L5
ROAD L3
ROAD L2
SITE 2
(NOT PART OF THE SITE)
MATCH LINE A
FOR CONTINUATION SEE DWG. NO. 727/D/H/L/1021
ACCESS FOR FUTURE WORK PACKAGE 2 SITE AND CED'S SURCHARGING WORK SITE FOR ROAD L5 (PART)
STRATEGIC RECREATION SITE
(LAND FORMATION WORKS BY OTHERS IN PROGRESS)
ZONE J
ZONE S3
ZONE H
MATCH LINE B
FOR CONTINUATION SEE DWG. NO. 727/D/H/L/1023
EXISTING HAUL ROAD (TO BE TAKEN OVER AND IF NECESSARY WIDENED)
FUTURE INTERIM PTI (BY OTHERS)
ROAD D1
TOLO HIGHWAY S/BOUND
TOLO HIGHWAY N/BOUND
ZONE F
ZONE K
PROPOSED D1 BRIDGE
NEW PAK SHEK KOK BRIDGE UNDER CONSTRUCTION AND APPROACHES INCLUDED IN AREA OF SITE
ZONE G
KCR TRACK
POSSIBLE PAK SHEK KOK RAIL STATION
FUTURE ROAD L2 BRIDGE (BY OTHERS)
ZONE L
MATCH LINE D
TOLO HARBOUR
SHEET 2

NOTES :
FOR LEGEND, SEE DRAWING NO. 727/D/H/L/1021

B	TENDER ADDENDUM NO. 2	
A	TENDER ADDENDUM NO. 1	

Territory Development Department

REMAINING ENGINEERING INFRASTRUCTURE WORKS FOR PAK SHEK KOK DEVELOPMENT PACKAGE 1

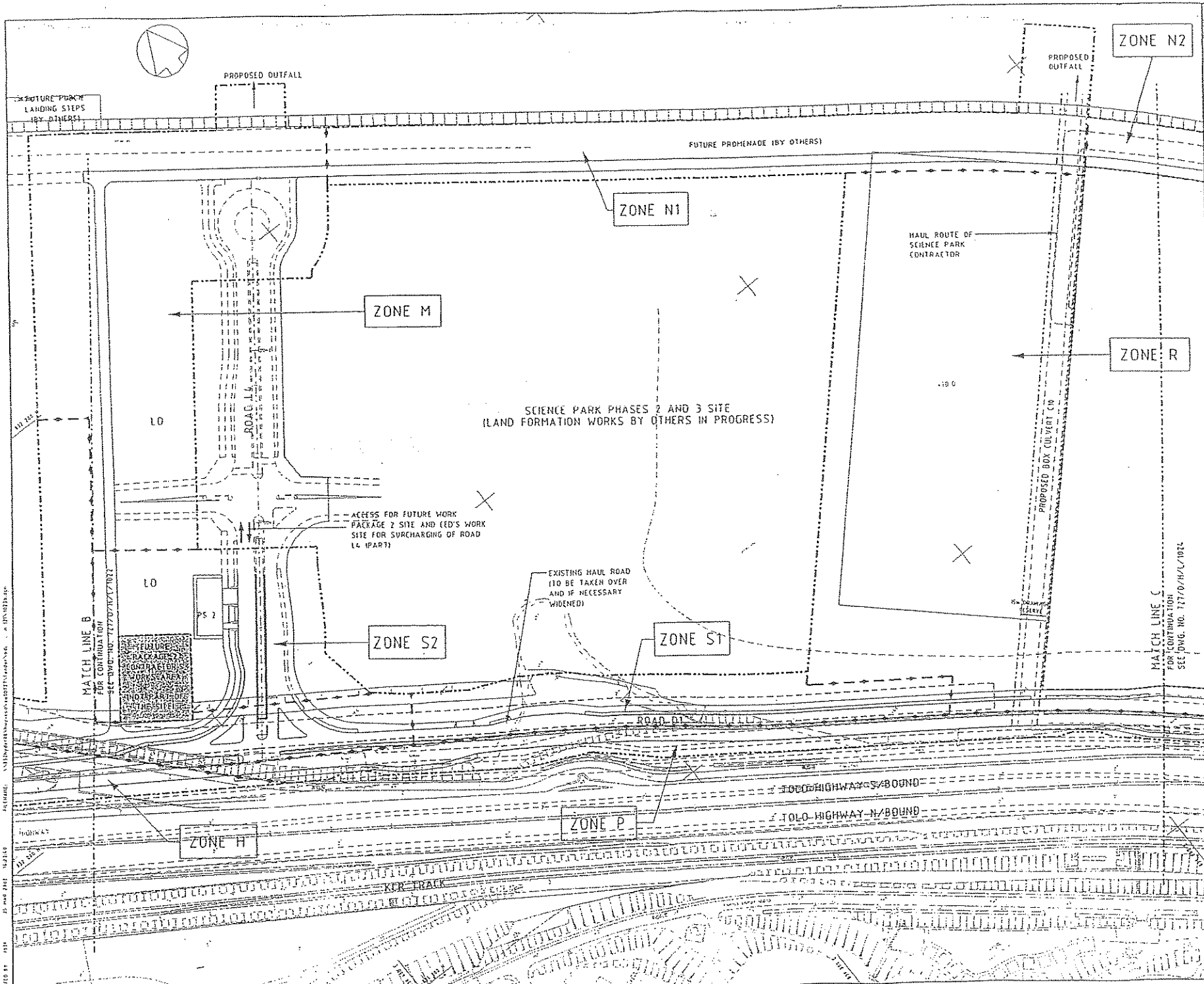
CONTRACT NO. TP 35/02

Hyder Consulting

AREA OF SITE - POSSESSION

TENDER DRAWING

727/D/H/L/1022 B



NOTES :

FOR LEGEND, SEE DRAWING NO. 727/D/H/L/1021.

B	27MAR2002	TENDER ADDENDUM NO. 2	PK	TC
A	26FEB2002	TENDER ADDENDUM NO. 1	PK	TC

REVISION

Territory Development Department

REMAINING ENGINEERING INFRASTRUCTURE WORKS FOR PAK SHEK KOK DEVELOPMENT PACKAGE 1

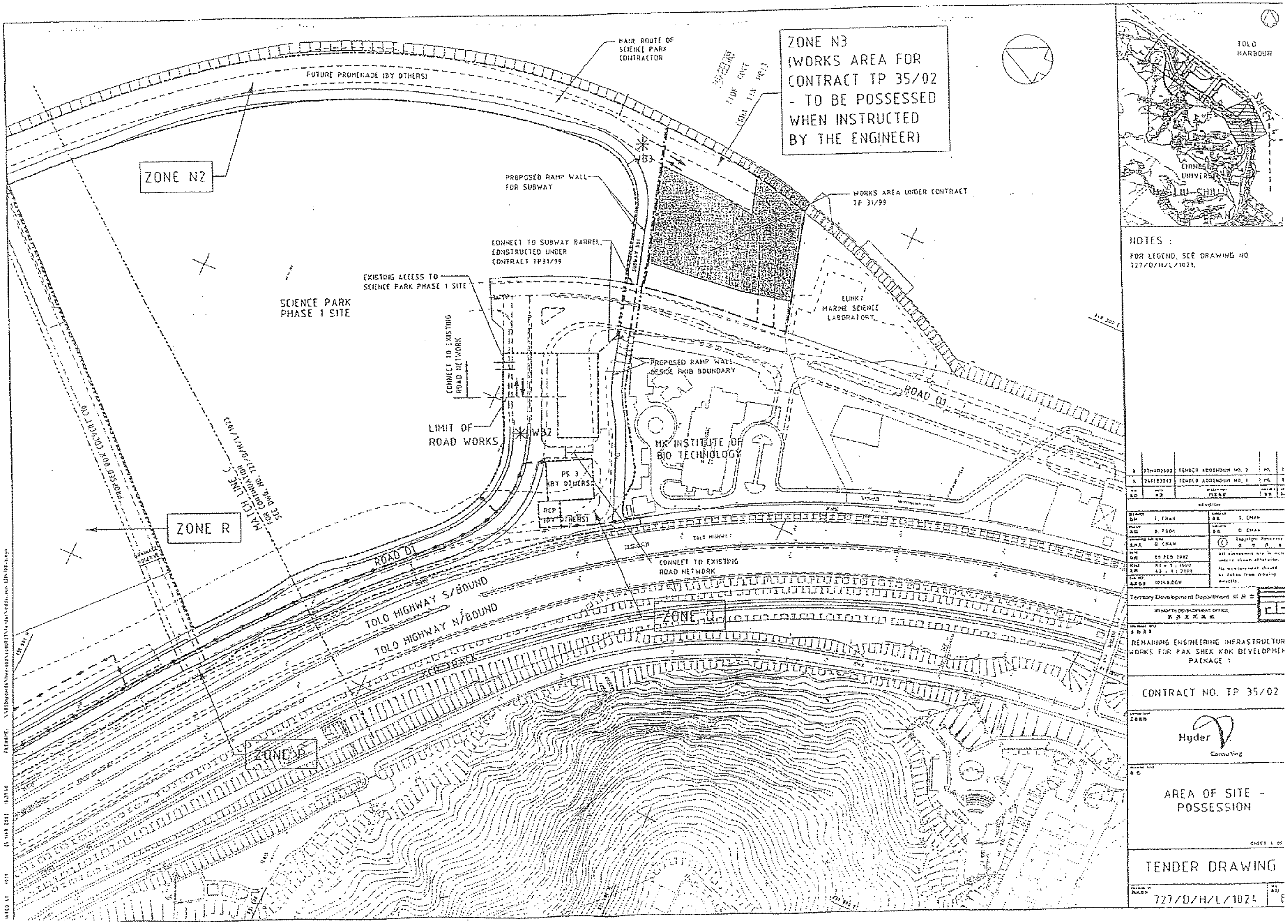
CONTRACT NO. TP 35/02

Hyder Consulting

AREA OF SITE - POSSESSION

TENDER DRAWING

727/D/H/L/1023 B


ZONE N3
(WORKS AREA FOR
CONTRACT TP 35/02
- TO BE POSSESSED
WHEN INSTRUCTED
BY THE ENGINEER)
HAUL ROUTE OF SCIENCE PARK CONTRACTOR
FUTURE PROMENADE (BY OTHERS)
ZONE N2
WB3
PROPOSED RAMP WALL FOR SUBWAY
WORKS AREA UNDER CONTRACT TP 31/99
CONNECT TO SUBWAY BARREL CONSTRUCTED UNDER CONTRACT TP31/99
EXISTING ACCESS TO SCIENCE PARK PHASE 1 SITE
SCIENCE PARK PHASE 1 SITE
CUHK MARINE SCIENCE LABORATORY
CONNECT TO EXISTING ROAD NETWORK
PROPOSED RAMP WALL BESIDE HKIB BOUNDARY
ROAD D1
LIMIT OF ROAD WORKS
WB2
HK INSTITUTE OF BIO TECHNOLOGY
PS 3 (BY OTHERS)
RCP (BY OTHERS)
MATCH LINE C
SEE DWG. NO. 727/D/H/L/1023 FOR CONTINUATION
ZONE R
CONNECT TO EXISTING ROAD NETWORK
TOLO HIGHWAY S/BOUND
TOLO HIGHWAY N/BOUND
ZONE Q
KCR TRACK
ZONE P
TOLO HARBOUR
CHINESE UNIVERSITY
NOTES :
FOR LEGEND, SEE DRAWING NO. 727/D/H/L/1021.
TENDER ADDENDUM NO. 2
TENDER ADDENDUM NO. 1
Territory Development Department
REMAINING ENGINEERING INFRASTRUCTURE WORKS FOR PAK SHEK KOK DEVELOPMENT PACKAGE 1
CONTRACT NO. TP 35/02
Hyder Consulting
AREA OF SITE - POSSESSION
TENDER DRAWING
727/D/H/L/1024

Appendix H

Summary of the Implementation schedule of Mitigation Measures

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Summary of the Implementation Status of Mitigation Measures

December 2002 to January 2003

The Summary of implementation status of Mitigation Measures

Aspect	Mitigation Measures	Implementation Status		
		Y	N	N/A
Air	- The height from which fill materials were dropped was controlled to a practical height to minimize the fugitive dust arising form unloading.	√		
	- During transportation by truck, material was loaded to a level higher than the side and tail boards, and should be dampened or covered before transport.	√		
	- All stockpile of aggregate or spoil were enclosed or covered and water applied in dry or windy condition.		√	
	- Effective water sprays were used on the site at potential dust emission sources such as unpaved area.	√		
	- The haul road was either paved or regular watering.	√		
	- Vehicle speed was limited to 20 km/hr.	√		
	- Adequately designed wheel washing facilities including a high pressure water jet were provided at all main entrance of work site.	√		
Noise	- Only well maintained plant were operated on-site and plant should be serviced regularly during the construction works.	√		
	- Machines and plants that were in intermittent use were shut down between work periods or throttled down to a minimum.	√		
	- Plant known to emit noise strongly in on direction, where possible, were orientated so that the noise is directed away from nearby NSRs.	√		
	- Silencers or mufflers on construction equipment were considered.	√		
Water	- Recirculation system was used to reduce SS from the vehicle wheel washing facility.	√		
	- Fuel tanks on site were housed within drainable trays and regularly drained of rain water.	√		
	- Washing area and road exiting were paved from washing facility.	√		
	- Permanent / Temporary ditches were provided to facilities run-off discharge into the appropriate watercourses, via a sediment trap/sediment retention basin, prior to discharge.	√		
	- Sedimentation tanks with adequate capacity to settle the sand and silt out were provided.	√		
	- Sedimentation tanks were regularly cleaned and maintained in order to control their efficiency and to prevent the recycled water overflow to drains.	√		
	- All drainage facilities were adequate for the controlled release of storm flows.	√		
	- Exposed soil areas were minimized to reduce the potential for increased siltation and contamination of run-off.	√		
	- All chemical stores were contained (bunded) such that spills are not slowed to gain access to water bodies.	√		
	- Chemical toilets were provided to handle the sewage from the on-site construction workforce.	√		

The Summary of implementation status of Mitigation Measures

Aspect	Mitigation Measures	Implementation Status		
		Y	N	N/A
Waste	- Wastes were handle and store in a manner, which ensure that they were held securely without loss or leakage, thereby minimizing the potential for pollution.	√		
	- Authorized or licensed waste hauliers were use to collect the specific category of waste.	√		
	- Wastes were remove in a timely manner.	√		
	- The waste storage areas were maintained and cleaned regularly.	√		
	- Windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers were minimized.	√		
	- Waste disposal permits were obtained form the appropriate authorities.	√		
	- Wastes were disposed at licensed sites.	√		
	- Procedures such as a ticketing system were developed to facilitate tracing of loads, particularly for chemical waste, and to ensure that illegal disposal of wastes does not occur.	√		
	- Records of the quantities of wastes generated, recycled and disposal were maintained.	√		
Chemical Waste	- Under the Waste Disposal (Chemical Waste) (General) Regulation, chemical waste producers were registered with EPD.	√		
	- Chemical wastes were transported by a registered chemical waste collector to a facility licensed to receive chemical waste.	√		
	- Containers used for the storage of chemical wastes were:			
	1. - Suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;	√		
	2. - Enclosed on at least 3 sides;	√		
	3. - Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest;	√		
	4. - Have adequate ventilation;	√		
	5. - Covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary);	√		
	6. - Arranged so that incompatible materials are adequately separated.	√		

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Summary of the Implementation Status of Mitigation Measures

February 2003

The Summary of implementation status of Mitigation Measures

Aspect	Mitigation Measures	Implementation Status		
		Y	N	N/A
Air	- The height from which fill materials were dropped was controlled to a practical height to minimize the fugitive dust arising form unloading.	√		
	- During transportation by truck, material was loaded to a level higher than the side and tail boards, and should be dampened or covered before transport.	√		
	- All stockpile of aggregate or spoil were enclosed or covered and water applied in dry or windy condition.		√	
	- Effective water sprays were used on the site at potential dust emission sources such as unpaved area.	√		
	- The haul road was either paved or regular watering.	√		
	- Vehicle speed was limited to 20 km/hr.	√		
	- Adequately designed wheel washing facilities including a high pressure water jet were provided at all main entrance of work site.	√		
Noise	- Only well maintained plant were operated on-site and plant should be serviced regularly during the construction works.	√		
	- Machines and plants that were in intermittent use were shut down between work periods or throttled down to a minimum.	√		
	- Plant known to emit noise strongly in on direction, where possible, were orientated so that the noise is directed away from nearby NSRs.	√		
	- Silencers or mufflers on construction equipment were considered.	√		
Water	- Recirculation system was used to reduce SS from the vehicle wheel washing facility.	√		
	- Fuel tanks on site were housed within drainable trays and regularly drained of rain water.	√		
	- Washing area and road exiting were paved from washing facility.	√		
	- Permanent / Temporary ditches were provided to facilities run-off discharge into the appropriate watercourses, via a sediment trap/sediment retention basin, prior to discharge.	√		
	- Sedimentation tanks with adequate capacity to settle the sand and silt out were provided.	√		
	- Sedimentation tanks were regularly cleaned and maintained in order to control their efficiency and to prevent the recycled water overflow to drains.	√		
	- All drainage facilities were adequate for the controlled release of storm flows.	√		
	- Exposed soil areas were minimized to reduce the potential for increased siltation and contamination of run-off.	√		
	- All chemical stores were contained (bunded) such that spills are not slowed to gain access to water bodies.	√		
	- Chemical toilets were provided to handle the sewage from the on-site construction workforce.	√		

The Summary of implementation status of Mitigation Measures

Aspect	Mitigation Measures	Implementation Status		
		Y	N	N/A
Waste	- Wastes were handle and store in a manner, which ensure that they were held securely without loss or leakage, thereby minimizing the potential for pollution.	√		
	- Authorized or licensed waste hauliers were use to collect the specific category of waste.	√		
	- Wastes were remove in a timely manner.	√		
	- The waste storage areas were maintained and cleaned regularly.	√		
	- Windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers were minimized.	√		
	- Waste disposal permits were obtained form the appropriate authorities.	√		
	- Wastes were disposed at licensed sites.	√		
	- Procedures such as a ticketing system were developed to facilitate tracing of loads, particularly for chemical waste, and to ensure that illegal disposal of wastes does not occur.	√		
	- Records of the quantities of wastes generated, recycled and disposal were maintained.	√		
Chemical Waste	- Under the Waste Disposal (Chemical Waste) (General) Regulation, chemical waste producers were registered with EPD.	√		
	- Chemical wastes were transported by a registered chemical waste collector to a facility licensed to receive chemical waste.	√		
	- Containers used for the storage of chemical wastes were:			
	7. - Suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;	√		
	8. - Enclosed on at least 3 sides;	√		
	9. - Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest;	√		
	10. - Have adequate ventilation;	√		
	11. - Covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary);	√		
	12. - Arranged so that incompatible materials are adequately separated.	√		

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Summary of the Implementation Status of Mitigation Measures

March 2003

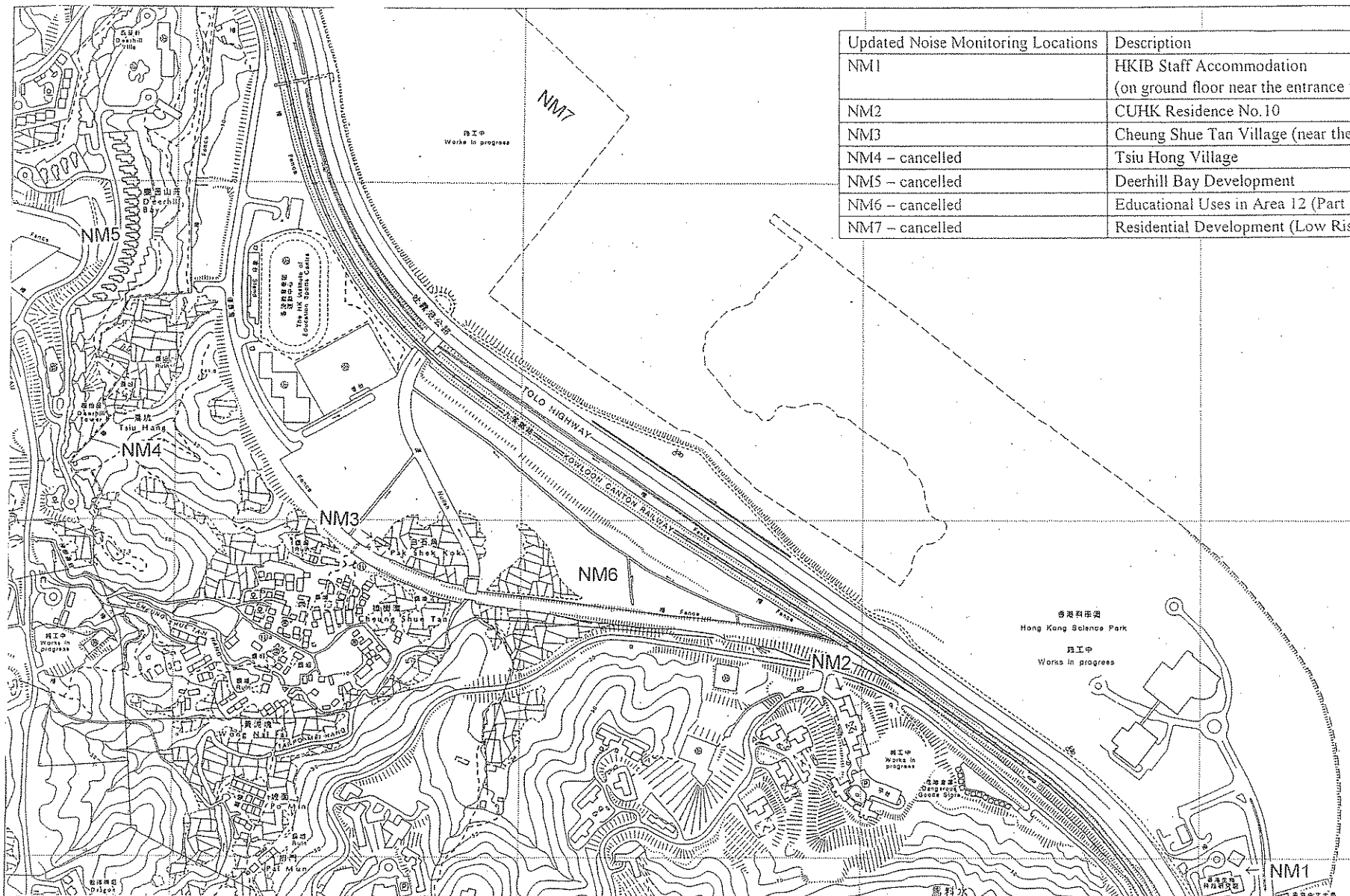
The Summary of implementation Status of Mitigation Measures

Aspect	Mitigation Measures	Implementation Status		
		Y	N	N/A
Air	- The height from which fill materials were dropped was controlled to a practical height to minimize the fugitive dust arising form unloading.	√		
	- During transportation by truck, material was loaded to a level higher than the side and tail boards, and should be dampened or covered before transport.	√		
	- All stockpile of aggregate or spoil were enclosed or covered and water applied in dry or windy condition.		√	
	- Effective water sprays were used on the site at potential dust emission sources such as unpaved area.	√		
	- The haul road was either paved or regular watering.	√		
	- Vehicle speed was limited to 20 km/hr.	√		
	- Adequately designed wheel washing facilities including a high pressure water jet were provided at all main entrance of work site.	√		
Noise	- Only well maintained plant were operated on-site and plant should be serviced regularly during the construction works.	√		
	- Machines and plants that were in intermittent use were shut down between work periods or throttled down to a minimum.	√		
	- Plant known to emit noise strongly in on direction, where possible, were orientated so that the noise is directed away from nearby NSRs.	√		
	- Silencers or mufflers on construction equipment were considered.	√		
Water	- Recirculation system was used to reduce SS from the vehicle wheel washing facility.	√		
	- Fuel tanks on site were housed within drainable trays and regularly drained of rain water.	√		
	- Washing area and road exiting were paved from washing facility.	√		
	- Permanent / Temporary ditches were provided to facilities run-off discharge into the appropriate watercourses, via a sediment trap/sediment retention basin, prior to discharge.	√		
	- Sedimentation tanks with adequate capacity to settle the sand and silt out were provided.	√		
	- Sedimentation tanks were regularly cleaned and maintained in order to control their efficiency and to prevent the recycled water overflow to drains.	√		
	- All drainage facilities were adequate for the controlled release of storm flows.	√		
	- Exposed soil areas were minimized to reduce the potential for increased siltation and contamination of run-off.	√		
	- All chemical stores were contained (bunded) such that spills are not slowed to gain access to water bodies.	√		
	- Chemical toilets were provided to handle the sewage from the on-site construction workforce.	√		

The Summary of implementation status of Mitigation Measures

Aspect	Mitigation Measures	Implementation Status		
		Y	N	N/A
Waste	- Wastes were handle and store in a manner, which ensure that they were held securely without loss or leakage, thereby minimizing the potential for pollution.	√		
	- Authorized or licensed waste hauliers were use to collect the specific category of waste.	√		
	- Wastes were remove in a timely manner.	√		
	- The waste storage areas were maintained and cleaned regularly.	√		
	- Windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers were minimized.	√		
	- Waste disposal permits were obtained form the appropriate authorities.	√		
	- Wastes were disposed at licensed sites.	√		
	- Procedures such as a ticketing system were developed to facilitate tracing of loads, particularly for chemical waste, and to ensure that illegal disposal of wastes does not occur.	√		
	- Records of the quantities of wastes generated, recycled and disposal were maintained.	√		
Chemical Waste	- Under the Waste Disposal (Chemical Waste) (General) Regulation, chemical waste producers were registered with EPD.	√		
	- Chemical wastes were transported by a registered chemical waste collector to a facility licensed to receive chemical waste.	√		
	- Containers used for the storage of chemical wastes were:			
	13. - Suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;	√		
	14. - Enclosed on at least 3 sides;	√		
	15. - Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest;	√		
	16. - Have adequate ventilation;	√		
	17. - Covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary);	√		
	18. - Arranged so that incompatible materials are adequately separated.	√		

Figures



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

Remaining Engineering Works for Pak Shek Kok Development, Package 1
Contract No. TP35/02

Figure 1 Location of Noise Monitoring Stations

Scale : ---

Revised Date:
15/11/2002

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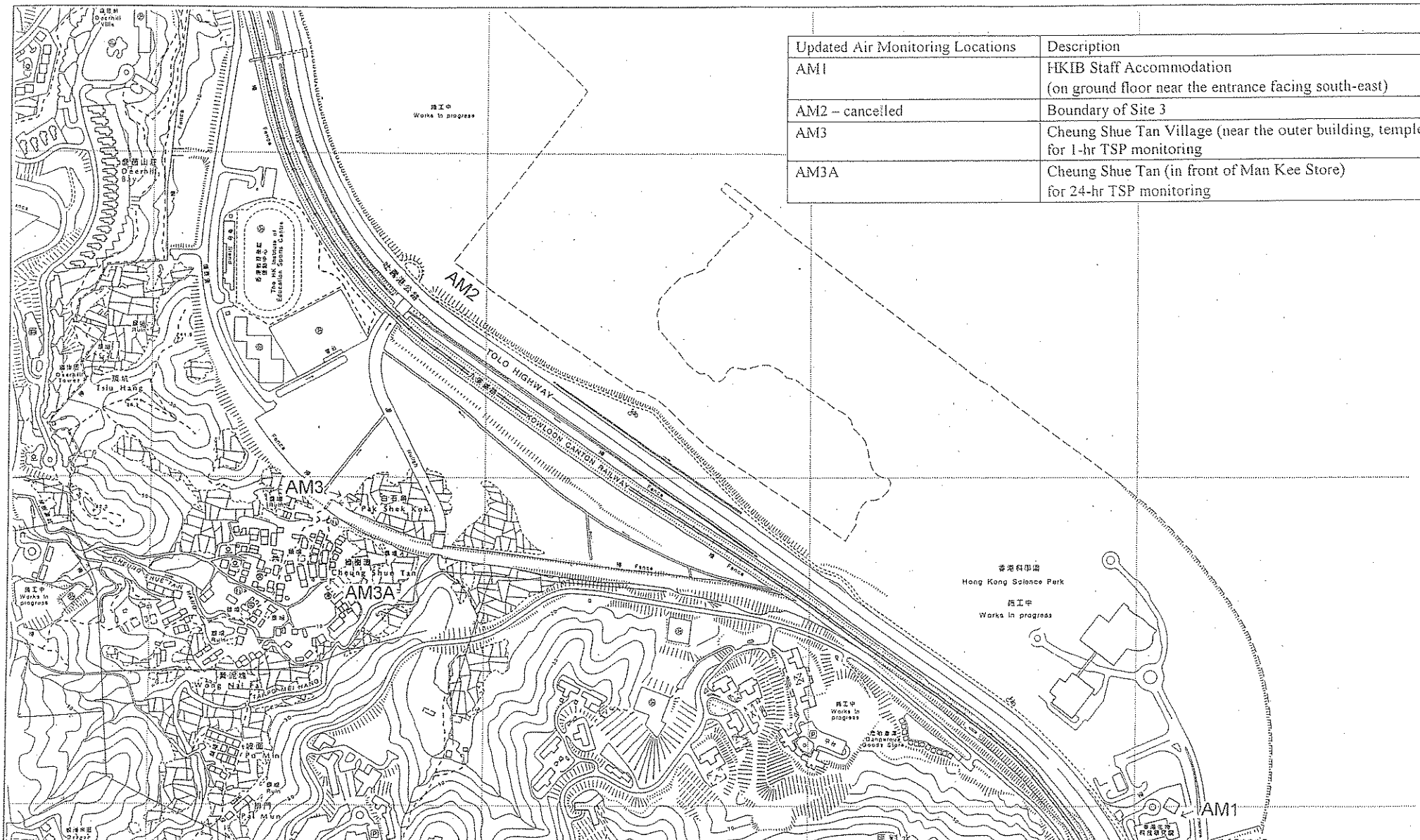


Updated Air Monitoring Locations	Description
AM1	HKIB Staff Accommodation (on ground floor near the entrance facing south-east)
AM2 – cancelled	Boundary of Site 3
AM3	Cheung Shue Tan Village (near the outer building, temple) for 1-hr TSP monitoring
AM3A	Cheung Shue Tan (in front of Man Kee Store) for 24-hr TSP monitoring

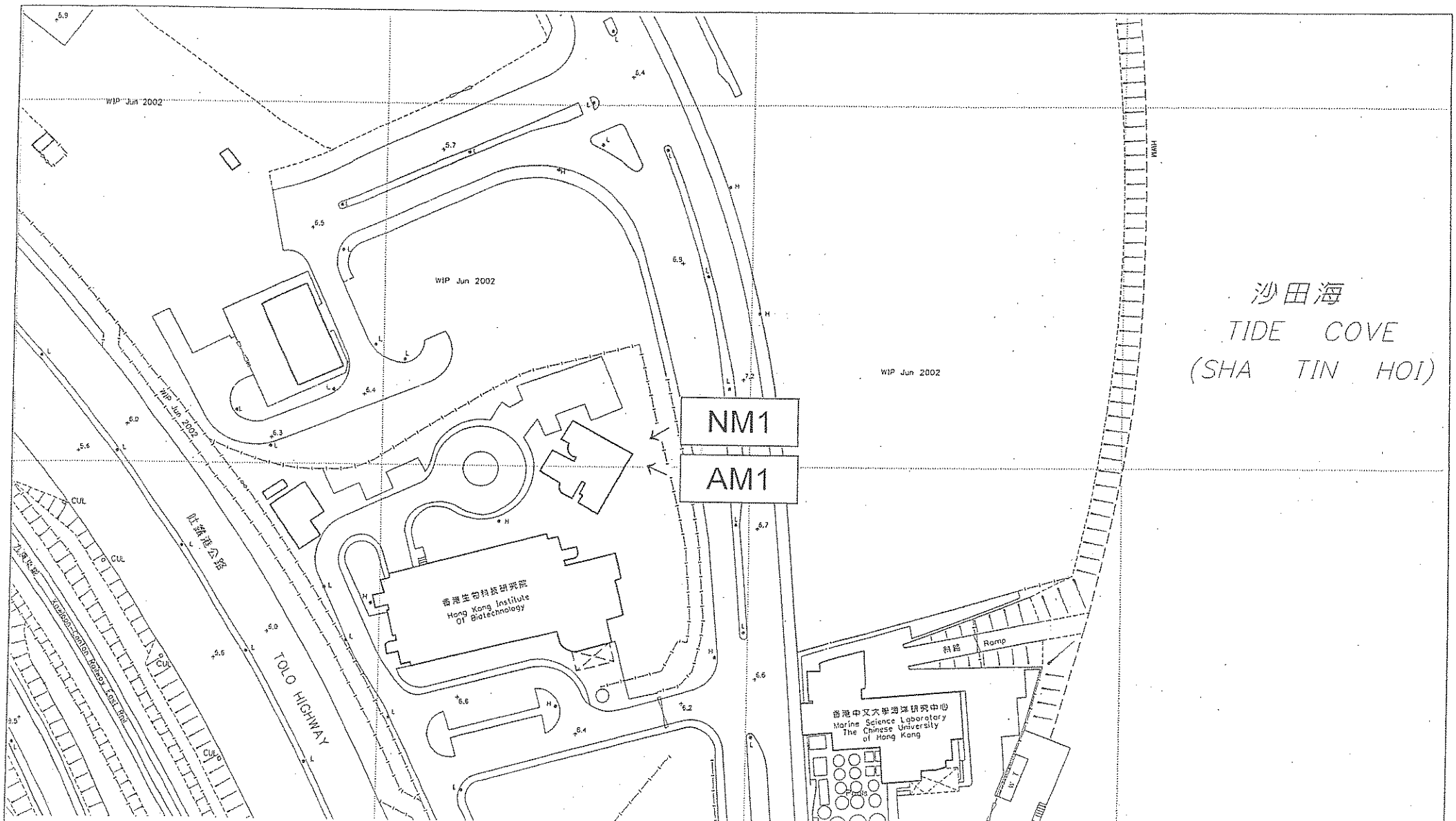
Remaining Engineering Works for Pak Shek Kok Development, Package 1
Contract No. TP35/02

Figure 2 Location of Air Monitoring Stations

Scale : ---

Revised Date:
15/11/2002

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED



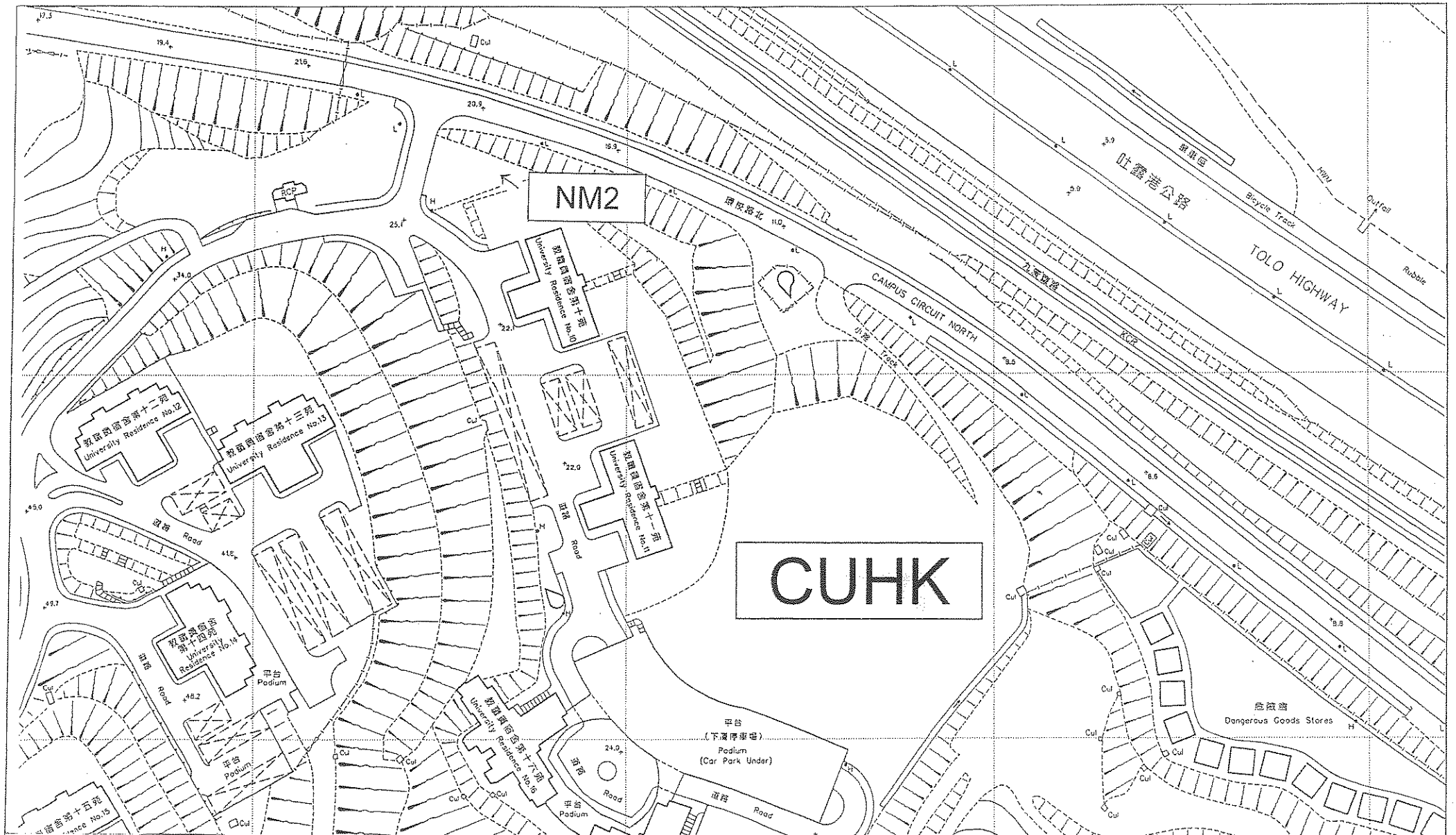
Remaining Engineering Works for Pak Shek Kok Development, Package 1
Contract No. TP35/02

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

Scale : ---

Revised Date:
15/11/2002

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED



Remaining Engineering Works for Pak Shek Kok Development, Package 1
Contract No. TP35/02

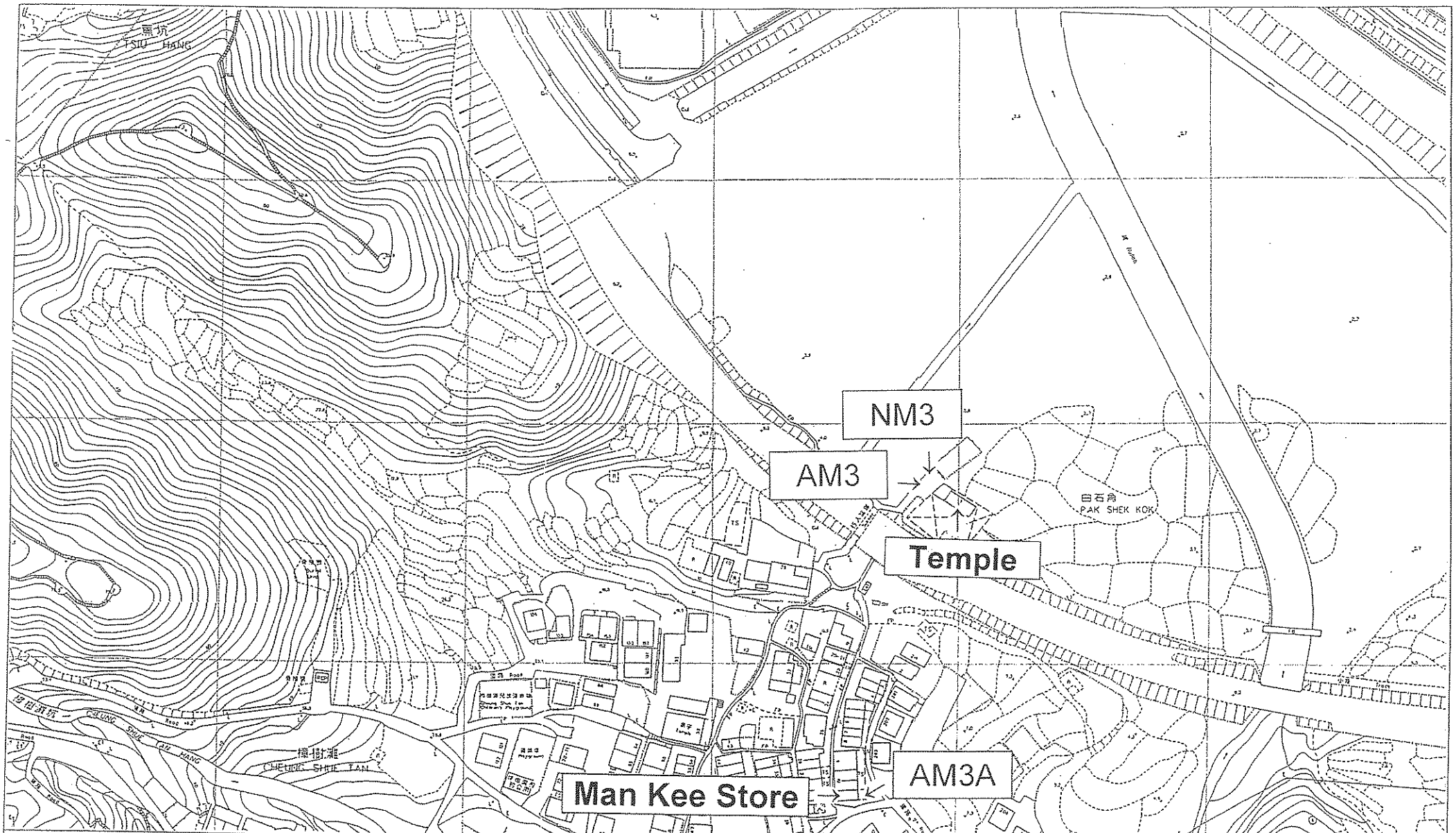
Figure 4 Location of Noise Monitoring Station at CUHK Residence No.10

Scale : ---

Revised Date:

15/11/2002

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED



Remaining Engineering Works for Pak Shek Kok Development, Package 1
Contract No. TP35/02

Figure 5 Location of Air and Noise Monitoring Stations
at Cheung Shue Tan Village

Scale : ---

Revised Date:
15/11/2002

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED