Maeda Corporation

Castle Peak Road Improvement between Sham Tseng and Ka Loon Tsuen, Tsuen Wan West Contract No. HY/99/18

Monthly Environmental Monitoring and Audit Report
May 2006

First Issue

Maeda Corporation

West Contract No. HY/99/18
Castle Peak Road Improvement between Sham Tseng and Ka Loon Tsuen, Tsuen Wan

Environmental Monitoring and Audit

Monthly Environmental Monitoring and Audit Report – May 2006

June 2006

Ove Arup & Partners Hong Kong Ltd
vLevel 5, Festival Walk, 80 Tat Chee Avenue, Kowloon Tong, Kowloon, Hong Kong
Tel +852 2528 3031 Fax +852 2268 3950
www.arup.com

Job number 23437

Hyder Consulting

安誠工程顧問有限公司
香港灣仔
皇后大道東183號
合和中心47樓

電 話: (852) 2911 2233
圖文傳真: (852) 2805 5028
電子郵箱: hyder@hyder.com.hk
網 址: www.hyderconsulting.com

Hyder Consulting Limited
47/F Hopewell Centre,
183 Queen's Road East,
Wan Chai, Hong Kong

Tel : (852) 2911 2233
Fax : (852) 2805 5028
Email: hyder@hyder.com.hk
Website: www.hyderconsulting.com

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COI Number 126012

12 June 2006

BY POST & FAX (2268-3950)

Ove Arup & Partners Hong Kong Ltd.
Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong
Kowloon

Your Ref:

Our Ref: 910-06/E06-31105

For attention of: Mr. Sam Tsoi

Dear Mr. Tsoi

Contract HY/99/18 West Contract
Castle Peak Road Improvement between Sham Tseng and Ka Loon Tsuen, Tsuen Wan
Monthly EM&A Report (May 2006)

We refer to the electronic version of the captioned report submitted by your Mr. Raymond Liu via e-mail on 8 June 2006. We do not have comment and we endorse the report.

Yours sincerely

Coleman Ng
Independent Checker (Environmental)
HYDER CONSULTING LIMITED

cc	MHJV	Attention: Mr. Jeff Yu	(Fax: 2417-0134)
	Maeda	Attention: Mr. Derek Elliott	(Fax: 2491-9678)

CN/LKY/yys

ARUP

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		Signature	Raymond.		
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		Name			
		Signature			
		Filename			
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ABBREVIATIONS AND ACTONYMS

A/L	Action or Limit Levels
AQO	Air Quality Objectives
Arup	Ove Arup & Partners Hong Kong Limited
ASR	Area Sensitive Rating
BOD	Biochemical Oxygen Demand
B&K	Brüel & Kjær
CFM	Cubic Feet per Minute
CNP	Construction Noise Permit
CT	Contractor
C&D	Construction & Demolition
DO	Dissolved Oxygen
DGPS	Differential Global Positioning System
EA	Environmental Auditor
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EP	Environmental Permit
EPD	Environmental Protection Department
ER	Engineer / Engineer's Representative
ET	Environmental Team
HKPSG	Hong Kong Planning Standards and Guidelines
HKSAR	Hong Kong Special Administrative Region
HOKLAS	The Hong Kong Laboratory accreditation Scheme
HVS	High Volume Sampler
IC(E)	Independent Checker (Environment)
IEC	International Electrotechnical Commission Publications
K	Degrees Kelvin
MC	Maeda Corporation
MHJV	Mouchel Halcrow Joint Venture
NAMAS	National Measurement accreditation Service
NTU	Nephelometric Turbidity Unit
NSR	Noise Sensitive Receiver
SCFM	Standard Cubic Feet per Minute
SS	Suspended Solids
TSP	Total Suspended Particulates
Tby	Turbidity

EXECUTIVE SUMMARY

This is the 52nd monthly environmental monitoring and audit (EM&A) report presenting the progress of environmental monitoring and audit works for the period between 1 to 31 May 2006, including air quality monitoring and noise monitoring. Air quality was measured in terms of 1-hour Total Suspended Particulates (TSP) and 24-hour TSP. Noise was measured in terms of $L_{eq(30min)}$ with L_{10} and L_{90} measurements as references. Environmental works included the weekly environmental audit and the bi-weekly landscape and visual monitoring and audit.

Air Quality

A total of 5 sets of 3 consecutive 1-hour TSP measurements were conducted during the reporting month. The highest 1-hour TSP level of 297.6μg/m^3 was recorded on podium, Sea Crest Villa (Phase 1 Block 1) (WA10) on 23 May 2006 while the lowest 1-hour TSP level of 83.2μg/m^3 was recorded on G/F, Tsing Lung Tau Tin Hau Temple (WA6) on 16 May 2006.

A total of 5 sets of 24-hour TSP measurements were conducted during the reporting month. The highest 24-hour TSP level of 187.0 μg/m^3 was recorded on G/F, carpark, Lido Garden Tower 1 (WA11) on 15 May 2006 while the lowest 24-hour TSP level of 33.7 μg/m^3 was recorded on G/F, Tsing Lung Tau Tin Hau Temple (WA6) on 15 May 2006.

There was no exceedance of 1-hour and 24-hour TSP Action and Limit (A/L) Level recorded during the reporting period.

Noise

A total of 5 sets of daytime (0700 – 1900 hours) noise monitoring were conducted during the reporting month. The highest noise level of 70.8dB(A) was recorded on 16 May 2006 while the lowest noise level of 62.7dB(A) was recorded on 4 May 2006, both were recorded on G/F, carpark, Tower 1 of Lido Garden (WN16).

There was no exceedance of noise A/L Levels recorded during the monitoring period.

Marine Water Quality

Upon completion of the construction works for fishermen staircase at Tsing Lung Tau Pier in November 2005, the marine water quality monitoring has ceased since 1 December 2005.

Environmental Auditing

A total of 4 environmental site audits were conducted on a weekly basis in May 2006. No non-compliance with the environmental requirements was identified during the reporting period. The improvement actions against observations of the site audits for the CT included:

- **Waste management:** Frequent clearing of construction waste;
- **Air pollution:** Frequent watering along haul road.

- **Water quality:** Clearing of mud trails on public;
- **Mosquito Control:** Removal of stagnant water within the site.

Landscape and Visual

A total of 2 landscape and visual monitoring and audits were carried out on a biweekly basis in May 2006. The Registered Landscape Architect had recommended as follows:

- The CT was reminded to clear away all construction waste, scattered litter, garbage, etc. as found on site, and keep the site in a tidy condition at all times.
- The CT was reminded to urgently replace all dead whip plants and defective tree(s), and to carry out regular watering of plants during the dry periods. Also, the CT was reminded to remove the *Leucaena leucocephala* plants as soon as possible.

Waste Disposal

A total of 7 loads of Construction & Demolition (C&D) waste and a total of 59 loads of C&D materials (Public Fill) were disposed of at WENT Landfills and Public Filling Area in Tuen Mun respectively in May 2006. No chemical waste was disposed of in the reporting period.

Complaint Record

No environmental complaint was received during the reporting month.

Non-compliances

There was no non-compliance during reporting period.

Notification of Summons and Successful Prosecution

There was neither notification of summon nor prosecution received during the reporting month.

Environmental Licenses

There was no new CNP was granted during the reporting month.

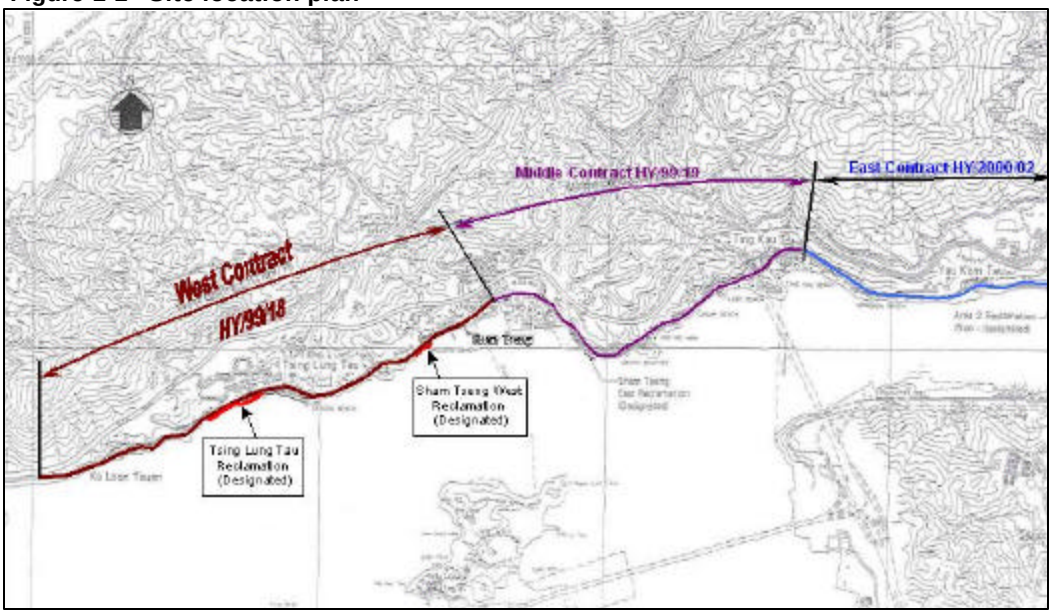
1. INTRODUCTION

Ove Arup & Partners Hong Kong Limited (Arup) was appointed by the Contractor - Maeda Corporation (MC) as the Environmental Team (ET) for *Contract No. HY/99/18 Castle Peak Road Improvement between Sham Tseng and Ka Loon Tsuen, Tsuen Wan* (hereafter called the "Project"). Environmental parameters including air quality, construction noise, water quality and landscape & visual issues were drafted for the impact monitoring for the Project. The construction period of the Project was commenced in December 2001 and major construction works were completed in May 2006. However, there are still some outstanding construction works.

1.1 Project Background

The Castle Peak Road improvement works consists of upgrading the existing Castle Peak Road to provide a dual two-lane carriageway of "Rural Road A" classification between Area 2, Tsuen Wan and Ka Loon Tsuen, and all associated utility, junction and pedestrian facilities. The Castle Peak Improvement project is divided into three contracts. This Environmental Monitoring and Audit (EM&A) programme was conducted for the West Contract No. HY/99/18 between Sham Tseng and Ka Loon Tsuen, Tsuen Wan. Figure 1-1 shows the site location plan and the detailed site layout plans are provided in Appendix A.

Figure 1-1 Site location plan



The scope of the construction work includes:

- Improvement to Castle Peak Road between Area 2 and Ka Loon Tsuen, Tsuen Wan to a dual two-lane carriageway;
- Provision of pedestrian facilities in the form of footpaths, subways, footbridges and Crossings;
- Road junction and signal design and the re-provision of access roads and connections to existing road networks;
- Construction of associated drainage and landscaping works;
- Environmental mitigation measures;
- Design and construction of watermains;
- Construction of entrusted sewerage works; and
- Dredging and reclamation (designated project – see also Section 1.2)

1.2 Designated Project

The marine reclamation and the construction of the associated seawall at Tsing Lung Tau and Sham Tseng West within Contract No. HY/99/18 were classified as designated projects under the Environmental Permits No. EP-093/2001 and EP-094/2001 respectively.

1.3 Impact EM&A Requirements

The impact environmental monitoring and audit included air quality monitoring (both 1-hour and 24-hour TSP), noise, water quality, landscape and visual monitoring, and site environmental audit.

1.4 Purpose of the Report

The purpose of the monthly EM&A report is to provide the information on monitoring methodology, monitoring results, environmental permit status, site audit findings, recommendations and conclusions.

This is the fifty-second monthly EM&A report prepared by Arup for the submission to Maeda Corporation summarising the monitoring methodology, locations, periods, frequencies, results and any observation from the air quality, noise, marine water quality, and landscape and visual monitoring and audit from 1 to 31 May 2006.

2. ENVIRONMENTAL STATUS

2.1 Construction Programme

The construction work was commenced in February 2002. An up-to-date construction programme is given in Appendix B.

2.2 Construction Activities of the Month

The major construction activities carried out by the Contractor (CT) in May 2006 included:

- Landscape works;
- Road Finishing & Reinstatement Works; and
- Construction and testing of watermains;

The major sea works at level below +2.5mPD were completed in July 2003 and sand placement activities at Seawall B were completed on 13 August 2004.

3. SUMMARY OF EM&A REQUIREMENTS

Air quality, construction noise, marine water quality and landscape and visual issues are significant environmental impacts identified for the construction period of the project. In accordance with the Project specific EM&A Manual[1], air quality, noise, water quality, landscape and visual monitoring and audit shall be performed by an ET at all specified monitoring locations during the construction and operational stages. Upon completion of the construction works for fishermen staircase at Tsing Lung Tau Pier in November 2005, the marine water quality monitoring has ceased since 1 December 2005.

The monitoring schedule for May 2006 and the tentative schedule for June 2006 are attached in Appendix C.

3.1 Air Quality Monitoring

3.1.1 Monitoring Parameters

Air quality monitoring was measured in terms of TSP levels for both 24-hour and 1-hour periods.

3.1.2 Monitoring Frequency

24-hour TSP and 1-hour TSP levels were monitored during the course of construction in accordance with the EM&A Manual. The monitoring parameters and frequency are specified in Table 3-1.

Table 3-1 Air quality monitoring parameters and frequency

Parameters	Monitoring Frequency	Time Period	No. of measurement for each monitoring
24-hour TSP	Once every six days	0000 - 2400	1
1-hour TSP	Three times per every six days	0700 - 1900	1

3.1.3 Monitoring Locations

A total of eleven locations were specified in the EM&A Manual for the air quality monitoring and they are given in Table 3-2 and presented in Figures 3-1a to 3-1d.

Table 3-2 Air quality monitoring locations

Air Monitoring Station No.	Location	Location description
~~WA1~~	~~Bayside Villas~~	~~G/F, Bayside Villas~~ (Temporary Suspended)
~~WA2~~	~~Grand Bay Villas~~	~~G/F, Grand Bay Villas~~ (Temporary Suspended)
WA3	Hong Kong Garden	G/F, Hong Kong Garden (Regent Heights)
WA4	Hong Kong Garden	G/F, Hong Kong Garden (Between Blk 1 & 2)

Air Monitoring Station No.	Location	Location description
WA5	Hong Kong Garden	G/F, Hong Kong Garden (Block 4)
WA6	Tsing Lung Tau Tin Hau Temple	G/F, Tsing Lung Tau Tin Hau Temple
WA7	Sea Crest Villa	Podium, Sea Crest Villa (Phase 4 Block 12)
WA8	Sea Crest Villa	Podium, Sea Crest Villa (Phase 3 Block 8)
WA9	Sea Crest Villa	Car Park (L3), Sea Crest Villa (Phase 2 Block 6)
WA10	Sea Crest Villa	Podium, Sea Crest Villa (Phase 1 Block 1)
WA11	Lido Garden	G/F, Carpark, Lido Garden Tower 1

Note: Bayside Villas (WA1) and Grand Bay Villas (WA2) are no longer the air sensitive receivers as all residents of Bayside Villas and Grand Bay Villas were moved out since September 2002. Therefore, the air quality monitoring at Bayside Villas and Grand Bay Villas were temporary suspended since October 2002 after approval from IC(E) and EPD.

3.1.4 Wind Monitoring

Wind monitoring data, which included the wind speed and wind directions are extracted from the Hong Kong Observatory – Tsing Yi Wind Monitoring Station.

3.2 Construction Noise Monitoring

3.2.1 Monitoring Parameters

Construction noise monitoring was measured in terms of A-weighted equivalent continuous sound pressure level (L_{eq}). The L_{10} and L_{90} will also be recorded as supplementary reference information for data auditing.

3.2.2 Monitoring Frequency

Construction noise monitoring was conducted on a weekly basis in accordance with the EM&A Manual. The monitoring periods, monitoring parameters and frequency are specified in Table 3-3.

Table 3-3 Construction noise monitoring parameters and frequency

Time Period (when construction activity is found)	Parameters	Monitoring Frequency	No. of Measurements for Each Monitoring
Between 0700-1900 hours on normal weekdays	$L_{eq(30\ min)}$	Once per week	1
Between 1900-2300 hours on normal weekdays	$L_{eq(5\ min)}$*		3 (consecutive)
Between 2300-0700 hours of next day			
Between 0700-1900 hours on holidays			

Remarks: * The $L_{eq(5\ min)}$ will only be measured if construction activities are conducted in holidays and between the period of 1900 and 0700 hours during normal weekdays.

3.2.3 Monitoring Locations

A total of sixteen noise monitoring locations were specified in the EM&A Manual. They are presented in Table 3-4 and presented in Figures 3-1a to 3-1d. The measurements were taken at a position 1m from the exterior of building façade and at a position of 1.2m above ground.

Table 3-4 Construction noise monitoring locations

Noise Monitoring Station No.	Location	Monitoring Point
WN1	Ka Loon Tsuen	House No.3, Ka Loon Tsuen
WN2	Ka Loon Tsuen	House No.15, Ka Loon Tsuen
~~WN3~~	~~Bayside Villas~~	~~Upper G/F, Bayside Villas~~ (Temporary Suspended)
~~WN4~~	~~Bayside Villas~~	~~Lower G/F, Bayside Villas~~ (Temporary Suspended)
~~WN5~~	~~Grand Bay Villas~~	~~G/F, Grand Bay Villas~~ (Temporary Suspended)
WN6	Hong Kong Garden	G/F, Hong Kong Garden (Regent Heights)
WN7	Hong Kong Garden	G/F, Hong Kong Garden (Between Blk 1 & 2)
WN8	Hong Kong Garden	G/F, Hong Kong Garden (Block 4)
WN9	Tsing Lung Tau Village	House 1,Tsing Lung Tau Village
WN10	Tsing Lung Tau Village	House 60-64,Tsing Lung Tau Village
WN11	Villa Alfavista	G/F, Villa Alfavista
WN12	Sea Crest Villa	Podium, Sea Crest Villa (Phase 4 Block 12)
WN13	Sea Crest Villa	Podium, Sea Crest Villa (Phase 3 Block 8)
WN14	Sea Crest Villa	Car Park (L3), Sea Crest Villa (Phase 2 Block 6)
WN15	Sea Crest Villa	Podium, Sea Crest Villa (Phase 1 Block 1)
WN16	Lido Garden	G/F, Carpark, Lido Garden Tower 1

Note: Bayside Villas (WN3 and WN4) and Grand Bay Villas (WN5) are no longer the noise sensitive receivers as all residents of Bayside Villas and Grand Bay Villas were moved out since September 2002. Therefore, the noise monitoring at Bayside Villas and Grand Bay Villas were temporary suspended since October 2002 after approval from IC(E) and EPD.

3.3 Marine Water Quality (Designated Project)

3.3.1 Monitoring Parameters

Marine water quality monitoring includes Turbidity (Tby) in the unit of NTU, Dissolved Oxygen (DO) in the unit of mg/L and Suspended Solids (SS) in the unit of mg/L. In addition to the water quality parameters, other relevant data, such as monitoring location/position, time, water depth, water temperature, salinity, DO saturation, weather conditions, sea conditions, tidal stage will be recorded including any special phenomena, work underway at the construction site, etc.

3.3.2 Monitoring Frequency

Marine water quality monitoring during the impact stage was conducted three times per week, during mid-flood and mid-ebb tides and at sixteen designated sampling. The interval between two sets of monitoring will not be less than 36 hours except where exceedances above the Action Level or Limit Level were detected (see also Section 3.5). In these cases, the monitoring frequency will be increased.

3.3.3 Monitoring Locations

Sixteen locations, 9 for impact and 7 for control were originally selected for marine water quality monitoring and the locations are given in Table 3-5a and presented in Figure 3-1b to 3-1e.

The new marine water quality monitoring programme, was commenced on 12 February 2003 and suspended on 10 October 2003, as agreed by the IC(E) and EPD. A total of twelve locations, 8 for impact and 4 for control were selected for the new marine water quality monitoring programme and the locations are given in Table 3-5b and presented in Figure 3-1b to Figure 3-1e.

Table 3-5a Marine water quality monitoring locations (Original)

Water Monitoring Station No.		Location	
		Eastings	Northings
Tsing Lung Tau	WW1 (Impact Station)	822260	824491
	WR1 (Control Station)	822278	824459
Tsing Lung Tau	WW2 (Impact Station)	822352	824538
	WR2 (Control Station)	822363	824505
Tsing Lung Tau	WW3 (Impact Station)	822506	824609
	WR3 (Control Station)	822518	824578
Tsing Lung Tau	WW4 (Impact Station)	822820	824640
	WR4 (Control Station)	822800	824603
Angler's Beach: Sham Tseung	WW5 (Impact Station)	823697	824937
	WR5 (Control Station)	823700	824905
Angler's Beach: Sham Tseung	WW6 (Impact Station)	823775	824991
	WW7 (Impact Station)	823797	825042
	WR6/WR7 (Control Station)	823797	824964
Angler's Beach	WW8 (Impact station)	823994	825141
	WR8 (Control Station)	824006	825107
Ma Wan Fish Culture Zone	FCZ1 (Impact Station)	823500	823870

Table 3-5b Marine water quality monitoring locations (New)

Water Monitoring Station No.		Location	
		Eastings	Northings
Tsing Lung Tau	WW1 (Impact Station)	822306	824405
	WW2 (Impact Station)	822377	824462
	WW3 (Impact Station)	822529	824500
	WW4 (Impact Station)	822775	824560
	WR-E-1234 (Control Station for Mid-Ebb Tide)	822204	824312
	WR-F-1234 (Control Station for Mid-Flood Tide)	822850	824519
Angler's Beach: Sham Tseung West	WW5 (Impact Station)	823700	824905
	WW6/7 (Impact Station)	823797	824964
	WW8 (Impact Station)	823900	825023
	WR-E-5678 (Control Station for Mid-Ebb Tide)	823590	824830
	WR-F-5678 (Control Station for Mid-Flood Tide)	823994	825034
Ma Wan Fish Culture Zone	FCZ1 (Impact Station)	823500	823870

Figure 3-1a Monitoring locations

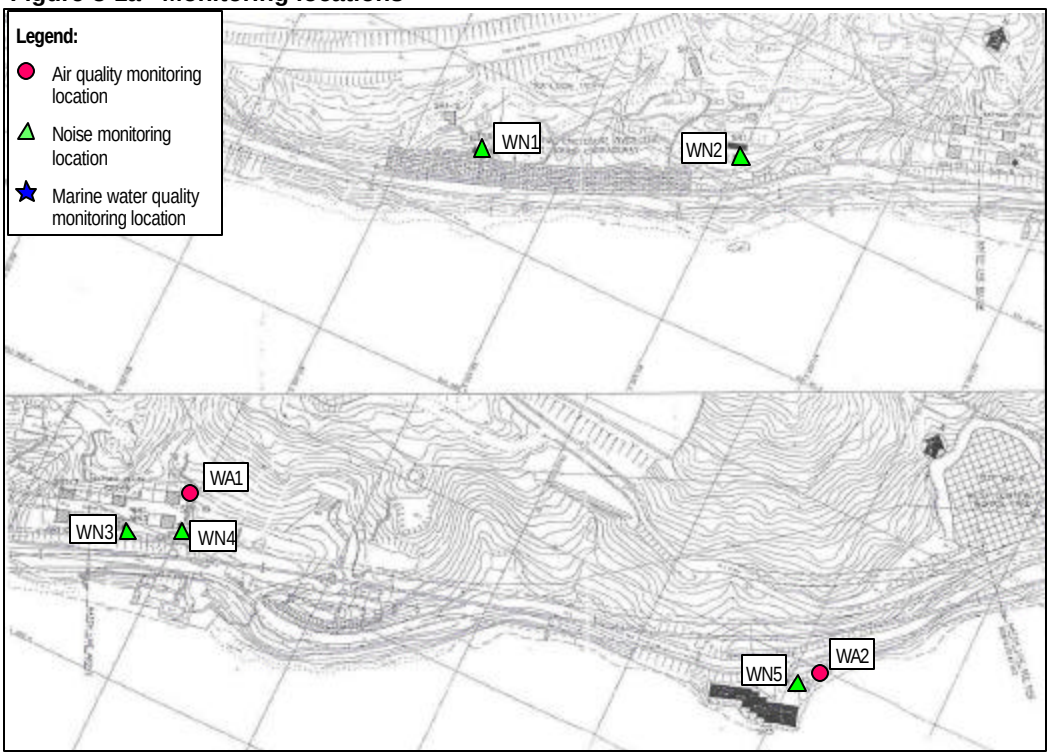


Figure 3-1b Monitoring locations

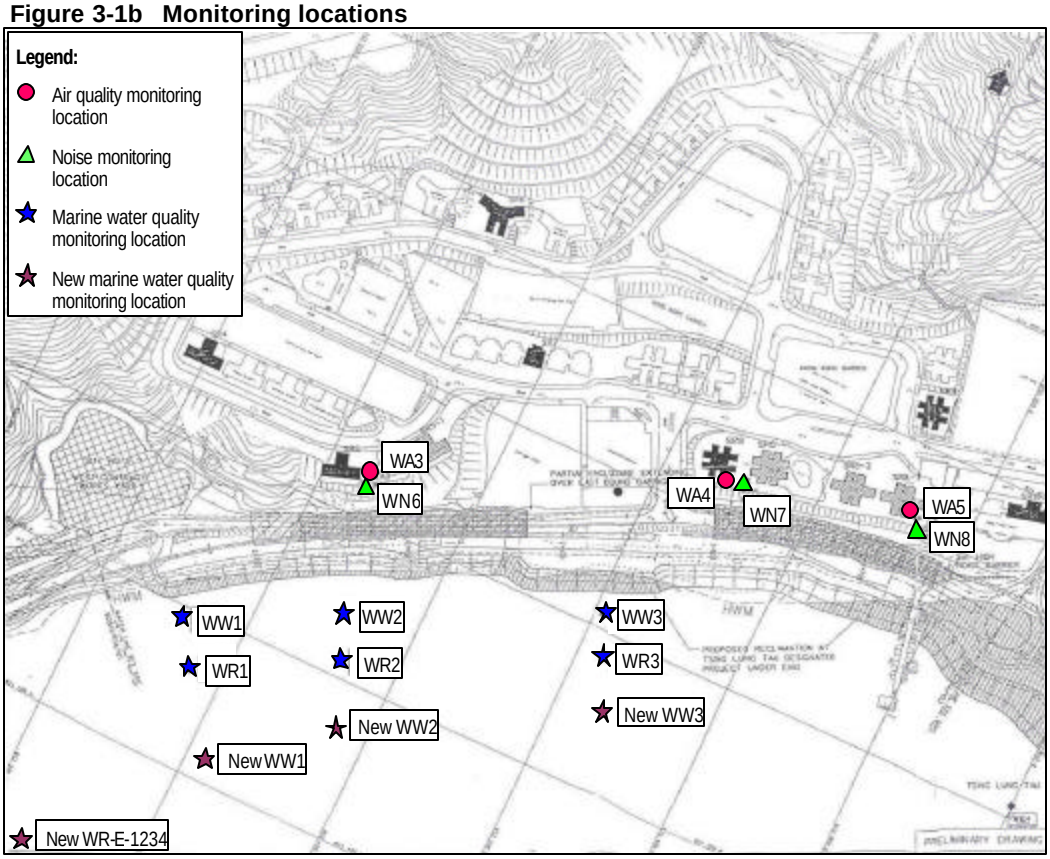


Figure 3-1c Monitoring locations

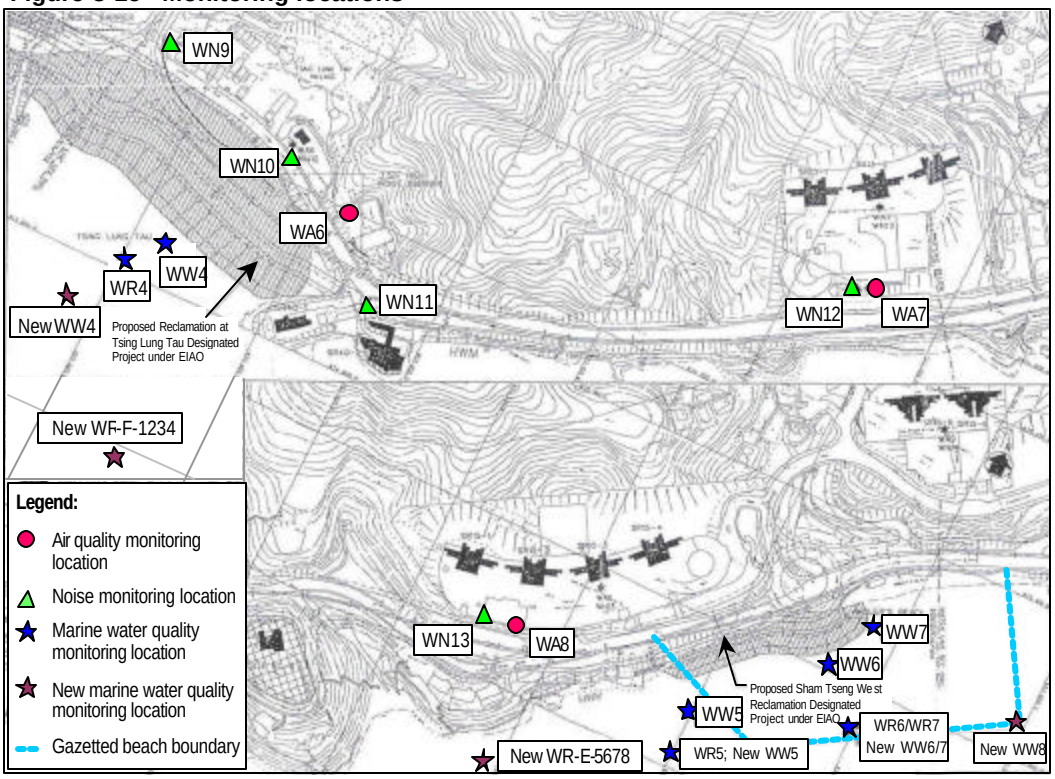


Figure 3-1d Monitoring locations

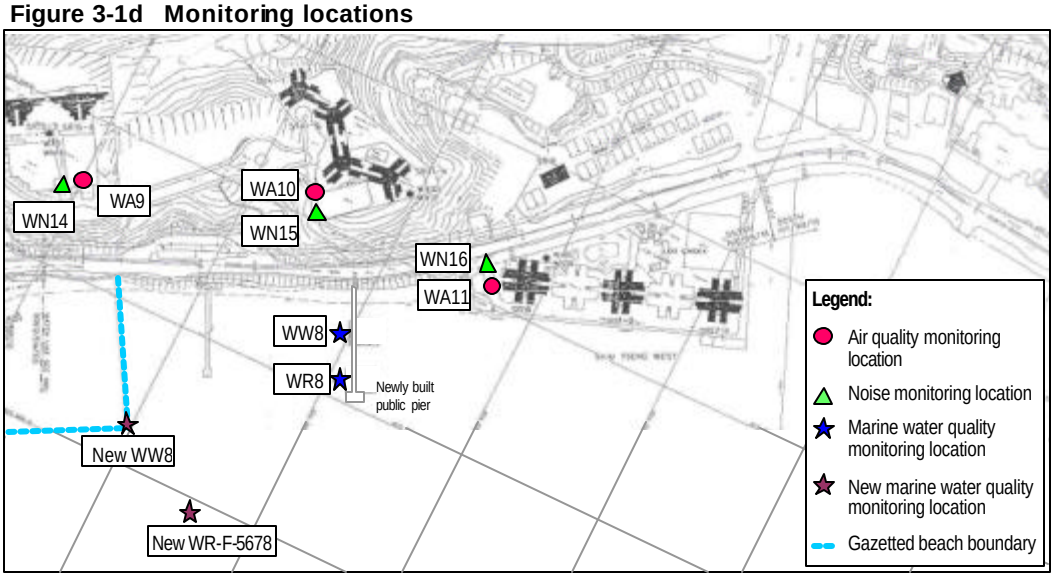
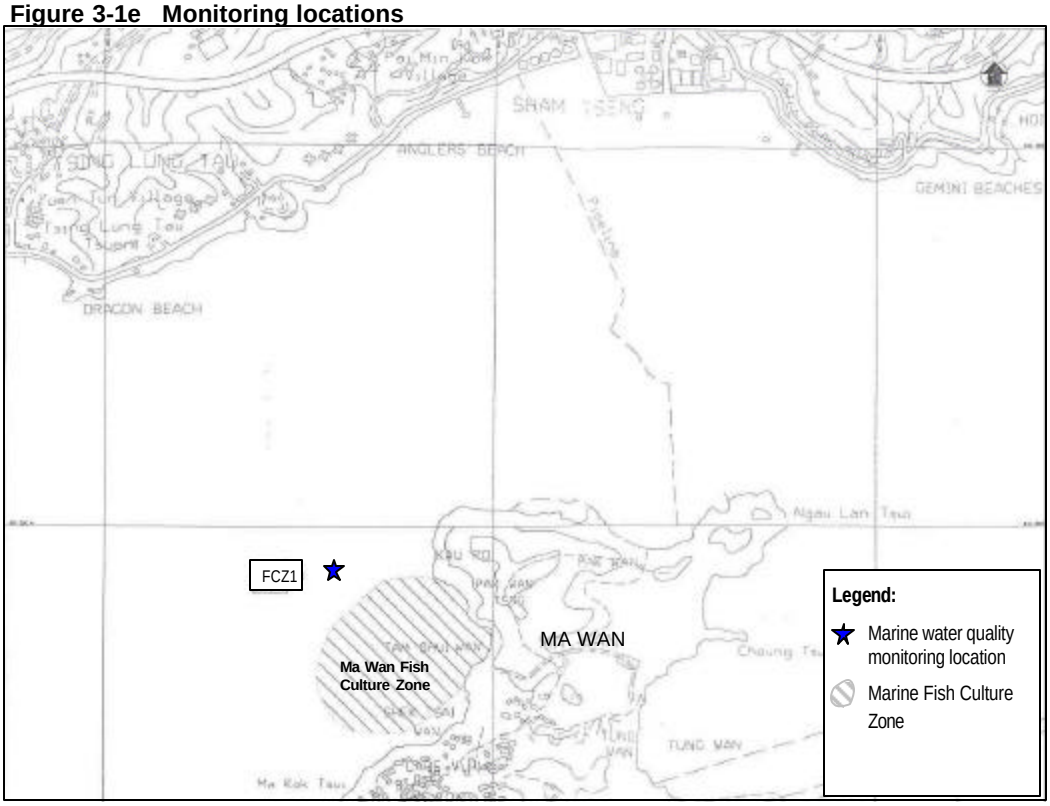


Figure 3-1e Monitoring locations



3.4 Landscape and Visual Monitoring and Audit

3.4.1 Audit Parameters

All landscape and visual mitigation measures undertaken by both the CT and the Landscape Contractor during the construction phase and during the first year of the operational phase shall be audited by a Registered Landscape Architect, to ensure that the implementation of the landscape and visual mitigation measures are in full compliance with the requirements.

3.4.2 Audit Frequency

The landscape and visual monitoring and audit shall be undertaken at least once every two weeks throughout the construction period and once every two months during the operational phase.

3.4.3 Audit Location

The landscape and visual monitoring and audit shall be conducted throughout the entire site area.

3.5 Performance Limits and Event-Action Plans

The monitoring results shall be checked against appropriate standards and requirements. A two-tier system performance limits have been established in the Project specific EM&A Manual. The "Action" and "Limit" (A/L) Level are established according to the EPD requirements. ET, ER, IC(E), and CT will take corresponding actions in accordance with the Event-Action Plans if the monitoring results exceed the performance limits.

3.5.1 Air Quality

The A/L Levels for air quality were established during the baseline monitoring and are summarised in Table 3-6.

Table 3-6 Action and Limit Levels for air quality

Air Monitoring Station No.	1-hour TSP Level in μg/m³		24-hour TSP Level in μg/m³	
	Action Level	Limit Level	Action Level	Limit Level
WA1	350	500	187	260
WA2	362		192	
WA3	353		190	
WA4	362		187	
WA5	346		185	
WA6	362		204	
WA7	351		187	
WA8	347		188	
WA9	345		182	
WA10	352		183	
WA11	357		195	

Table 3-7 summarises the details action required to be taken by different parties in case of exceedance of performance limits being recorded.

3.5.2 Construction Noise Impact

The A/L Levels for the construction noise extracted from the Baseline Monitoring Report[2] are summarised in Table 3-8.

Table 3-8 Action and Limit Levels for construction noise

Time Period	Action	Limit
0700 - 1900 hours on any day not being a Sunday or public holiday	When one documented complaint is received	75dB(A)(1)
19:00 - 23:00 hours on all days and 07:00 - 23:00 on general holidays (including Sundays)		55(2) / 70(3)
23:00 - 07:00 hours on all days		40(2) / 55(3)

Remarks:

(1) For educational establishments the limit level shall be 70dB(A) and reduced to 65dB(A) during examination periods.

(2) Refers to the types of Plant regulated under the Technical Memorandum on Noise from Construction Work in Designated Areas (DA-TM).

(3) Refers to the types of Plant regulated under the Technical Memorandum on Noise Other than Percussive Piling (GW-TM).

(4) Owing to the high background noise level recorded at WN5, WN9, and WN10, the noise impact monitoring results at these 3 locations will be corrected by its background using the following background correction equation: $L_{eq(30min)} = 10 \log (10^{m/10} - 10^{b/10})$ as m= Measured $L_{eq(30min)}$, b=Average Baseline $L_{eq(30min)}$.
Only up to the maximum of 3dB(A) is allowed to be deducted after the background correction.

Table 3-9 summarises the details action required to be taken by different parties in the case of an exceedance of performance limits being recorded.

Table 3-7 Event/Action plan for air quality

Event	Action			
	ET Leader	IC(E)	ER	CT
Action Level				
1. Exceedance for one sample	1. Identify the source. 2. Inform the IC(E) and the ER. 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by the ET Leader. 2. Check CT's working method.	1. Notify the CT.	1. Rectify any unacceptable practice. 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify the source. 2. Inform the IC(E) and the ER. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 5. Discuss with the IC(E) and the CT on remedial actions required. 6. If exceedance continues, arrange meeting with the IC(E) and the ER. 7. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET Leader. 2. Check the CT's working method. 3. Discuss with the ET Leader and the CT 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 the CT. 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial actions to IC(E) within 3 working days of notification. 2. Implement the agreed proposals. 3. Amend proposal if appropriate.
Limit Level				
1. Exceedance for one sample	1. Identify the source. 2. Inform the ER and the EPD. 3. Repeat measurement to confirm finding. 4. Increase monitoring frequency to daily. 5. Assess effectiveness of CT's remedial actions and keep the IC(E), the EPD and the ER informed of the results.	1. Check monitoring data submitted by the ET Leader. 2. Check the CT's working method. 3. Discuss with the ET Leader and the CT 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 the CT. 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification. 3. Implement the agreed proposals. 4. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	1. Notify the IC(E), the ER, the EPD and the CT. 2. Identify the source. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 5. Carry out analysis of the CT's working procedures to determine possible mitigation to be implemented. 6. Arrange meeting the IC(E) and the ER to discuss the remedial actions to be taken. 7. Assess effectiveness of the CT's remedial actions and keep the IC(E), the EPD and the ER informed of the results. 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst the ER, the ET Leader and the CT on the potential remedial actions. 2. Review the CT's remedial actions whenever necessary and advise the ER accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the CT. 3. In consultation with the IC(E), agree with the remedial measures to be implemented. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the CT to stop that activity 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 activity of works as determined by the ER until the exceedance is abated.

Table 3-9 Event/Action plan for construction noise

Event	Action			
	ET Leader	IC(E)	ER	CT
Action Level	1. Notify the IC(E) and the CT. 2. Carry out investigation. 3. Report the results of investigation to the IC(E) and the CT. 4. Discuss with the CT and formulate remedial measures. 5. Increase monitoring frequency to check mitigation measures.	1. Review with analysed results submitted by the ET. 2. Review the proposed remedial measures by the CT and advise the ER accordingly. 3. Supervise the implement of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the CT. 3. Require the CT to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IC(E). 2. Implement noise mitigation proposals.
Limit Level	1. Notify the IC(E), the ER, the EPD and the CT. 2. Identify the source. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of CT's working procedures to determine possible mitigation to be implemented. 6. Inform the IC(E), the ER, and the EPD the causes & actions taken for the exceedances. 7. Assess effectiveness of the CT's remedial actions and keep the IC(E), the EPD and the ER informed of the results. 8. If exceedance stops, cease additional monitoring	1. Discuss amongst the ER, the ET Leader and the CT on the potential remedial actions. 2. Review the CT'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 the CT. 3. Require the CT to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the CT to stop that activity 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 activity of works as determined by the ER until the exceedance is abated.

3.5.3 Water Quality (Designated Project)

The A/L levels for the water quality were established in accordance with the EM&A Manual and approved by EPD on 15 October 2002. The application of "Direct Comparison" method for evaluation of the marine water quality exceedance was agreed with EPD and IC(E) on 10 April 2003. The A/L levels were revised in April 2003 and are presented in Table 3-10.

Table 3-10 Action and Limit Levels of water quality

Parameters		Monitoring Location			
		WW1 to WW8		FCZ1	
		Action Level	Limit Level	Action Level	Limit Level
Mid-Ebb					
DO (mg/L)	Surface & Middle	**4.9**	**4.8**	**4.7**	**4.6**
	Bottom	**4.8**	**4.8**	**4.0**	**4.0**
SS (mg/L) (Depth-averaged)		**17.0**	**23.4**	For EPD: **12.9** For AFCD **12.9 and 120%** of upstream control station's SS at the same tide of the same day	For EPD **14.0** For AFCD: **14.0 and 130%** of upstream control station's SS at the same tide of the same day
Tby (NTU) (Depth-averaged)		**12.0**	**13.6**	For EPD: **9.1** For AFCD **9.1 and 120%** of upstream control station's Tby at the same tide of the same day	For EPD **10.3** For AFCD: **10.3 and 130%** of upstream control station's Tby at the same tide of the same day.
Mid-Flood					
DO (mg/L)	Surface & Middle	**4.3**	**4.2**	**4.5**	**4.4**
	Bottom	**4.3**	**4.1**	**4.1**	**4.1**
SS (mg/L) (Depth-averaged)		**25.3**	**28.7**	For EPD: **23.3** For AFCD **23.3 and 120%** of upstream control station's SS at the same tide of the same day	For EPD **25.9** For AFCD: **25.9 and 130%** of upstream control station's SS at the same tide of the same
Tby (NTU) (Depth-averaged)		**25.2**	**31.5**	For EPD: **18.7** For AFCD **18.7 and 120%** of upstream control station's Tby at the same tide of the same day	For EPD **22.3** For AFCD: **22.3 and 130%** of upstream control station's Tby at the same tide of the same day.

Notes: "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.

In order to better differentiate between exceedance caused by the contract works and elevated readings arising from causes unrelated to contract works, all parties agreed to introduce a term "Reaching of Trigger Value" to represent the scenario where the A/L levels were exceeded by the "Direct Comparison" evaluation method. Upon the detection of "Reaching of Trigger Value" , an initial analysis would be carried out to

determine whether it was caused by contract works. Exceedance and non-compliance should only be recorded in case where the "Reaching of Trigger Value" was caused by the contract works.

Table 3-11 summarises the details action required to be taken by different parties in the case of water quality exceedance of performance limits being recorded. The revised Event/Action Plan for water quality has been endorsed by IC(E) in June 2003.

3.5.4 Landscape and Visual

The Final Tree Survey Report[3] approved in April 2001 was adopted as the framework of the baseline landscape condition of this road section. In addition, a supplementary tree survey was carried out in December 2001. The Supplementary Tree Survey Report (Revision A)[4] completed in March 2002 is also adopted to provide supplementary information of the baseline landscape condition of this road section.

If any non-conformity on landscape and visual issue is observed, the actions in accordance with Event-Action Plan shown in Table 3-12 shall be carried out.

Table 3-12 Event-Action plan for landscape and visual impact

Event	Action			
	ET Leader	IC(E)	ER	CT
Non-conformity on one occasion	1. Identify Source(s). 2. Inform the IC(E) and the ER. 3. Discuss mitigation actions with the IC(E), the ER and the CT. 4. Monitor remedial actions until rectification has been completed.	1. Check report. 2. Check the CT's working method. 3. Discuss with the ET Leader and the CT on possible remedial measures. 4. Advise the ER on effectiveness of proposed remedial measures. 5. Check implementation of remedial measures.	1. Notify the CT. 2. Ensure remedial measures are properly implemented.	1. Amend working method. 2. Rectify damage and undertaken any necessary replacement.
Repeated Non-conformity	1. Identify Source(s). 2. Inform the IC(E) and the ER. 3. Increase monitoring frequency 4. Discuss mitigation actions with the IC(E) , the ER and the CT. 5. Monitor remedial actions until rectification has been completed. 6. If exceedance stops, cease additional monitoring	1. Check monitoring report 2. Check the CT's working method 3. Discuss with the ET Leader and the CT on possible remedial measures. 4. Advise the ER on effectiveness of proposed remedial measures. 5. Supervise implementation of remedial measures.	1. Notify the CT. 2. Ensure remedial measures are properly implemented.	1. Amend working method. 2. Rectify damage and undertaken any necessary replacement.

Table 3-11 Event-Action plan for water quality

Event	Action			
	ET Leader	IC(E)	ER	CT
Trigger Value				
1. Trigger Value being surpassed for one sampling day	1. Repeat in-situ measurement to confirm findings. 2. Conduct investigation to identify the source(s) of impact. 3. Check monitoring data, all plant, equipment, mitigation measures and the CT's working methods. 4. Inform the IC(E), ER, EPD, HyD, CT and AFCD (if required) the investigation results. 5. If exceedance is confirmed as caused by the construction works, take relevant actions as detailed in "**Action Level**" and "**Limit Level**"	1. If exceedance is confirmed as caused by the construction works, take relevant actions as detailed in "**Action Level**" and "**Limit Level**"	1. If exceedance is confirmed as caused by the construction works, take relevant actions as detailed in "**Action Level**" and "**Limit Level**"	1. If exceedance is confirmed as caused by the construction works, take relevant actions as detailed in "**Action Level**" and "**Limit Level**"
Action Level				
1. Action level being exceeded by one sampling day and is caused by the construction works	1. Discuss the current mitigation measures with the IC(E) and the CT. 2. Pay attention on the monitoring results collected on the subsequent scheduled monitoring date to see if an exceedance, caused by the same or related construction works, is recurring.	1. Discuss with the ET Leader and the CT on the current mitigation measures. 2. Assess the effectiveness of the current mitigation measures and advised the ER accordingly.	1. Discuss with the IC(E) on the current mitigation measures.	1. Inform the ER and confirm notification of the exceedance in writing. 2. Rectify unacceptable practice. 3. Check all plants and equipment. 4. Consider changes of working methods. 5. Discuss with the ET Leader and the IC(E) on the current mitigation measures.
2. Action level being exceeded by more than one consecutive days and is cause by the construction works	1. Discuss mitigation measures with the IC(E) and the CT. 2. Ensure the proposed mitigation measures are implemented. 3. Further evaluation of the monitoring results on the next scheduled monitoring day and report to all concerned parties, if the affected monitoring stations are still being affected (or are no longer affected) by the construction works. 4. Prepare to increase the monitoring frequency to daily, if the Limit Level is exceeded as below.	1. Discuss with the ET Leader and the CT on the proposed mitigation measures. 2. Review proposals on mitigation measures submitted by the CT and advised the ER accordingly. 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IC(E), the ET Leader and the CT on the proposed mitigation measures. 2. Make agreement on the proposed mitigation measures to be implemented. 3. Assess the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the consecutive exceedance in writing. 2. Rectify unacceptable practice. 3. Check all plants and equipment. 4. Consider changes ofworking methods. 5. Discuss with the ET Leader and the IC(E) and propose mitigation measures to the IC(E) and the ER within 3 working day. 6. Implement the agreed mitigation measures.
Limit Level				
1. Limit level being exceeded by one sampling day and is cause by the construction works	1. Discuss mitigation measures with the IC(E), the ER and the CT. 2. Ensure the proposed mitigation measures are implemented. 3. Prepare to increase the monitoring frequency to daily if further exceedances of the Limit Level are detected on the next sampling day.	1. Discuss with the ET Leader and the CT on the proposed mitigation measures. 2. Review proposals on mitigation measures submitted by the CT and advised the ER accordingly. 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IC(E), the ET Leader and the CT on the proposed mitigation measures. 2. Request the CT to Critically review the working methods. 3. Make agreement on the proposed mitigation measures to be implemented. 4. Assess the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the exceedance in writing. 2. Rectify unacceptable practice. 3. Check all plants and equipment. 4. Consider changes of working methods. 5. Discuss with the ET Leader, the IC(E) and the ER, and propose mitigation measures to the IC(E) and the ER within 3 working days. 6. Implement the agreed mitigation measures.
2. Limit level being	1. Discuss further mitigation measures with the IC(E),	1. Discuss with the ET Leader and the CT	1. Discuss with IC(E), the ET Leader and the CT on	1. Inform the ER and confirm notification of the

Event	Action			
	ET Leader	IC(E)	ER	CT
exceeded by more than one consecutive days and is cause by the construction works	the ER and the CT. 2. Ensure the proposed further mitigation measures are implemented. 3. Increase the monitoring frequency to daily until no exceedance of the Limit Level.	on the proposed further mitigation measures. 2. Review proposals on further mitigation measures submitted by the CT and advised the ER accordingly. 3. Assess the effectiveness of the implemented further mitigation measures.	the proposed further mitigation measures. 2. Request the CT to Critically review the working methods. 3. Make agreement on the further mitigation measures to be implemented. 4. Assess the effectiveness of the implemented further mitigation measures. 5. Consider and instruct, if necessary, the CT to slow down or to stop all or part of the marine work until no exceedance of Limit Level.	consecutive exceedance in writing. 2. Rectify unacceptable practice. 3. Check all plants and equipment. 4. Consider changes of working methods. 5. Discuss with the ET Leader, the IC(E) and the ER, and propose further mitigation measures to the IC(E) and the ER within 3 working days. 6. Implement the agreed further mitigation measures. 7. As directed by the ER, slow down or stop all or part of the construction activities.

3.6 Site Inspection and Environmental Complaint Handling

3.6.1 Site Inspection Frequency and Areas Covered

Regular site inspections will be carried out on a weekly basis. The areas of inspection cover the different environmental impacts, such as air quality, noise, water quality and waste, and their pollution controls and mitigation measures for both within and outside the site area. Site inspection for landscape and visual impact will be carried out on a bi-weekly basis.

Ad hoc site inspection will be carried out if significant environmental non-compliance is identified. Inspections may also be carried out subsequent to receipt of any environmental complaints, or as part of the investigation work, as specified in the Event-Action Plans.

3.6.2 Site Inspection Procedures

a) The CT and/or ER will advise the Environmental Auditor (EA) for all information on any environmental related aspects.

b) The EA will discuss with the CT and/or ER to sort out and forecast any potential environmental impact.

c) The EA will conduct a site walk with the CT and/or ER, particularly the areas with extensive construction works.

d) The EA will conduct inspection for the main environmental facilities and measures such as the wheel washing facilities located at the site exits, water spraying truck, temporary noise barrier, and the internal noise-reducing measures of the heavy equipment etc, to ensure that these environmental facilities operate normally and effectively.

e) The EA will fill up a site inspection checklist during the site inspection for recording of any special observations.

f) The EA will conduct post-discussion with the CT and/or ER for the establishment of additional/special measures if any non-conformance is found. The completion date for such additional measures will be confirmed during the post-discussion.

g) The EA will propose a reasonable timeframe together with the CT and/or ER, for the preparation of the proposal for the remediation of environmental non-compliance.

h) The completed site inspection checklist will be signed by the EA, the CT and/or ER, for reference and for taking actions in accordance with the agreed procedures, reporting systems and time frame.

3.6.3 Environmental Complaints

In accordance with the EM&A Manual, environmental complaints will be referred to the ET for initiation of the complaint investigation procedures. The ET will undertake the following procedures upon receipt of the complaints:

a) The ET will record the details of the complaint and the date of receipt onto the complaint database, and inform ER immediately.

b) The ET will perform compliant investigation to determine its validity, and to assess whether the source of the problem is due to work activities.

c) The ER will instruct the CT to identify mitigation measures in consultation with the ET, if the compliant is valid and due to works.

d) The ET will liaise with the CT on their mitigation measure proposals and implementation, if required.

e) The ET will conduct review of the CT's response on the identified mitigation measures, and of the updated situation.

f) The ET will submit interim report to EPD if the complaint is received via EPD. The interim report will clearly state the status of the complaint investigation and the follow-up action within the time frame assigned by EPD.

g) The ET will undertake additional monitoring and audit to verify the situation if necessary, and ensure that any valid reason for complaint does not recur.

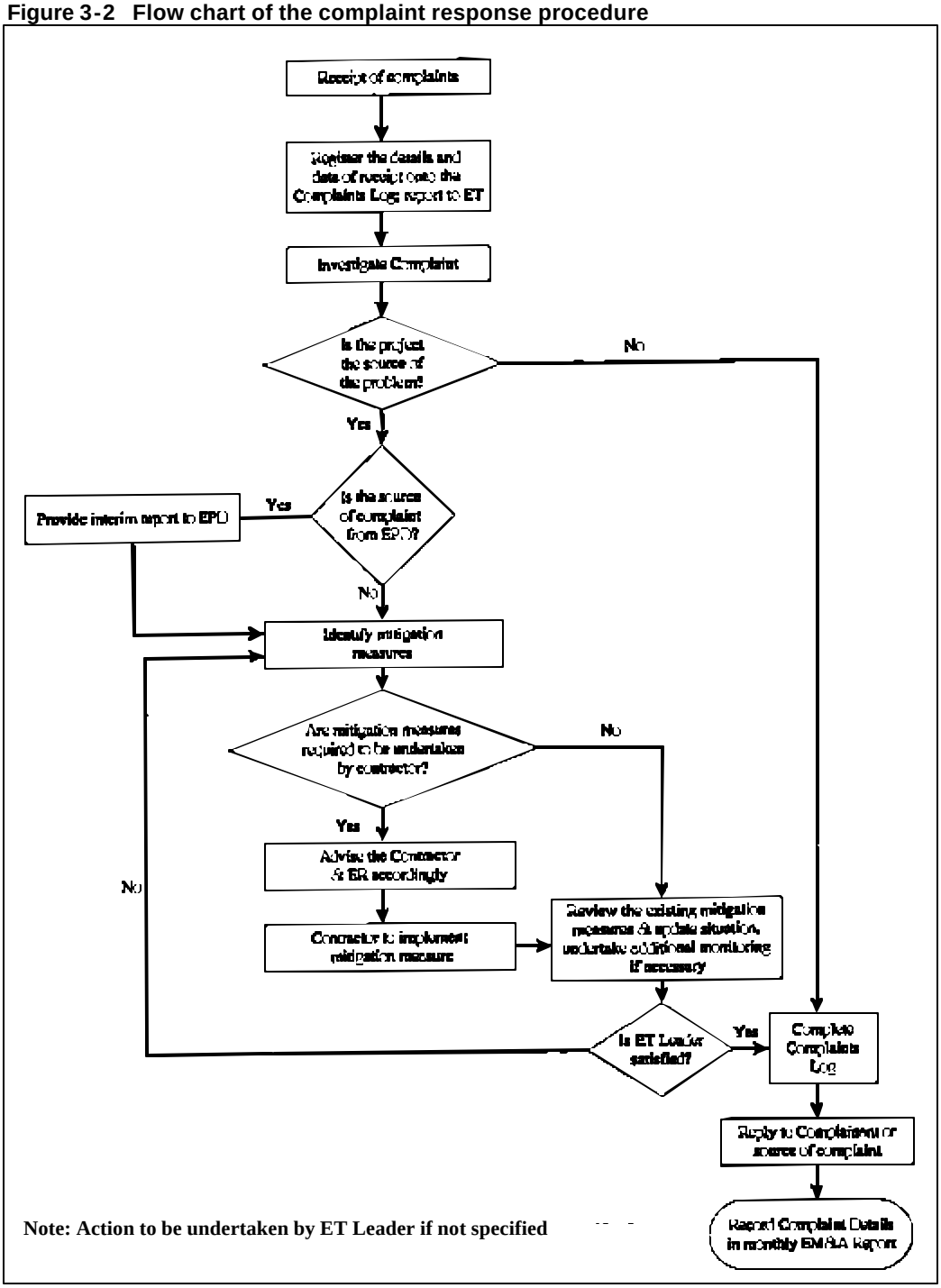
h) The ET will report on the investigation results and the subsequent actions to the source of complaint for responding to the complainant (If the source of complaint is via EPD, the results will be reported within the time frame assigned by EPD).

i) The ET will record the details of the complaint, investigation, subsequent actions and results in the monthly EM&A reports.

During the complaint investigation work undertaken by the ET, the CT and ER shall cooperate with the ET on providing all the necessary information and assistance for completion of the investigation. If mitigation measures are identified as necessary after the investigation, the CT shall promptly carry out the required mitigation to the satisfaction of ET. The ER shall ensure that the CT has carried out such identified measures.

A flow chart of the complaint response procedures is shown in Figure 3.2 for reference.

Figure 3-2 Flow chart of the complaint response procedure



4. AIR QUALITY

4.1 Monitoring Parameters and Equipment

Impact air quality monitoring was conducted in terms of both 1-hour and 24-hour TSP using a direct reading meter, MIE Data-RAM Portable Real Time Aerosol Monitor (MIE) and High Volume Sampler (HVS) respectively. Table 4-1 shows the equipment list for air quality monitoring.

Table 4-1 Equipment list for air quality monitoring

Equipment	Manufacturer & Model No.	Measurement Parameter	Qty.
High Volume Sampler	GS-2310105 & TE-5170	24-hour TSP	9
Fibreglass Filter	G810		--
HVS Calibration Kit	GMW-2535		1
Photometric Aerosol Monitor	MIE *personal* DataRAM	1-hour TSP	8
Hand Held Barometer	Cole-Parmer EB833	Pa, Temperature	2

4.2 Methodology

4.2.1 1-hour TSP Monitoring

The procedure for 1-hour TSP monitoring is described as follows:

The MIE monitor was switched on by pressing the ON/OFF button. The NEXT button was pressed to select Run or Ready mode.

The NEXT button was pressed subsequently to check the following settings:

i. data logging function: on
ii. log period: 5 minutes
iii. tag number: storage
iv. analogue output: 0-4.000mg/m^3
v. calibration factor:1.0
vi. averaging time: 10s
vii. battery charge: $\geq$50%
viii. remaining memory: $\geq$10%

The monitoring was started by pressing ENTER. The real-time concentration would display "CONC" and the time-averaged concentration would display "TWA".

The monitoring was stopped by pressing EXIT and ENTER buttons.

The date and start time, weather, site condition and the downloaded monitoring results were recorded on specified field record sheet.

4.2.2 24-hour TSP Monitoring

24-hour TSP by using a High Volume Sampler (HVS). The HVS should be in compliance with the following specifications:

- 0.6 – 1.7 m^3/min (20 – 60SCFM);
- equipped with a timing/control device with +/- 5 minutes accuracy for 24 hours operation;
- installed with elapsed time meter with +/- 2 minutes accuracy for 24 hours operation;
- capable of providing a minimum exposed area of 406 cm^2(63in^2);
- flow control accuracy: +/-2.5% deviation over 24-hr sampling period;
- equipped with a shelter to protect the filter and sampler;
- incorporated with an electronic mass flow rate controller or other equivalent devices;
- equipped with a flow recorder for continuous monitoring;
- provided with a peaked roof inlet;
- incorporated with a manometer;
- able to hold and seal the filter paper to the sampler housing at horizontal position;
- easy to change the filter; and
- capable of operating continuously for a 24-hour period.

4.2.3 Maintenance and Calibration

The HVS and their accessories were frequently checked and maintained in accordance with the manufacturer's operation & maintenance manual. Maintenance includes the checking of the supporting screen and the gasket, and routine replacement of motor carbon brushes for the blower motor. The power cords and power supply were checked each time before sampling to ensure proper operation.

The HVS are calibrated at 2-month intervals using GMW-2535 Calibration Kit.

The calibration kit will be re-calibrated by the manufacturer after one year of use. The calibration certificates of the HVS and the calibration kit are provided in Appendix D. The next calibration will be conducted on or before 27 June 2006 for the HVS and 1 February 2007 for the GMW-2535.

The MIE monitor and its accessories were frequently checked and maintained in accordance with the manufacturer's operation & maintenance manual to ensure

proper operation. Maintenance includes the checking of batteries, zero and sensitive adjustment and filter replacement.

The MIE monitor is returned to the manufacturer for calibration bi-annually. The calibration certificates are provided in Appendix E. The next calibration dates for the MIE monitors are given in Table 4-2.

Table 4-2 Calibration dates of 1-hour TSP monitoring equipment

1-hour TPS monitoring equipment	Serial number	Last calibration date	Next calibration date (on or before)
MIE Data-RAM Portable Real Time Aerosol Monitor	4492	10-Apr-06	10-Apr-08
	4736	27-Jul-04	27-Jul-06
	3809	06-Oct-04	06-Oct-06
	3893	06-Oct-04	06-Oct-06
	4243	10-Apr-06	10-Apr-08
	4239	03-Feb-05	03-Feb-07
	4715	10-Apr-06	10-Apr-08
	4705	11-Apr-06	11-Apr-08

4.3 Results and Observations

4.3.1 Weather conditions and other factors

No adverse weather conditions, in particular adverse wind speed and wind direction that may significantly affect or invalidate the collected air quality monitoring data, were registered during the reporting period.

Neither unusual operation of the construction site nor abnormal TSP source was observed during the reporting period.

4.3.2 Summary of Results

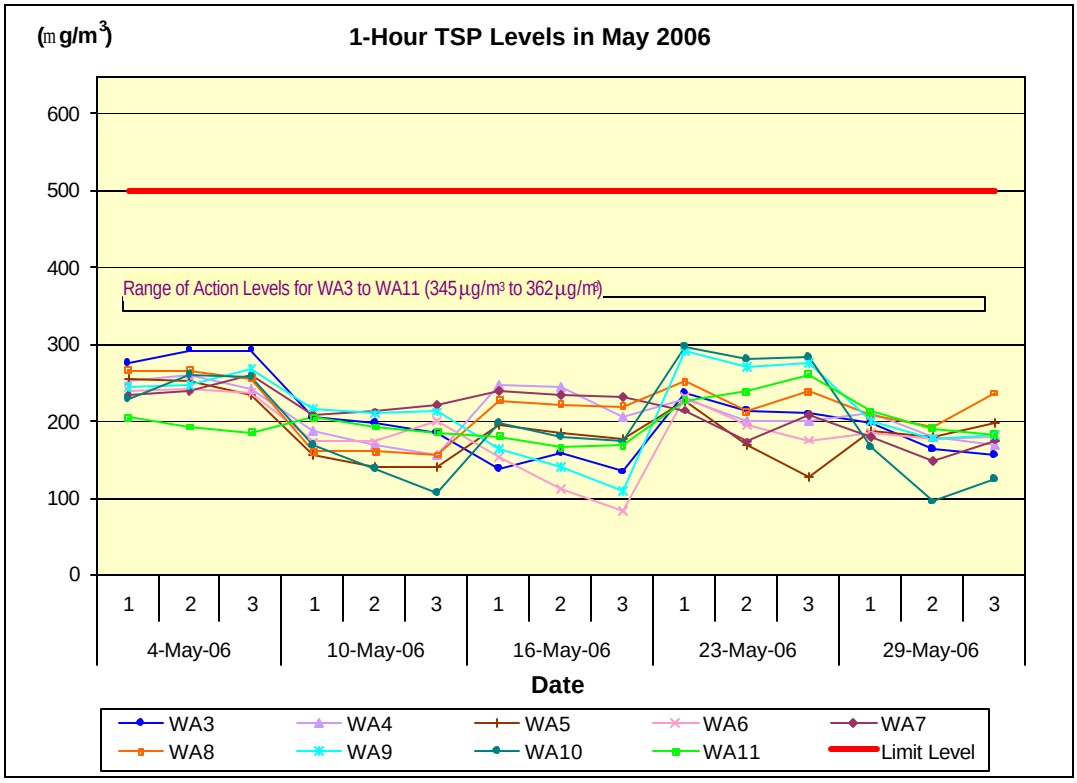
1-hour TSP

A total of 5 sets of 3 consecutive 1-hour TSP measurements were conducted on 4, 10, 16, 23 and 29 May 2006.

The highest 1-hour TSP level of 297.6$\mu g/m^3$ was recorded on podium, Sea Crest Villa (Phase 1 Block 1) (WA10) on 23 May 2006 while the lowest 1-hour TSP level of 83.2$\mu g/m^3$ was recorded on G/F, Tsing Lung Tau Tin Hau Temple (WA6) on 16 May 2006. There was no exceedance of the A/L Level during the reporting period.

Detailed monitoring results of 1-hour TSP are attached in Appendix F and graphical presentation of the 1-hour TSP levels at each monitoring location is illustrated in Figure 4-1.

Figure 4-1 Graphical Presentation of 1-Hour TSP Levels for May 2006



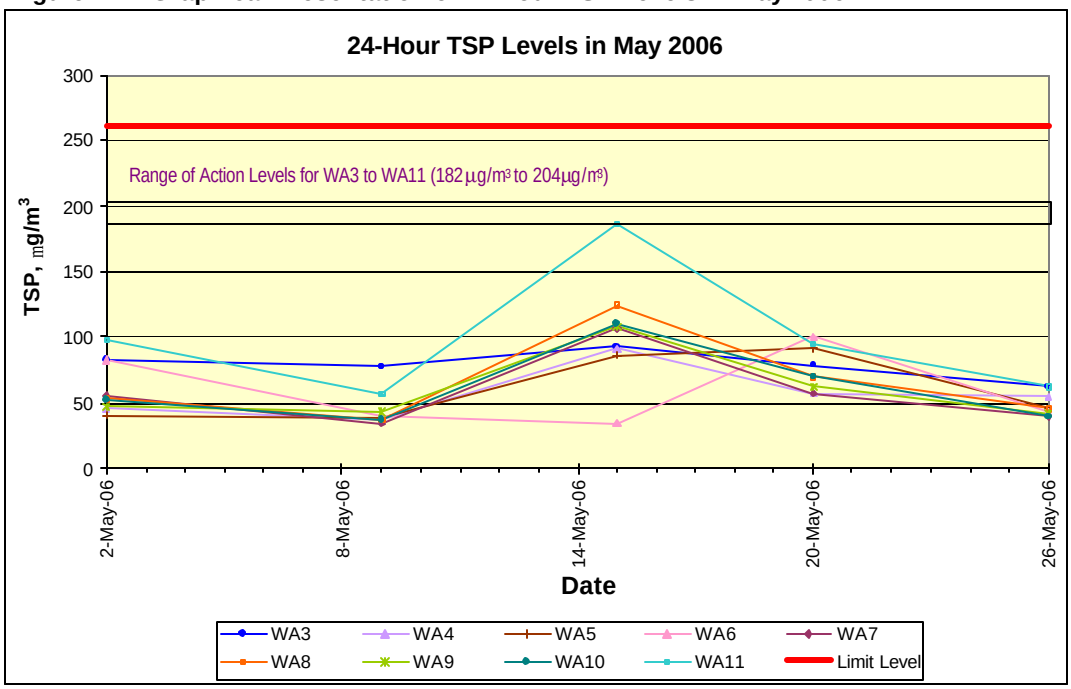
24-hour TSP

A total of 5 sets of 24-hour TSP measurement had been taken on 2, 9, 15, 20 and 26 May 2006.

The highest 24-hour TSP level of 187.0 $\mu g/m^3$ was recorded on G/F, carpark, Lido Garden Tower 1 (WA11) on 15 May 2006 while the lowest 24-hour TSP level of 33.7 $\mu g/m^3$ was recorded on G/F, Tsing Lung Tau Tin Hau Temple (WA6) on 15 May 2006. There was no exceedance of the A/L Level during the reporting period.

Detailed monitoring results of 24-hour TSP are atached in Appendix F and graphical presentation of the 24-hour TSP levels at each monitoring location is illustrated in Figure 4-2.

Figure 4-2 Graphical Presentation of 24-Hour TSP Levels in May 2006



4.3.3 Wind Monitoring Data

Detailed wind monitoring data for the May 2006 are extracted from Hong Kong Observatory – Tsing Yi Wind Monitoring Station and attached in Appendix H.

5. NOISE

5.1 Monitoring Equipment

Details of the integrating sound level meters used in the noise monitoring are shown in Table 5-1.

Table 5-1 Equipment list for construction noise monitoring

Equipment	Manufacturer & Model No.	Precision Grade	Qty.
Integrating sound level meter	Rion NA-27	IEC 651 Type 1	2
Windshield	Brüel & Kjær UA0237	IEC 804 Type 1	2
Acoustical calibrator	Brüel & Kjær 4230	IEC 942 Type 1	2
Acoustical calibrator	Brüel & Kjær 4226		1
LCD wind speed indicator	Kestrel Vane Anemometer	--	2

5.2 Methodology

5.2.1 Field Measurement

- The sound level meter and the battery were checked to ensure that they were in proper condition.

- The sound level meter was set on a tripod at 1.2m above ground and at 1m from the exterior of the building façade.
- Before conducting the measurement, the sound level meter was calibrated by an acoustical calibrator.
- The measurement parameter was set to A-weighted sound pressure level. The time weighting was set in fast response and the time period of measurement at 30 minutes.
- The wind speed was checked during noise monitoring to ensure the steady wind speed did not exceed 5m/s, or wind with gusts did not exceed 10m/s.
- Any abnormal conditions that generated intrusive noise during the measurement were recorded on the field record sheet.
- After each measurement, the equivalent continuous sound pressure level (L_{eq}), L_{10} and L_{90} were recorded on the field record sheet.
- The sound level meter was re-calibrated by the acoustical calibrator to confirm that there was no significant drift of reading.

5.2.2 Equipment Maintenance and Calibration

The sound level meter complies with the standards of IEC 651 (Fast, Slow, Impulse rms detector tests) and IEC 804 (L_{eq} functions). The acoustical calibrator model no. 4230 is in compliance with IEC 942. The calibration certificates of the noise monitoring equipment are given Appendix I.

5.3 Results and Observations

5.3.1 Weather Conditions and Other Factors

No adverse weather conditions, in particular adverse wind speed & wind direction and fog & rain that may significantly affect or invalidate the collected noise monitoring data, were registered during the reporting period.

Neither unusual operation of the construction site nor abnormal noise source was observed during the reporting period.

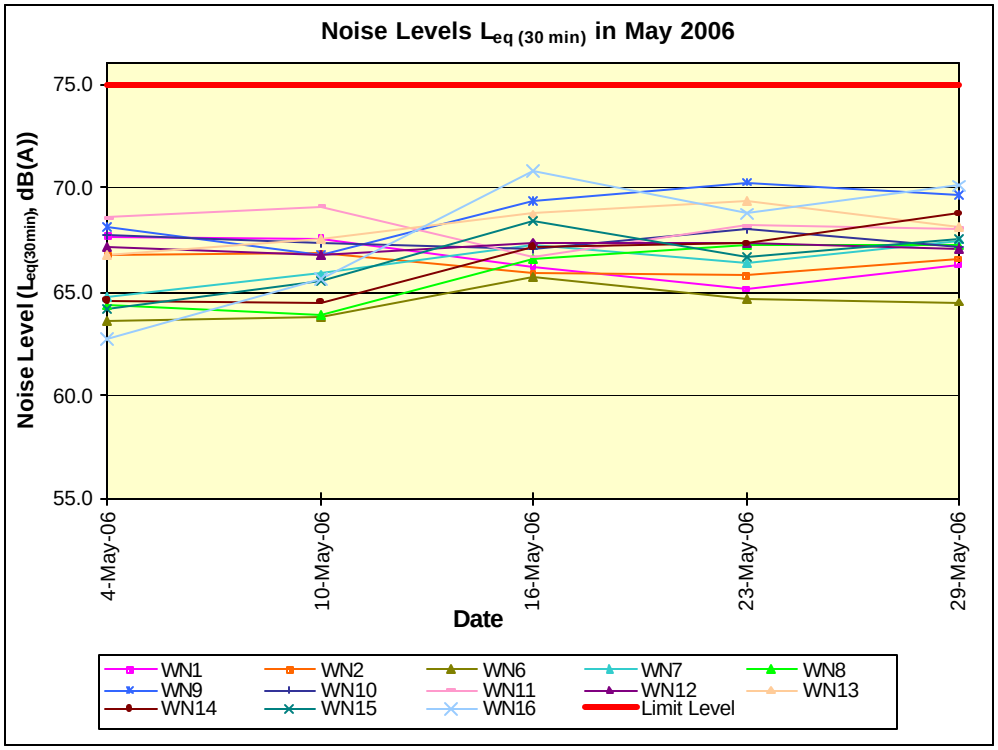
5.3.2 Summary of Results

A total of 5 set of noise measurement had been conducted between 0700-1900 hours on 4, 10, 16, 23 and 29 May 2006.

The highest noise level of 70.8dB(A) was recorded on 16 May 2006 while the lowest noise level of 62.7dB(A) was recorded on 4 May 2006, both were recorded on G/F, carpark, Tower 1 of Lido Garden (WN16). There was no exceedance of A/L level during the reporting period.

Detailed construction noise monitoring results are attached in Appendix J and graphical presentation of the noise levels at each monitoring location is illustrated in Figure 5-1.

Figure 5-1 Graphical Presentation of Day-time Noise Levels in May 2006



6. MARINE WATER QUALITY (DESGINATED PROJECT)

6.1 Marine Water Quality Equipment

Monitoring of Turbidity (Tby) in NTU, Dissolved Oxygen (DO) in mg/L and Suspended Solids (SS) in mg/L was carried out by the ET to ensure that any deteriorating water quality could be readily detected and timely action be taken to rectify the situation. Tby and DO were measured in-situ while SS was determined in the laboratory. A summary of the water quality monitoring equipment is provided in Table 6-1.

Table 6-1 Water quality monitoring equipment

Equipment	Manufacturer & Model No.	Qty
Handheld Salinity, Conductivity & Temperature System	YSI Model 600XL-B-M	1
Dissolved Oxygen Meter	YSI Model 600XL-B-M	1
pH meter	Hanna	1
Turbidimeter	HACH 2100P	1
Nephelometer	Analite Model 156	1

6.2 Methodology

Dissolved Oxygen and Temperature Measuring Equipment

The equipment to measure DO and temperature complies with the following:

i. The instrument shall be a portable, weatherproof dissolved oxygen measuring instrument equipped with a cable and use a DC power source. It shall be capable of measuring:

- A dissolved oxygen level in the range of 0-20 mg/L and 0-200% saturation; and
- A temperature of 0-45^{o}C.

ii. It shall have a membrane electrode with automatic temperature compensation complete with a cable. Sufficient stocks of spare electrodes and cables shall be available for replacement where necessary (e.g. YSI model 59 meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).

iii. Should salinity compensation not be integrated in the DO equipment, in-situ salinity shall be measured to calibrate the DO equipment prior to each DO measurement.

Turbidity Measurement Instrument

The instrument is a portable, weatherproof turbidity-measuring instrument completed with comprehensive operations manual. The equipment shall use a DC power source. It shall have a photoelectric sensor capable of measuring turbidity between 0-1000 NTU and be completed with a cable (e.g. Hach model 2100P or an approved similar instrument).

Suspended Solids

The following equipment is required to monitor the SS:

i. A water sampler comprising a transparent PVC cylinder, with a capacity of not less than 2 litres and which can be effectively sealed with latex cups at both ends. The sampler shall have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth (e.g. Kahlsico Water Sampler or an approved similar instrument).

ii. Water samples for SS measurement of both the marine and freshwater environment shall be collected in high density polythene bottles, packed in ice (cooled at 4^{o}C without being frozen) and delivered to the laboratory as soon as possible after collection.

Water Depth Detector

A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring. This unit can either be handheld or affixed to the bottom of the monitoring boat, if the same vessel is to be used throughout the monitoring programme.

Salinity

A portable salinity meter capable of measuring salinity in the range of 0-40 ppt shall be provided for measuring salinity of the water at each monitoring location and setting salinity compensation on the DO Meter.

Location of the Monitoring Site

A hand-held or boat-fixed type Differential Global Positioning System (DGPS) or other equivalent instrument of similar accuracy shall be provided and used during monitoring to ensure the monitoring vessel is at the correct location before taking measurements. For the monitoring locations in the water courses a hand-held DGPS, together with a suitably scaled map shall be used.

6.2.1 Calibration and Accuracy of Instrumentation

All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter shall be carried out before measurement at each monitoring location.

For the on site calibration of field equipment, the BS 1427:1993, "Guide to Field and on-site test methods for the analysis of waters" shall be followed.

6.3 Marine Water Quality Monitoring

As reported by the CT, major sea works at level below +2.5mPD had been completed in July 2003. The proposal on suspension of marine monitoring was submitted to IC(E), HyD, EPD and AFCD for comments on 25 September 2003. It was confirmed with IC(E) and AFCD that suspension of marine monitoring was acceptable if there is no "active" marine work being carried out. In future, if there is any marine work on or below +2.5mPD, the CT shall notify the relevant parties one month in advance and resume the marine monitoring. Subsequently, as instructed by the CT/ HyD, the marine monitoring was suspended since during the period from October 2003 to 31 July 2004. However, as instructed by the CT, the planned sand placement activities were conducted at Seawall B. Marine impact

monitoring near Seawall B (i.e. WW1, WW2, WW3, WW4, WR-E-1234, WR-F-1234 and FCZ1) was resumed from 2 August to 27 August 2004. Since sand placement activities at Seawall B were ceased in August 2004, marine water monitoring was again suspended since September 2004.

With the commencement of construction works for fishermen staircase at Tsing Lung Tau Pier since 17 October 2005, the impact marine water quality monitoring was undertaken during mid-ebb and mid-flood tidal cycles at 5 impact monitoring stations (and control stations) at Tsing Lung Tau. Prior to the construction works, 3 marine water quality baseline monitoring events have been conducted on 12, 13 and 15 October 2005 which served as the baseline conditions for this impact monitoring.

Upon completion of the construction works for fishermen staircase at Tsing Lung Tau Pier in November 2005, the marine water quality monitoring has been ceased since 1 December 2005.

7. LANDSCAPE AND VISUAL MONITORING AND AUDIT

The landscape and visual monitoring and audits were carried out on 11 and 25 May 2006 by a Registered Landscape Architect. The audit findings and recommendations are included in the detailed report in Appendix K and summarised in the following paragraphs.

7.1 Summary of Inspection – 11 May 2006

7.1.1 Matters Arising from Previous Inspections

- Replacement of damaged LS tree at planter Bed 6.9 was outstanding. The CT was requested to replace the tree as soon as possible.
- Replacement planting of dead plants on Slopes 6 is still outstanding. The CT was reminded to also carry out the replacement as soon as possible.
- Clearance of scattered litter and garbage at the central divider near FB-03 area was still outstanding. The CT was reminded to clear it away as soon as possible.
- Clearance of the invasive *Leucaena leucocephala* plant species from Slopes 9 & 11 was outstanding. The CT was reminded to clear away the plant as soon as possible to prevent its spreading, which would affect the establishment of woodland planting works.

7.1.2 Site Clearance and Formation Works

- Construction and garbage pile was found at FB-02 area. The CT was requested to clear it away as soon as possible.
- Scattered litter and construction waste was found within the planters Bed 7.20 & Bed 7.21 near NM-04. The CT was requested to clear it away as soon as possible.
- Construction waste piles were found at Slope 9, Dragon Garden and Junction A15 areas. The CT was requested to clear it away as soon as possible.

7.1.3 Recommendations

- The CT was reminded to clear away all construction waste, scattered litter, garbage, etc. as found on site, and keep the site in a tidy condition at all times.
- The CT was reminded to urgently replace all dead whip plants and defective tree(s), and to carry out regular watering of plants during the dry periods. Also, the CT was reminded to remove the *Leucaena leucocephala* plants as soon as possible.

7.2 Summary of Inspection – 25 May 2006

7.2.1 Matters Arising from Previous Inspections

- The CT had cleared away the construction and garbage pile found at FB-02 area.
- The CT had cleared away the construction waste piles found at Slope 9, Dragon Garden and Junction A15 areas.
- The CT had cleared it away the scattered litter and garbage at the central divider near FB-03 area.
- Clearance of construction waste and scattered litter from planters Bed 7.20 & Bed 7.21 was outstanding. The CT was reminded to clear it away as soon as possible.
- Replacement of damaged LS tree at planter Bed 6.9 was still outstanding. The CT was requested to replace the tree as soon as possible.
- Clearance of the invasive *Leucaena leucocephala* plant species from Slopes 9 & 11 was outstanding. The CT was reminded to clear away the plant as soon as possible to prevent its spreading, which would affect the establishment of woodland planting works.

7.2.2 Site Clearance and Formation Works

- Untidy site condition was observed at Sham Tseng near existing tree T5. The CT was requested to tidy up the area as soon as possible.
- Planting works were observed to be in progress at various areas of the site.

7.2.3 Recommendations

- The CT was reminded to clear away all scattered litter, garbage, etc. as found on site, and keep the site in a tidy condition at all times.
- The CT was reminded to urgently replace all dead whip plants and defective tree(s), and to carry out regular watering of plants during the dry periods. Also, the CT was reminded to remove the *Leucaena leucocephala* plants as soon as possible.

7.3 Tree Transplanting Survival Rate

7.3.1 Tree Transplanting Survival Rate

- The tree transplanting survival rate as reported by the CT for the period up to the end of May is 100%.

7.4 Audit Schedule

7.4.1 Audit Schedule for June 2006

- The next audits are schedule to be conducted on 8 and 22 June 2006.

8. SITE INSPECTION, WASTE DISOSPAL, ENVIRONMENTAL COMPLAINTS, ENVIRONMENTAL LICENSES AND NON-COMPLIANCE RECORDS

8.1 Site Audit Findings

Four occasions of weekly environmental site audits were carried out on 3, 11, 18 and 25 May 2006. Findings of the site audits are summarised in Table 8-1.

Table 8-1 Findings of weekly environmental site audit in May 2006

Date of Issue Raised	Observation	Advice from EA	CT's Response / Environmental Outcomes	Closing Date
3 May 2006 (WC211)	1. Stagnant water was observed at the areas near to Sea Crest 3 and 4 during raining.	CT was reminded to dry-off the stagnant water after rainy days in order to avoid mosquito breeding.	Agreed with the ET's advice.	11 May 2006
	2. Construction waste was observed at Ma Wan Ferry.	CT was reminded to conduct regular clearing of waste.	Agreed with the ET's advice.	
	3. Soil, which was washed down from the slope beside Lido Garden during raining, was observed blocking the U-channel.	CT was reminded to cover the slope with tarpaulin sheet during raining.	Agreed with the ET's advice.	
	4. Silt was observed in the U-channel along the site near to Sea Crest 3 and Pai Ming Kok Tsuen.	CT was reminded to conduct regular clearing of the channel to prevent flooding during rainy days.	Agreed with the ET's advice.	18 May 2006
11 May 2006 (WC212)	1. Exposed area and excavated materials were observed along Castle Peak Road within the site area.	CT was reminded to provide water quality and dust suppression measures during rainy and dry days respectively.	Agreed with the ET's advice.	18 March 2006

Date of Issue Raised	Observation	Advice from EA	CT's Response / Environmental Outcomes	Closing Date
18 May 2006 (WC 213)	2. General refuse and construction waste was observed within the site area.	CT was reminded to conduct regular clearing of waste.	Agreed with the ET's advice.	25 May 2006
	3. Excavation was observed near Lido Garden.	CT was reminded to provide appropriate dust and noise mitigation measures.	Agreed with the ET's advice.	
	1. Leaves were observed accumulated in the channel beside Ma Wan Toilet.	CT is reminded to conduct regular clearing of waste to avoid blocking of the channel.	Agreed with the ET's advice.	
	2. Exposed area and excavated materials were observed along Castle Peak Road within the site area.	CT was reminded to provide water quality and dust suppression measures during rainy and dry days respectively.	Agreed with the ET's advice.	
27 April 2006 (WC214)	1. Soil were observed at Castle Peak Road near Sea Crest Phase III.	CT was reminded to conduct regular clearing of soil.	Agreed with the ET's advice.	1 June 2006
	2. Construction waste and materials at Pai Ming Kok site.	CT was reminded to conduct regular clearing of waste.	Agreed with the ET's advice.	
	3. Exposed area and excavated materials were observed along Castle Peak Road within the site area.	CT was reminded to provide water quality and dust suppression measures during rainy and dry days respectively.	Agreed with the ET's advice.	

8.2 Waste Disposal

Disposal of waste material in the reporting month complied in general with the corresponding waste disposal requirements. The waste disposal quantity in the reporting month is summarised in Table 8-2.

Table 8-2 Waste disposal quantity in May 2006

Type of waste or material		Disposal at	No. of loads or quantities	Remarks
C&D waste		WENT Landfill	7 loads	–
C&D material		Public Filling Area in Tuen Mun	59 loads	–
Grease trap waste		Interim Grease Trap Waste Treatment Facility at WENT Landfill	0	–
Chemical waste	Spent lube oil	Collected by licensed collector	0	–

8.3 Complaint Record

There was no environmental complaint received in May 2006. A log record on the environmental complaints is given in Appendix L and a cumulative statistics on environmental complaints is given in Table 8-3.

Table 8-3 Cumulative statistics on environmental complaints

No. of complaints received in the reporting month	No. of outstanding complaints	Cumulative no. of complaints received since the commencement of project
0	0	49

8.4 Non-compliances

There was no non-compliance for environmental monitoring parameters recorded during reporting period.

8.5 Notification of Summons and Successful Prosecution

Neither notification of summons nor prosecution was received during the reporting month.

8.6 Environmental Licenses

There was no new CNP was granted during the reporting month.

9. REFERENCES

[1] Mouchel Halcrow Joint Venture. 2001. Castle Peak Road Improvement between Area 2 and Ka Loon Tsuen, Tsuen Wan West Contract No. HY/99/18, Environmental Monitoring & Audit Manual.

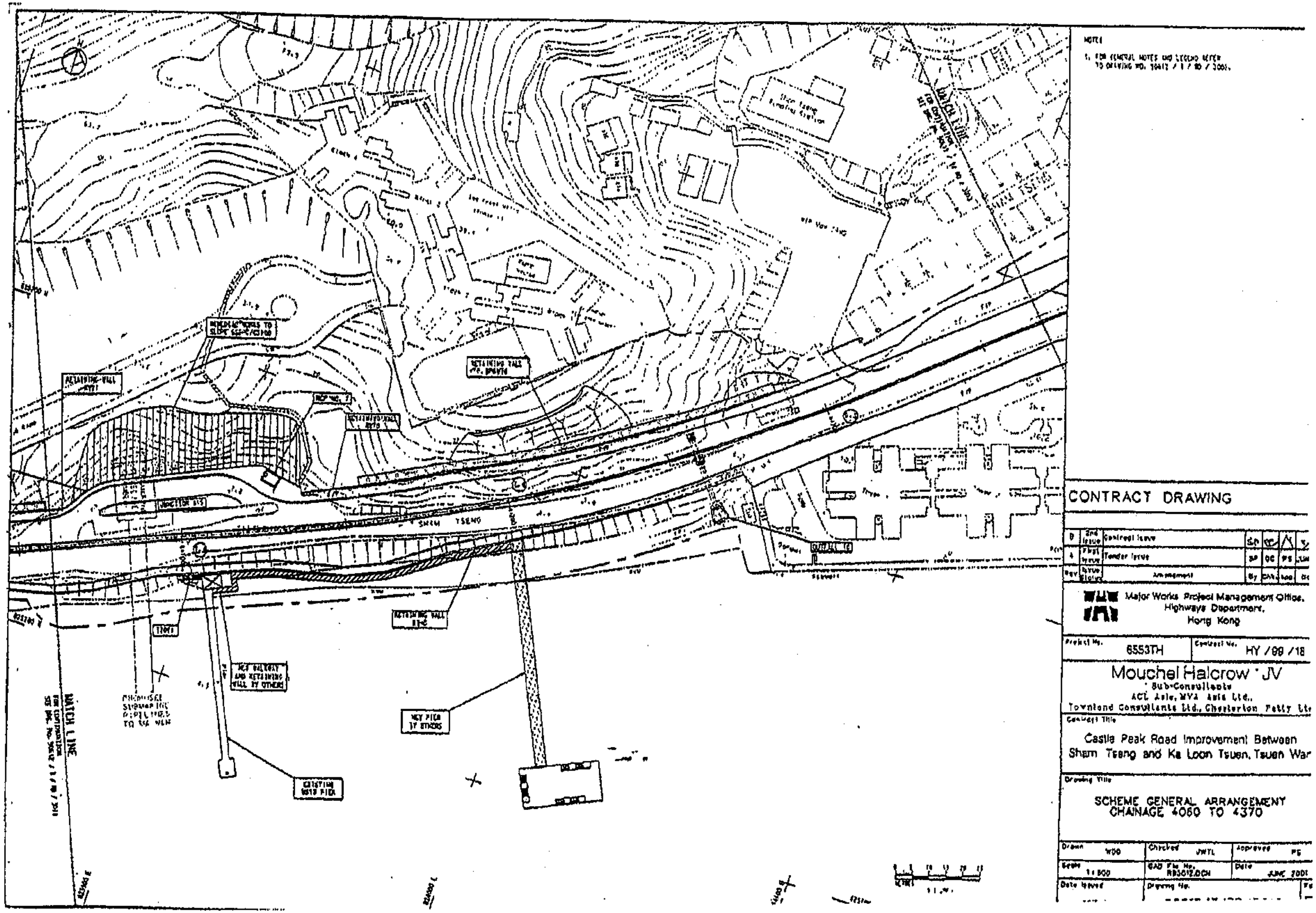
[2] Ove Arup & Partners Hong Kong Limited. July 2002. Contract No. HY/99/18 Castle Peak Road Improvement between Shem Tseng and Ka Lung Tsuen, Tsuen Wan, Environmental Baseline Monitoring Report (Second Issue).

[3] Mouchel Halcrow Joint Venture. 2001. D&C Consultancy Agreement No. CE 1/96 Castle Peak Road Improvement between Area 2 and Ka Loon Tsuen, Tsuen Wan, Tree Survey Report & Tree Felling Application Revision D.

[4] Mouchel Halcrow Joint Venture. Contract No. HY/99/18 March 2002. D&C Consultancy Agreement No. CE 1/96 Castle Peak Road Improvement between Area 2 and Ka Loon Tsuen, Tsuen Wan, Supplementary Tree Survey Report & Tree Felling Application Revision A.

APPENDIX A

Detailed site layout plans


NOTES
SHAM TSENG
MATCH LINE
RETAINING WALL
CONTRACT DRAWING
Contract Issue
Tender Issue
Amendment
Major Works Project Management Office,
Highways Department,
Hong Kong
6553TH
HY /99 /18
Mouchel Halcrow JV
Sub-Consultants
ACL Asia, MVA Asia Ltd.,
Townland Consultants Ltd., Chesterton Petty Ltd
Contract Title
Castle Peak Road Improvement Between
Sham Tseng and Ka Loon Tsuen, Tsuen Wan
Drawing Title
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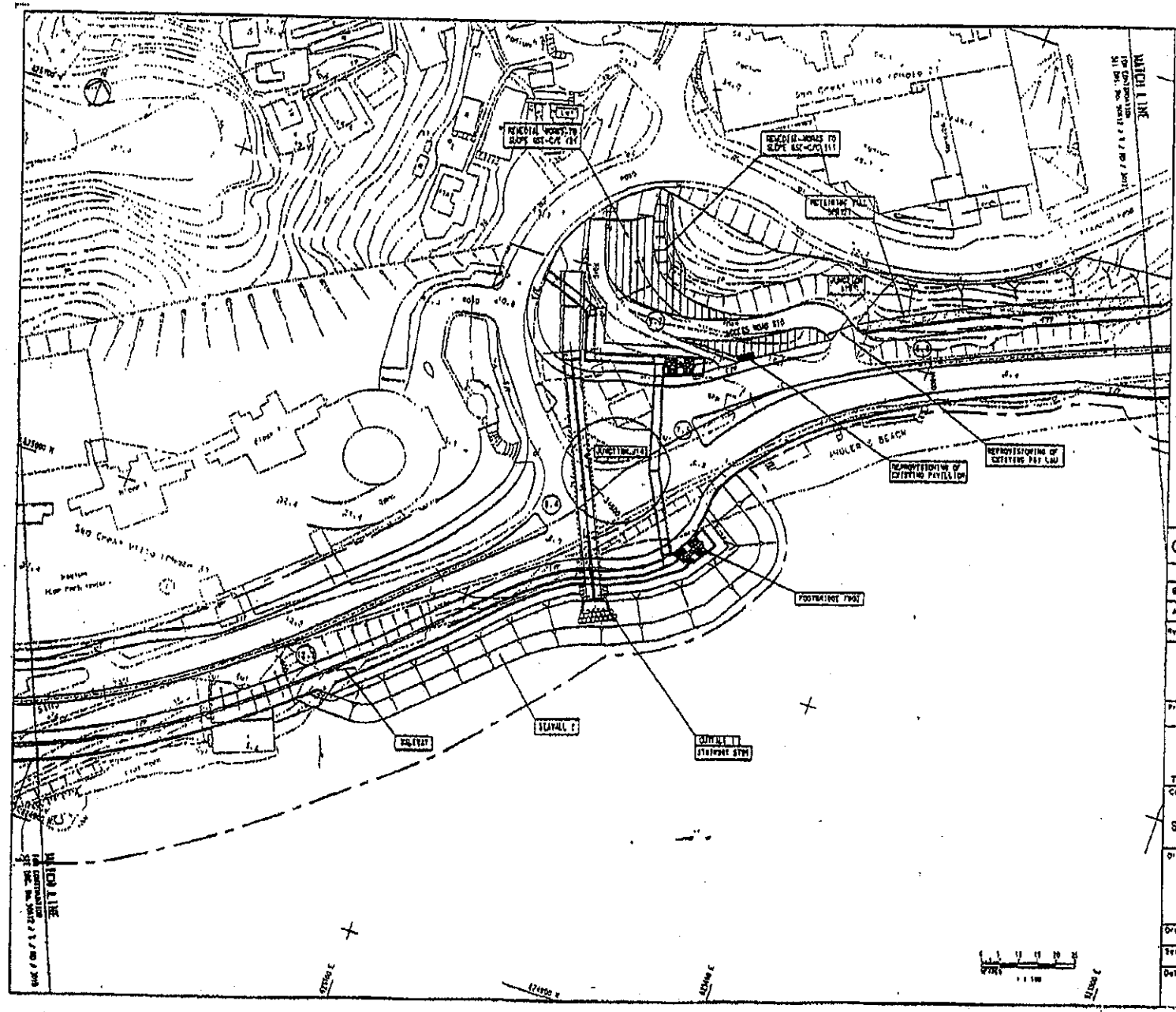

NOTES

1. FOR GENERAL NOTES AND LEGEND REFER TO DRAWING No. 90612/T/RD/3001.

CONTRACT DRAWING

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Rev	Issue Status	Amendment	By	Chk	App	Date

Major Works Project Management Office, Highways Department, Hong Kong

Project No. 8553TH | Contract No. HY/99/18

Mouchel Halcrow - JV
Sub-Consultants
ACL Asia, MVA Asia Ltd.,
Townland Consultants Ltd., Cheriton Polly Ltd.

Contract Title
Castle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan

Drawing Title
SCHEME GENERAL ARRANGEMENT CHAINAGE 3730 TO 4060

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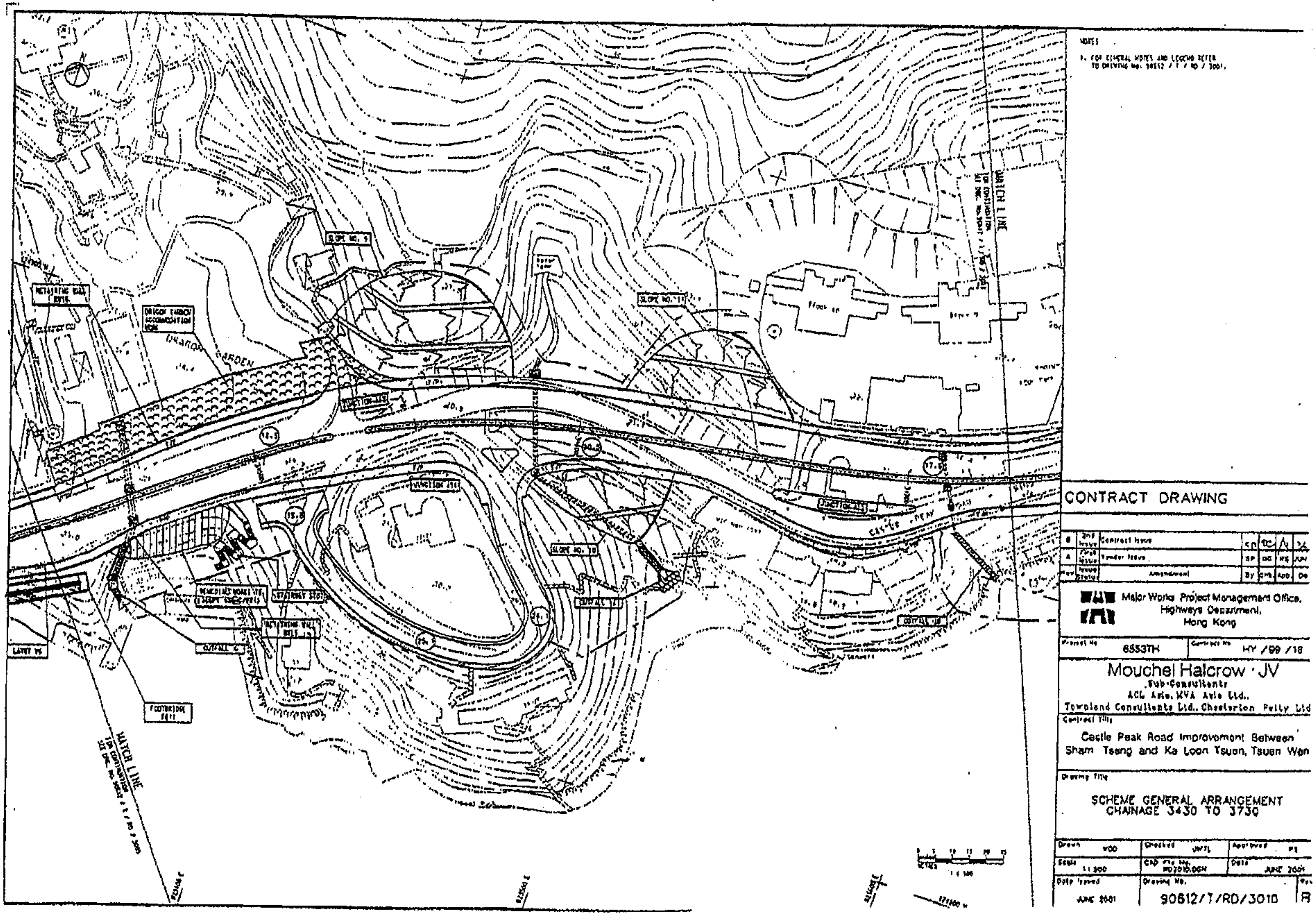

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Contract Issue
Tender Issue
Amendment
Major Works Project Management Office, Highways Department, Hong Kong
6553TH
HY /99 /18
Mouchel Halcrow · JV
Sub-Consultants
ACL Asia, MVA Asia Ltd.,
Townland Consultants Ltd., Chesterton Petty Ltd
Castle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan
SCHEME GENERAL ARRANGEMENT CHAINAGE 3430 TO 3730
JUNE 2001
JUNE 2001
90612/T/RD/3010
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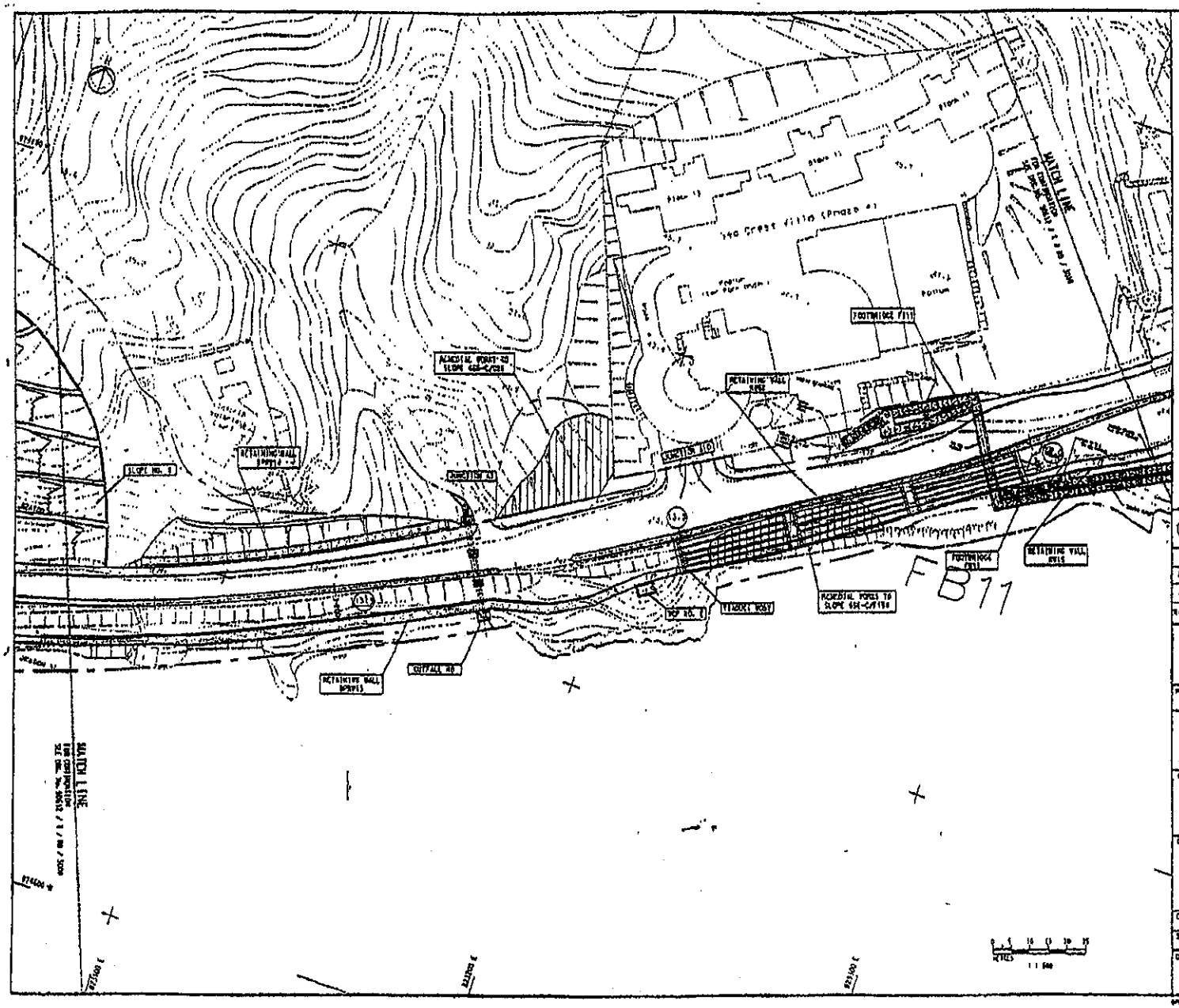
SLOPE NO. 9
SLOPE NO. 10
SLOPE NO. 11
CONTRACT DRAWING



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A	First Issue	Tender Issue	SP	DC	PS	JUN 01

Major Works Project Management Office,
Highways Department,
Hong Kong

Project No. 6553TH | Contract No. HY/98/18

Mouchel Halcrow - JV
Sub-Consultants
ACL Asia, MVA Asia Ltd,
Townland Consultants Ltd., Chesterton Petty Ltd.

Contract Title
Castle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan

Drawing Title
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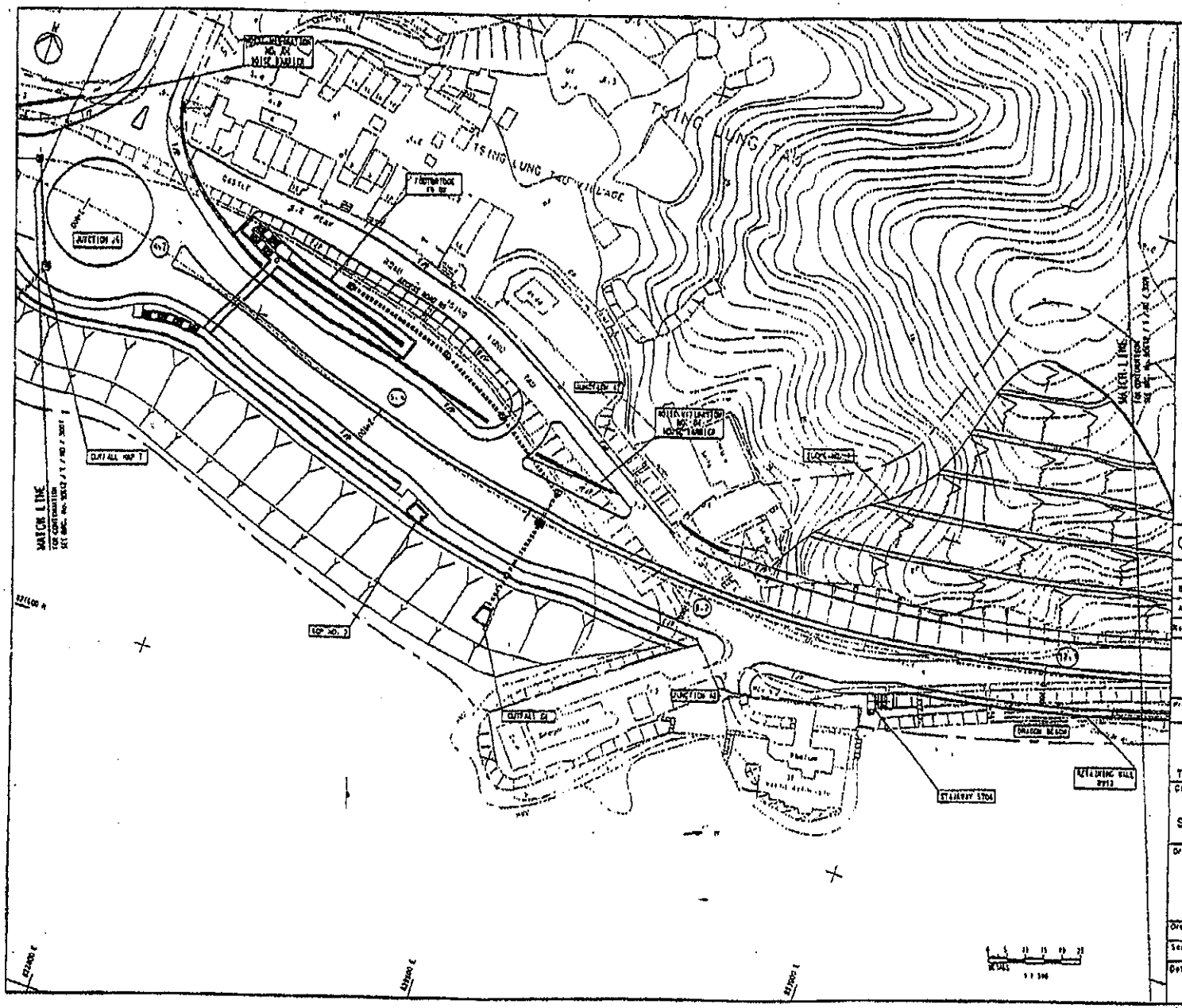
05 NOV 2001



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Rev	Issue Status	Amendment	By	Chk	App	Date

Major Works Project Management Office,
Highways Department,
Hong Kong

Project No. 5553TH | Contract No. HY/99/18

Mouchel Halcrow - JV
Sub-Consultants
ACL Asia, MVA Asia Ltd.,
Townland Consultants Ltd, Chesterton Petty Ltd.

Contract Title
Castle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan

Drawing Title
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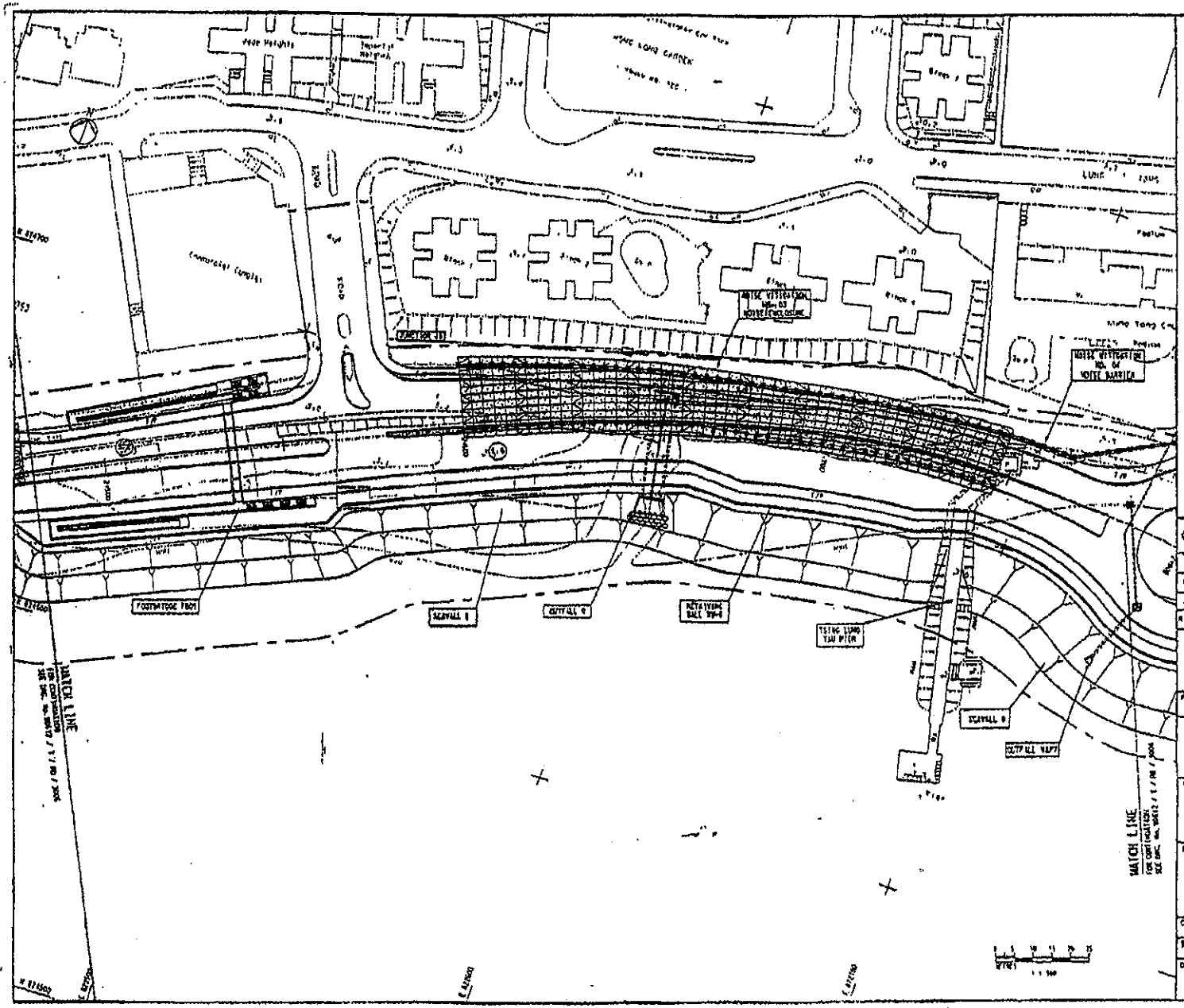
31 OCT 2001



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A	1st Issue	Tender Issue	SP	OC	RS	JUNE 01
Rev	Issue Status	Amendment	By	Ch'k	App	Date

Major Works Project Management Office,
Highways Department,
Hong Kong

Project No. 6553TH | Contract No. HY / 99 / 18

Mouchel Halcrow JV
Sub-Consultants
ACL Asia, MVA Asia Ltd.,
Townland Consultants Ltd., Chesterton Petty Ltd.

Contract Title
Castle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan

Drawing Title
SCHEME GENERAL ARRANGEMENT
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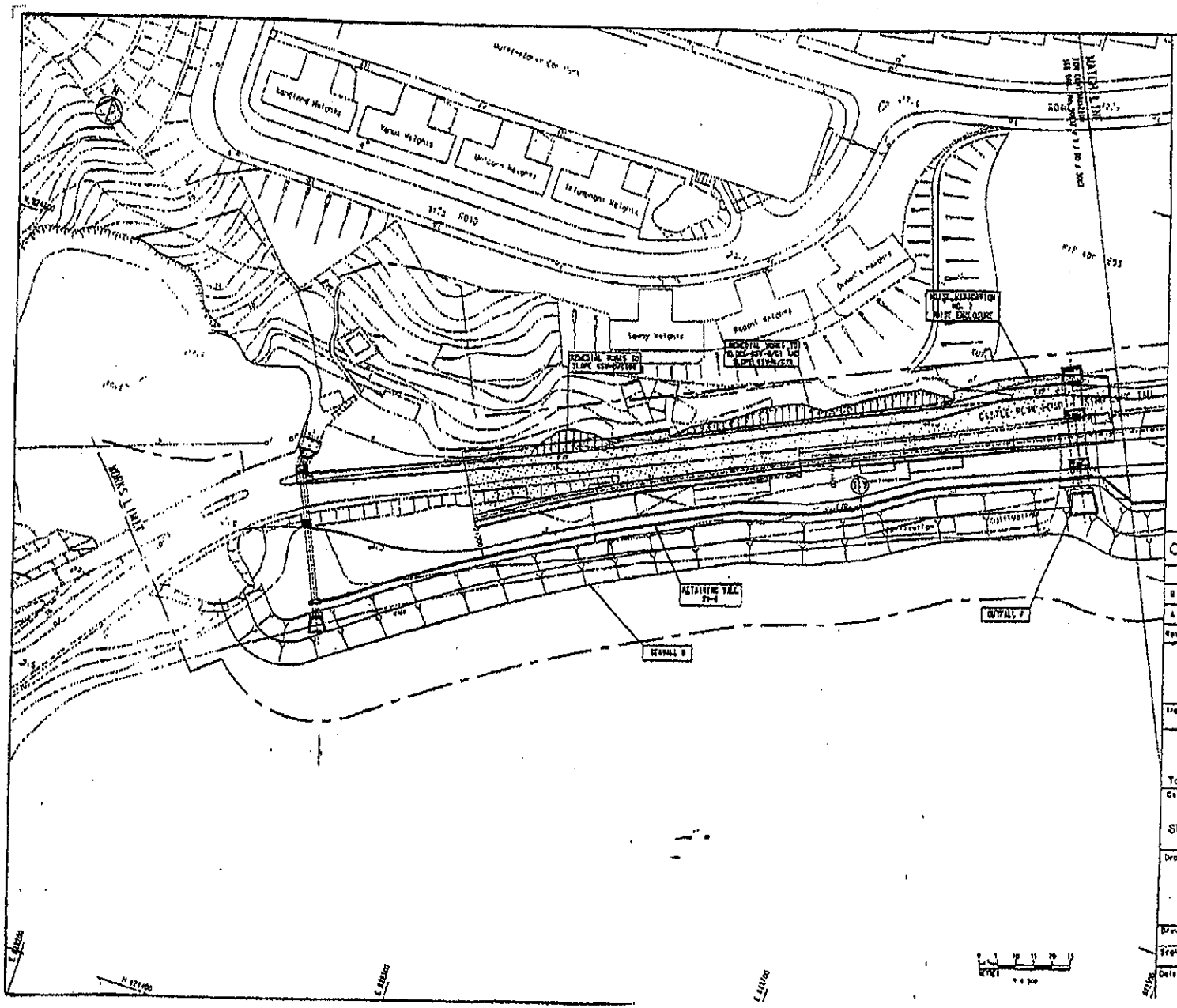

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Rev	Issue Status	Amendment	By	Chk.	App.	Date

Major Works Project Management Office,
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Hong Kong

Project No. 6553TH | Contract No. HY / 99 / 18

Mouchel Halcrow · JV
Sub-Consultants
ACL Arts, WVA Arts Ltd.,
Townland Consultants Ltd., Chesterton Petty Ltd

Contract Title
Castle Peak Road Improvement Between Sham Tsang and Ka Loon Tsuen, Tsuen Wan

Drawing Title
SCHEME GENERAL ARRANGEMENT
CHAINAGE 2300 TO 2480

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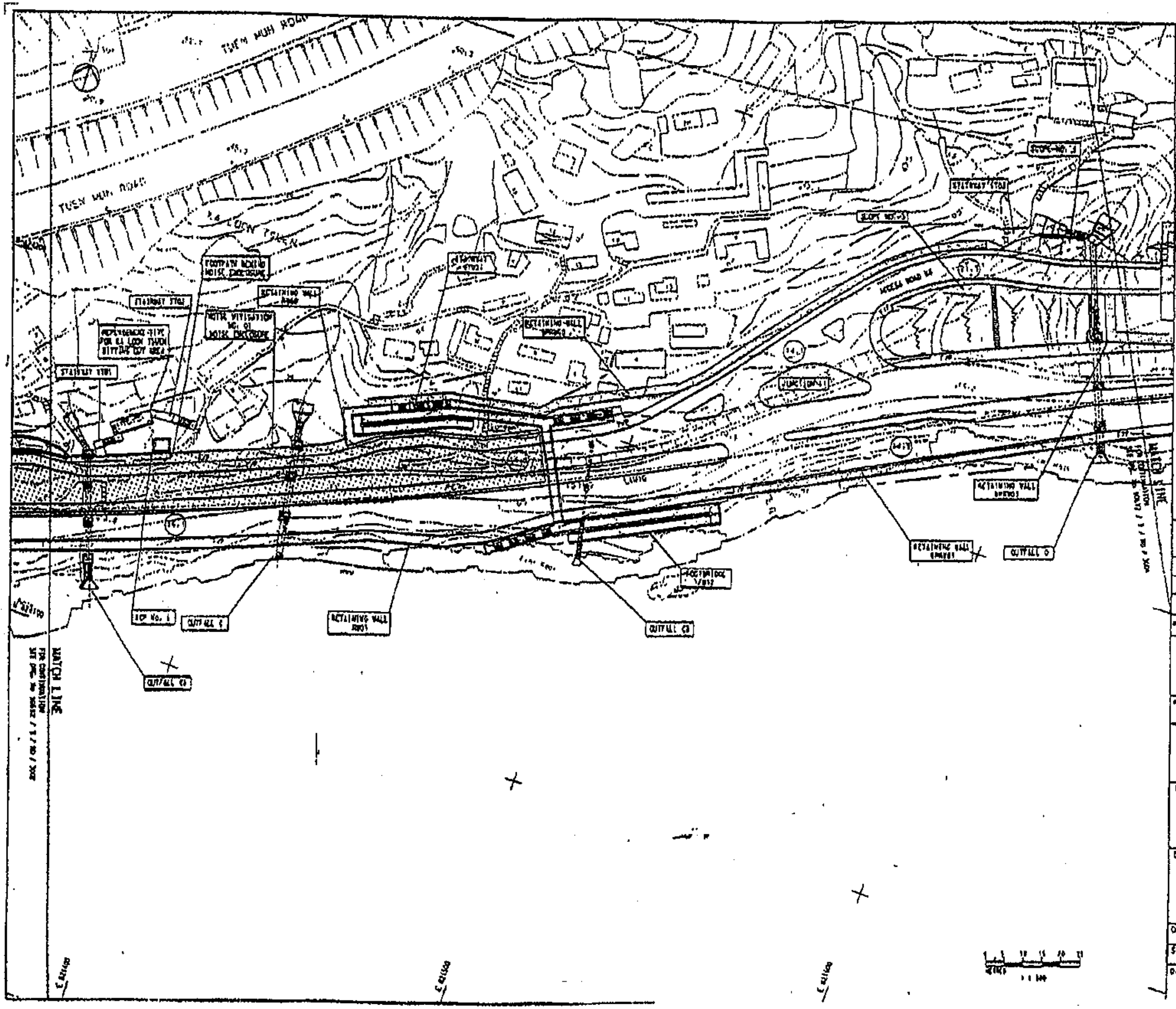

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CONTRACT DRAWING

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A	First Issue	Tender Issue				

Major Works Project Management Office,
Highways Department,
Hong Kong

Project No. 6553TH | Contract No. HY / 99 / 18

Mouchel Halcrow · JV
Sub-Consultants
ACL Asia, KVA Asia Ltd.,
Townland Consultants Ltd., Chesterton Petty Lt

Contract Title
Castle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan

Drawing Title
SCHEME GENERAL ARRANGEMENT CHAINAGE 1270 TO 1570

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WOO	JWTL	PS

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Date Issued: JUNE 2001
Drawing No. 90612/T/RD/3003 | E

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A	First Issue	Tender Issue	SP	OC	PS	JUN 01
Rev	Issue Status	Amendment	By	Chk	App	Date

Major Works Project Management Office,
Highways Department,
Hong Kong

Project No. 6553TH | Contract No. HY / 99 / 18

Mouchel Halcrow . JV
Sub-Consultants
ACL Asia, WYA Asia Ltd.,
Townland Consultants Ltd. Chesterton Petty Ltd.

Contract Title
Castle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan

Drawing Title
SCHEME GENERAL ARRANGEMENT
CHAINAGE 1570 TO 1870

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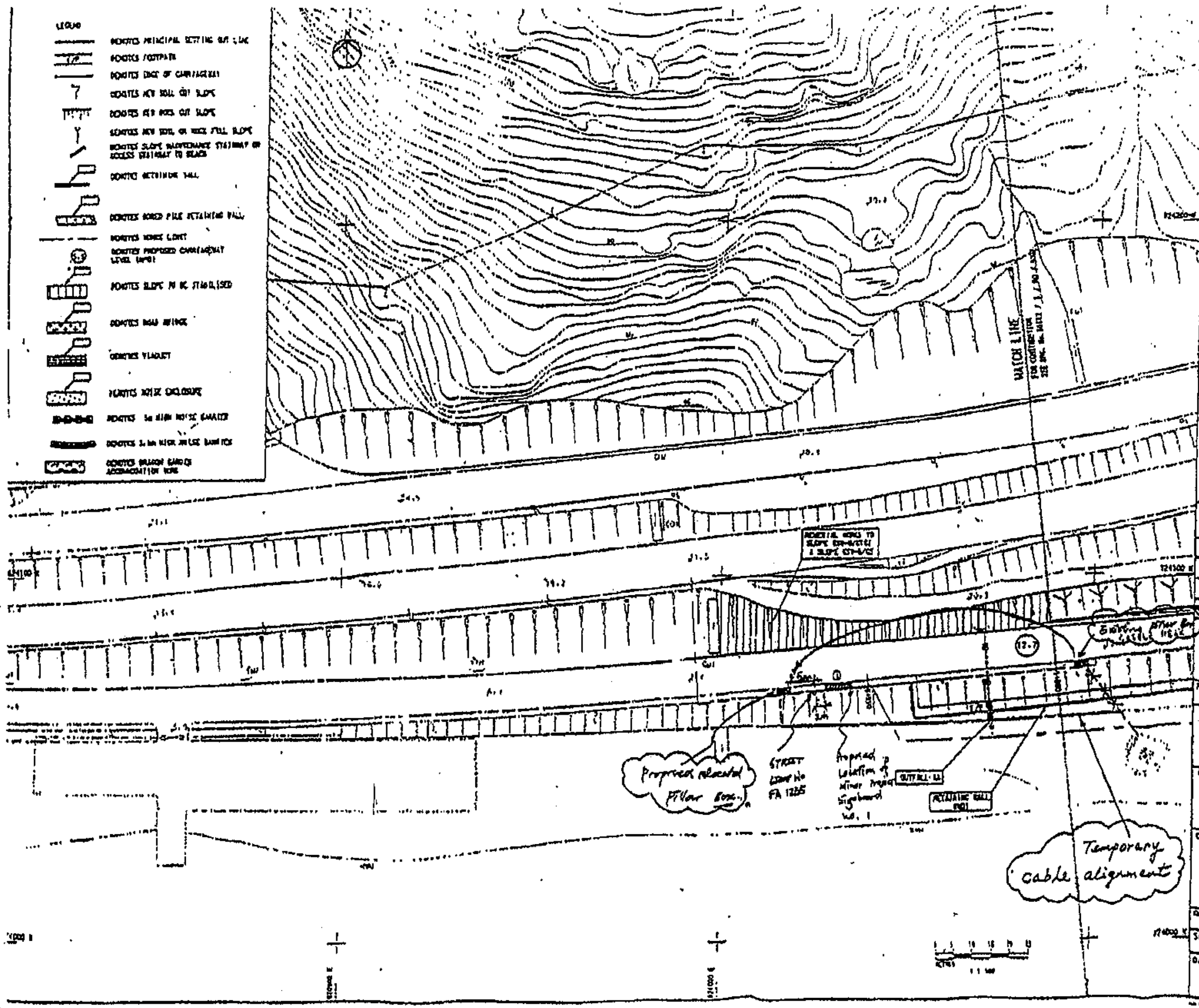

NOTES :
1. ALL CO-ORDINATES ARE IN ACCORDANCE WITH THE 1980 HONG KONG METRIC GRID SYSTEM.
2. ALL LEVELS ARE IN METRES ABOVE THE PRINCIPAL DATUM (mPD) AND RELATE TO THE SETTING OUT LINES.

Legend :

▨ = Minor Signboard
(size : 7.2m (L) x 1.5m (width))

CONTRACT DRAWING

Rev		Amendment	By	Chk	App	Date
B	2nd Issue	Contract Issue				
A	First Issue	Tender Issue	SP	OC	PS	

Major Works Project Management Office, Highways Department, Hong Kong

Project No. 6553TH | Contract No. HY / 99 / 18

Mouchel Halcrow JV
Sub-Consultants
ACL Asia, HYA Asia Ltd.
Townland Consultants Ltd. Chesterton Petty Ltd.

Contract Title
Castle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan

Drawing Title
SCHEME GENERAL ARRANGEMENT CHAINAGE 960 TO 1000

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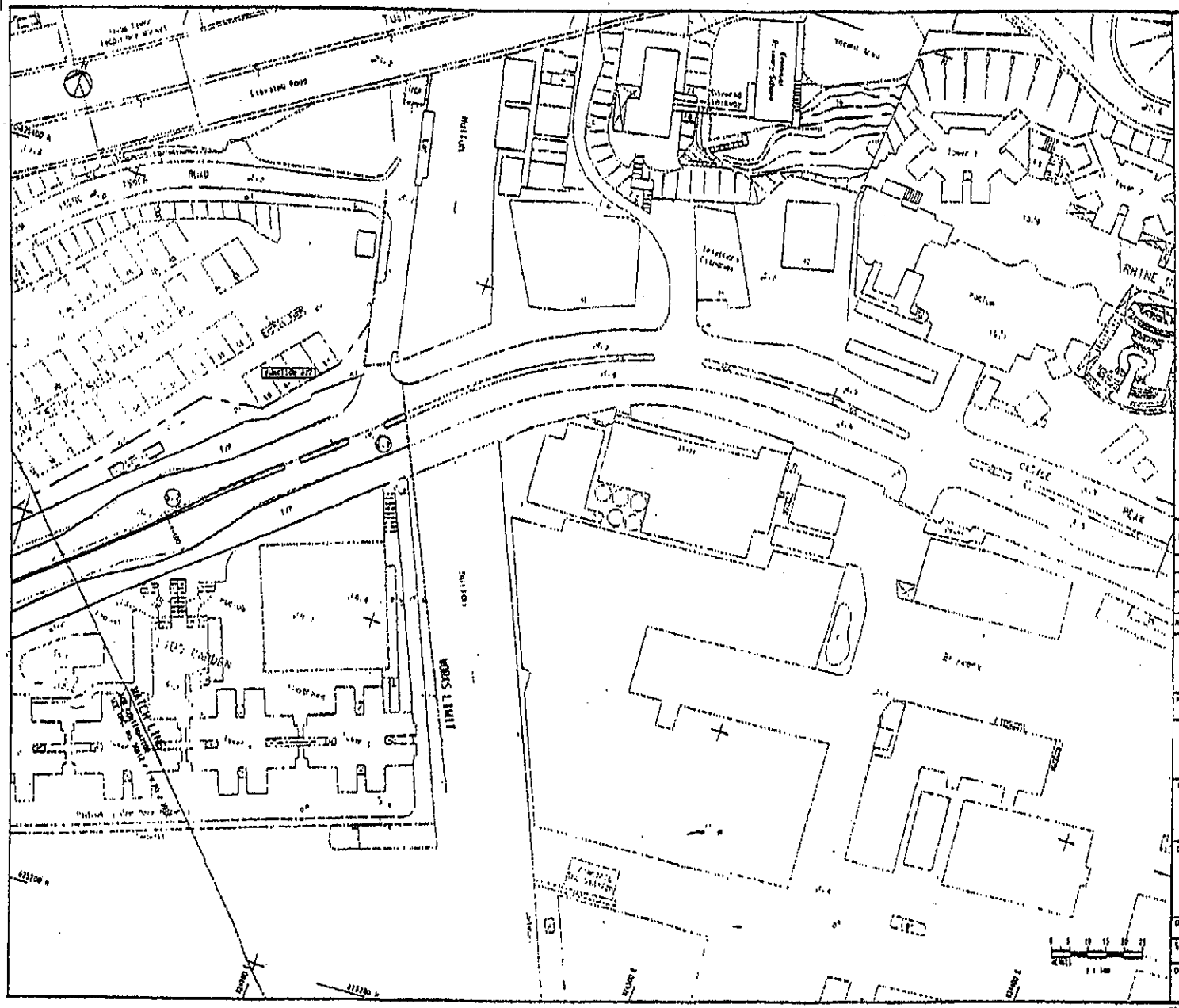

NOTE

1. FOR GENERAL NOTES AND LEGEND REFER TO DRAWING NO. 90612/T/RO/3001.

CONTRACT DRAWING

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A	First Issue	Tender Issue	SP	DC	PS	JUN 01
Rev	Issue Status	Amendment	By	Chk	App.	Date

Major Works Project Management Office,
Highways Department,
Hong Kong

Project No. 8553TH | Contract No. HY/99/18

Mouchel Halcrow - JV
Sub-Consultants
ACL Asia, MVA Asia Ltd.,
Townland Consultants Ltd., Chesterton Petty Ltd.

Contract Title
Castle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan

Drawing Title
SCHEME GENERAL ARRANGEMENT
CHAINAGE 4370 TO 4470

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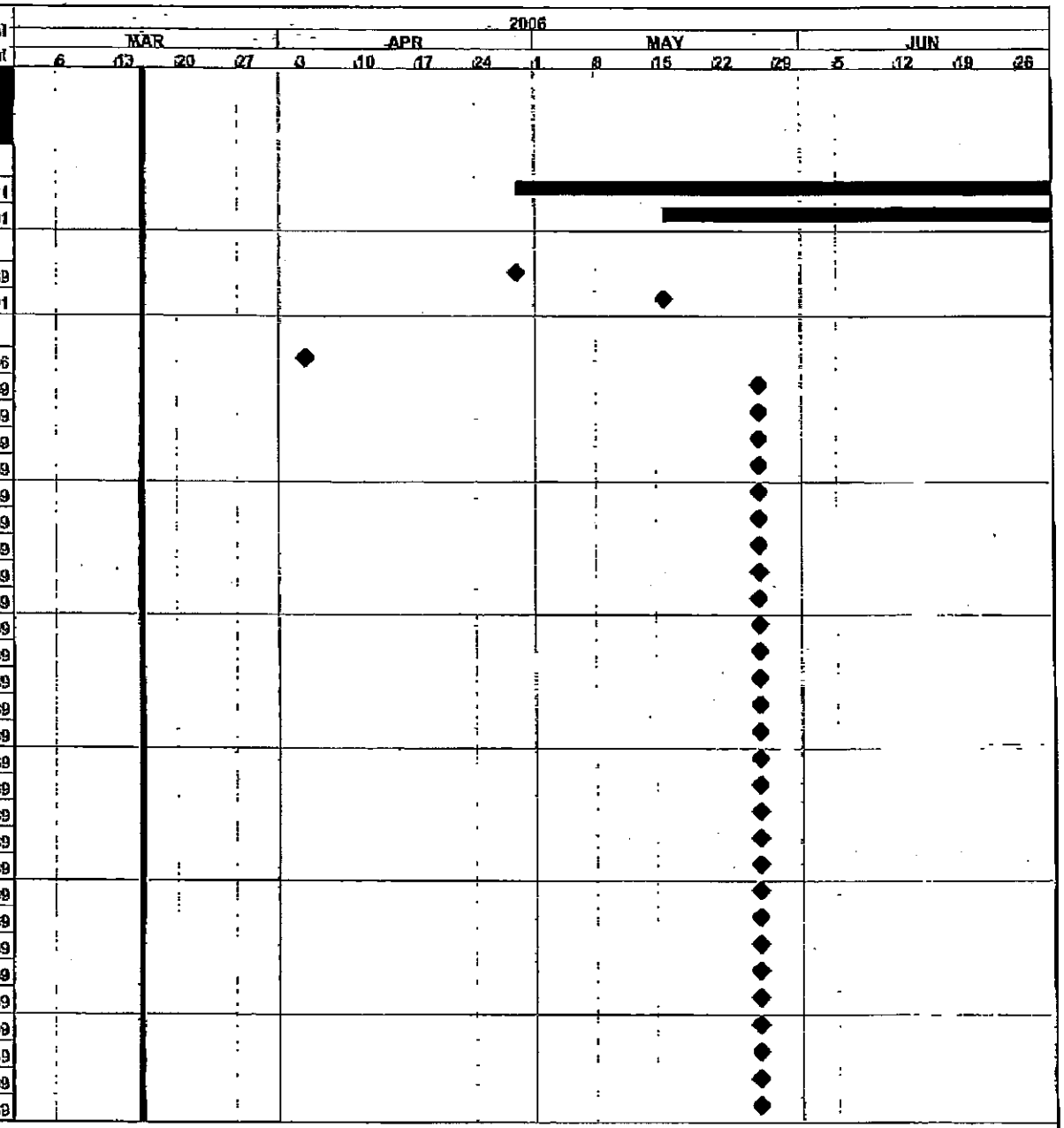
Date Issued JUNE 2001	Drawing No. 90612/T/RO/3013	Rev B

APPENDIX B

Construction programme

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Total Float
PR Improvement bet Sham Tseng & Ka Loon Tsuen					
nportant Dates					
Contract Dates					
D-MPW	Period for Maintenance of the Works	365	29APR06	28APR07	-61
D-PEW	Period for Establishment Works	385	16MAY06	15MAY07	-91
Key Dates					
D-SECI	KDA- All Work Except Sections I,II,III,IV,V,VI,VII	0		28APR06*	-139
D-SECII	KDB - Compl all Landscape Softworks	0		15MAY06*	-91
Portions Handover Dates					
D-VDW10	Handover Portion No. W10 to Employer	0		03APR06*	-86
D-VD0	Handover Portion No. 0 to Employer	0		26MAY06*	-139
D-VD0W2	Handover Portion No. W2 to Employer	0		26MAY06*	-139
D-VD0W8	Handover Portion No. W8 to Employer	0		26MAY06*	-139
D-VD0W9	Handover Portion No. W9 to Employer	0		26MAY06*	-139
D-VDW11	Handover Portion No. W11 to Employer	0		26MAY06*	-139
D-VDW12	Handover Portion No. W12 to Employer	0		26MAY06*	-139
D-VDW13	Handover Portion No. W13 to Employer	0		26MAY06*	-139
D-VDW14	Handover Portion No. W14 to Employer	0		26MAY06*	-139
D-VDW16	Handover Portion No. W16 to Employer	0		26MAY06*	-139
D-VDW17	Handover Portion No. W17 to Employer	0		26MAY06*	-139
D-VDW18	Handover Portion No. W18 to Employer	0		26MAY06*	-139
D-VDW19	Handover Portion No. W19 to Employer	0		26MAY06*	-139
D-VDW20	Handover Portion No. W20 to Employer	0		26MAY06*	-139
D-VDW23	Handover Portion No. W23 to Employer	0		26MAY06*	-139
D-VDW24	Handover Portion No. W24 to Employer	0		26MAY06*	-139
D-VDW25	Handover Portion No. W25 to Employer	0		26MAY06*	-139
D-VDW26	Handover Portion No. W26 to Employer	0		26MAY06*	-139
D-VDW27	Handover Portion No. W27 to Employer	0		26MAY06*	-139
D-VDW29	Handover Portion No. W29 to Employer	0		26MAY06*	-139
D-VDW31	Handover Portion No. W31 to Employer	0		26MAY06*	-139
D-VDW32	Handover Portion No. W32 to Employer	0		26MAY06*	-139
D-VDW33	Handover Portion No. W33 to Employer	0		26MAY06*	-139
D-VDW34	Handover Portion No. W34 to Employer	0		26MAY06*	-139
D-VDW35	Handover Portion No. W35 to Employer	0		26MAY06*	-139
D-VDW37	Handover Portion No. W37 to Employer	0		26MAY06*	-139
D-VDW38	Handover Portion No. W38 to Employer	0		26MAY06*	-139
D-VDW39	Handover Portion No. W39 to Employer	0		26MAY06*	-139
D-VDW40	Handover Portion No. W40 to Employer	0		26MAY06*	-139



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Data 15MAY07
Date 15MAR06
Date 03APR05 14:09

Progress Bar
Critical Activity

Maeda Corporation

HY/99/18 - Castle Peak Road Improvement

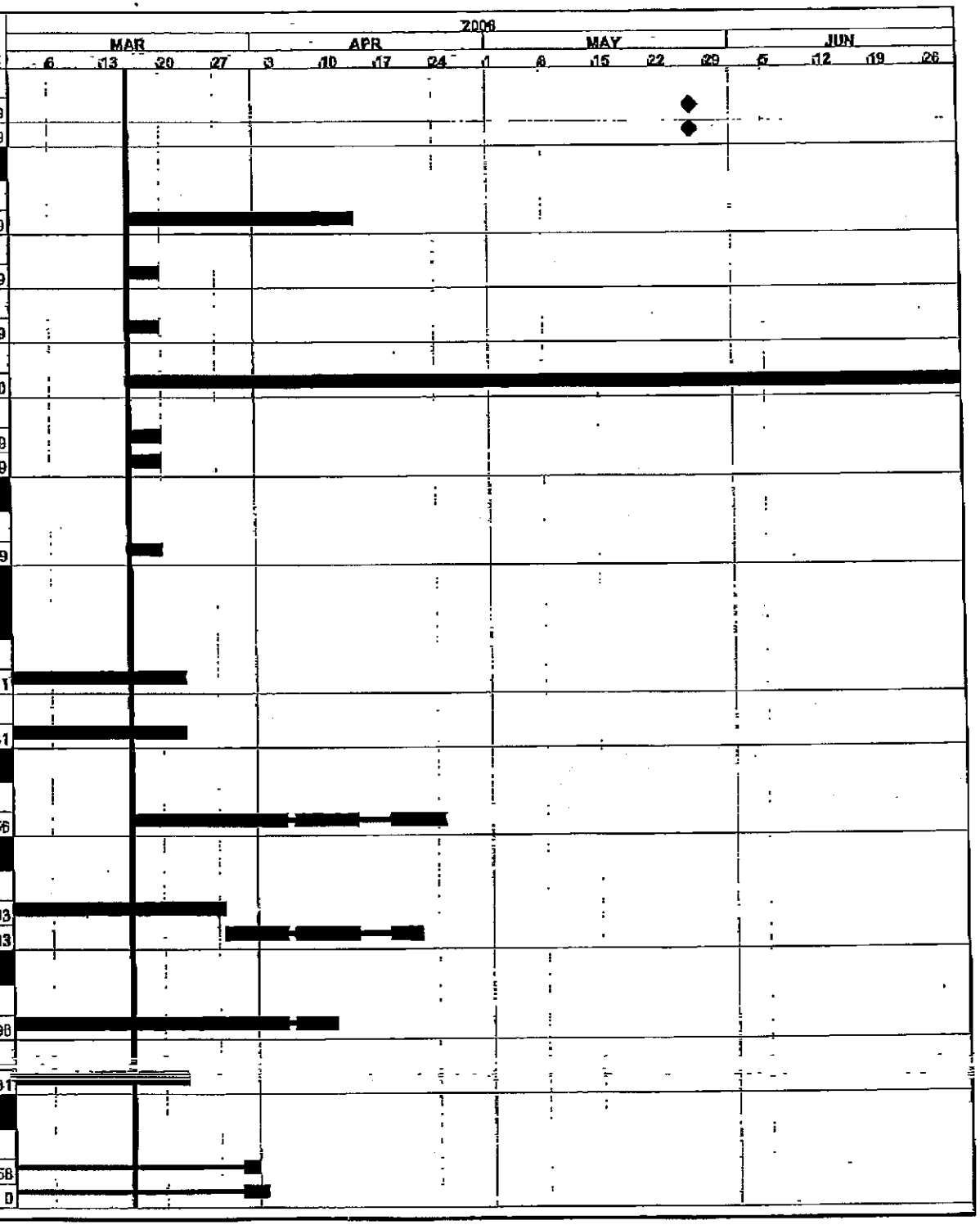
3 - Month Rolling Progamme

MAEDA

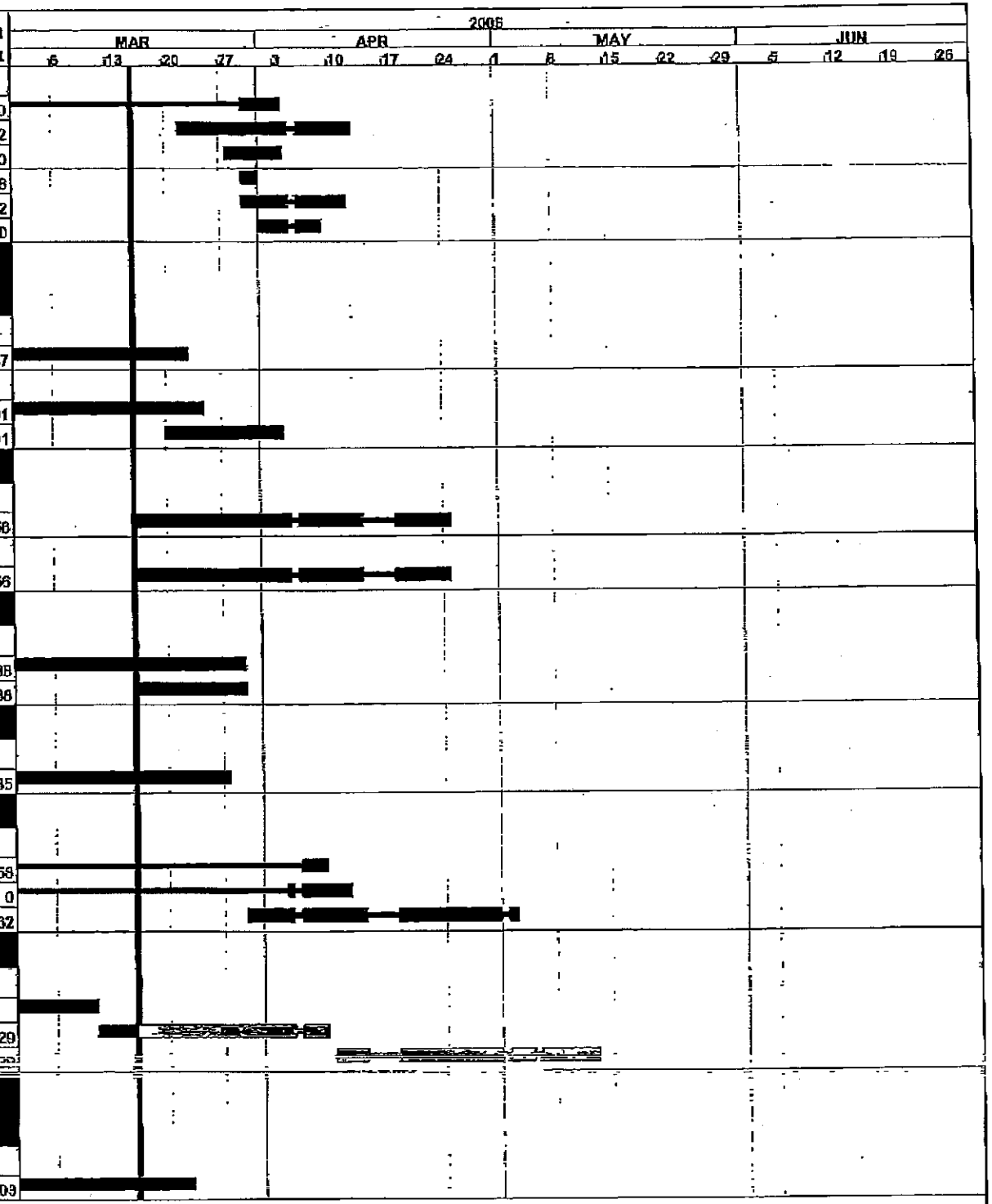
Date	Revision	Checked	Approved
30AUG	revision 01		
13SEP	revision 02		
22MAR	revision 03		
28SEP	revision 3A		
03MAR	revision 3B		
05MAR	revision 3C		

3.APR.2006 17:45 MAEDA CORPORATION CASTLE PEAK RD NO.578 P.1/6

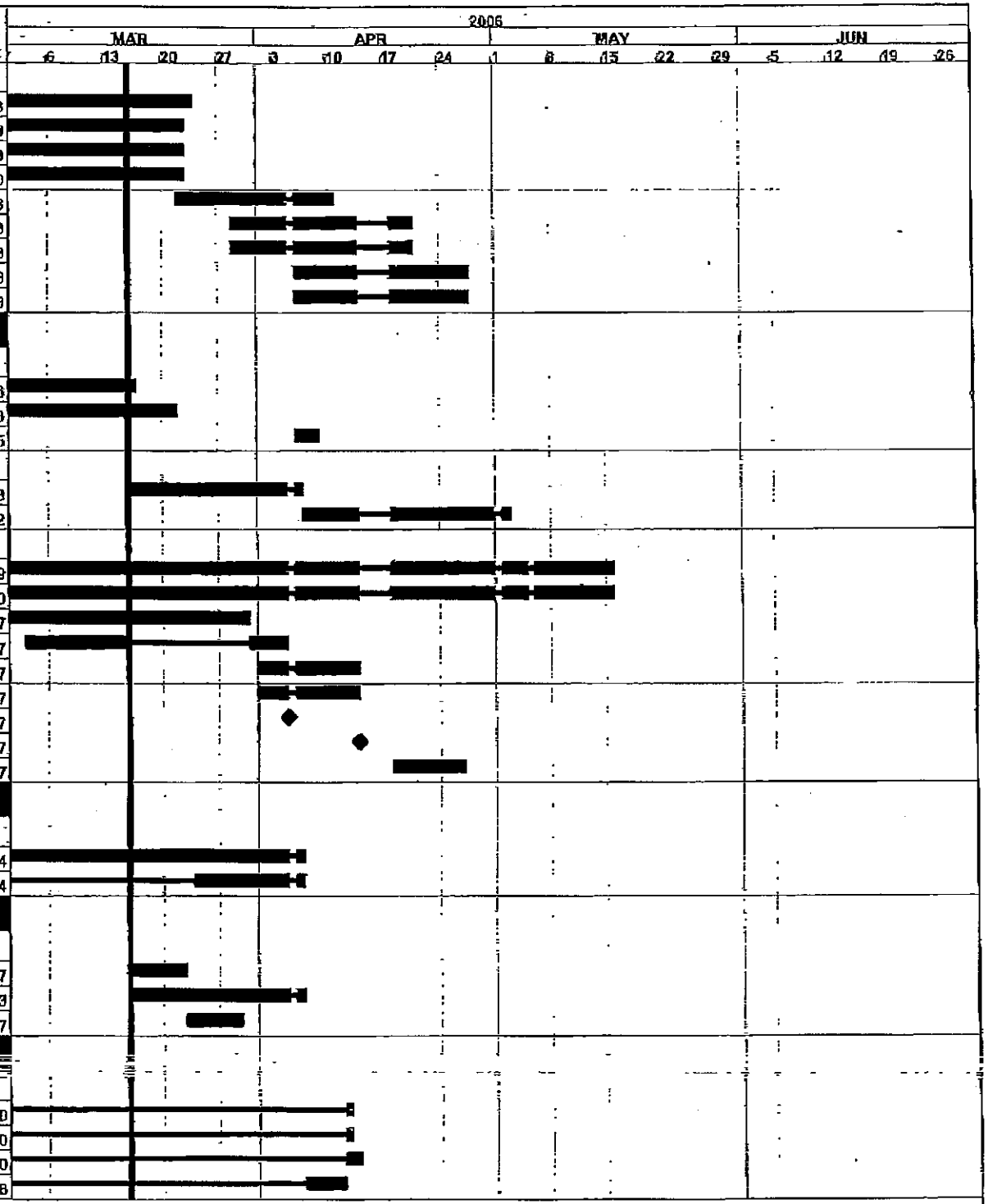
Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Total Float
Portions Handover Dates					
00-VOW41	Handover Portion No. W41 to Employer	0		26MAY06*	-139
00-VOW43	Handover Portion No. W43 to Employer	0		26MAY06*	-139
1. Preliminaries					
Planning & Programming					
01-0108	Maintain Programming & Submit Progress Reports	1,236	24NOV01A	13APR06	-59
Waste Management					
01-1166	Implement & Monitor WMP	1,171	21DEC01A	19MAR06	-99
Maintenance of Traffic Flow					
01-1153	Maintain Traffic Flow	1,171	24NOV01A	19MAR06	-99
Environmental Monitoring & Audit					
01-11702	Implement & Maintin Impact Monitor & Audit	1,601	08MAR02A	13FEB07	0
Interfacing and Coordination					
01-1173	Coordination/Integration with Interfacing Works	1,171	01DEC01A	19MAR06	-99
01-1174	Provide Reasonable Access to Other Contractors	1,171	01DEC01A	19MAR06	-99
16. Site Safety					
Safety Management System					
16-1512	Implement & Maintain Safety Management System	1,151	14DEC01A	19MAR06	-99
CPR from Chainage 0+900 to Chainage 1+870					
3. Roadworks					
Pipe Works (Local Supply Watermains)					
03-31512	Test/Connect DN100; CH1280-1500	18	17OCT05A	22MAR06	-81
Road Works					
03-32180	Accommodation Works at Bayside Villas; VO442	200	10JAN05A	22MAR06	-81
7. Noise Structures					
Noise Mitigation No. 01					
07-7116	Finishing Works (Flashing/Sealant/downpipes)	30	16MAR06	24APR06	-56
12. Entrusted Watermains					
Entrusted Water Mains					
12-12053	Pressure test & Cleaning for DN1000; CH1205-1770	18	13FEB06A	27MAR06	-103
12-12054	Final testing for DN1000; CH1000-1770	18	28MAR06	21APR06	-103
13. Reprovisioning of LCSD & FEHD Facilities					
FEHD Facilities					
13-1340	Reprovision of Sitting Out Area at Ka Loon Tsuen	75	13SEP03A	10APR06	-98
Stairways					
13-1314	Construct Stairway ST04	18	01MAR06A	22MAR06	-81
14. Landscape Works					
Landscape Softworks					
14-141120	L'scape Works at Slopes 3, 4 & 5	6	16FEB06A	31MAR06	-56
14-14119	L'scape Works bin Outfall CA (N) and C (N)	6	16FEB06A	01APR06	0



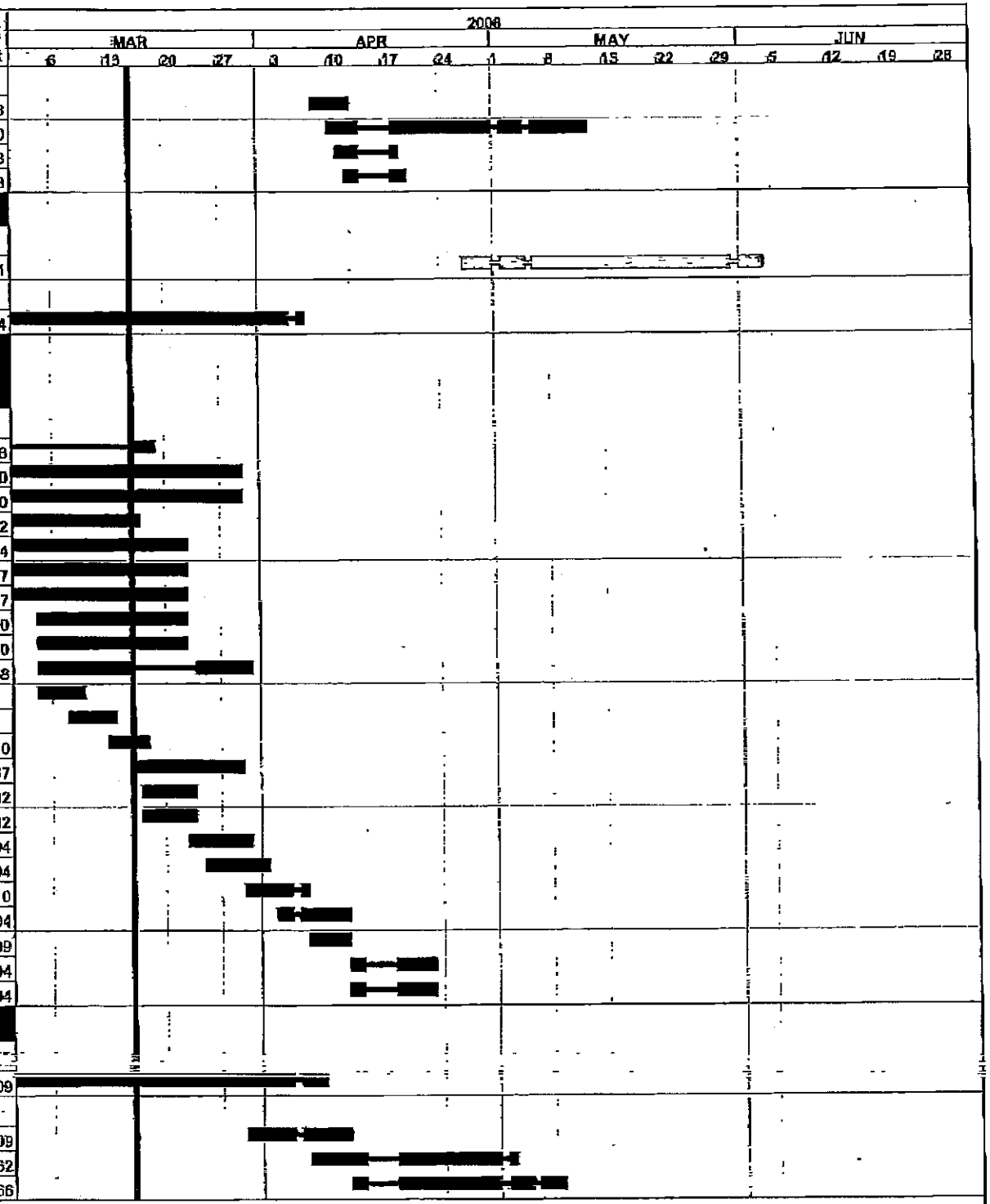
Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Total Float
andscape Softworks					
9-14121	L'scape Works at BPRW30	6	16FEB06A	03APR06	0
9-14116	L'scape at planter wall/footpath CH1000-1205	18	22MAR06*	12APR06	-62
9-14-122	L'scape Works at out side RW01	6	28MAR06	03APR06	0
9-141109	L'scape Works at RERW60	2	30MAR06	31MAR06	-58
9-14119	L'scape at cent. barrier/FB CH1205-1650	10	30MAR06	11APR06	-62
9-14112	L'scape Works at BPRW60	6	01APR06	08APR06	0
PR from Chainage 2+210 to Chainage 3+010					
Roadworks					
ipe Works (Local Supply Watermains)					
9-32364	Test & Connect Pipe Works at Road R9; VO485	18	28DEC05A	22MAR06	-87
oad Works					
9-31602	Construct Type N road pavement for R9; VO182	20	21DEC05A	24MAR06	-91
9-31604	Footpath/Rd. Finish/Rd. lighting; Access Rd R9	13	20MAR06	03APR06	-91
Noise Structures					
loise Mitigation No. 02					
7-7214	Finishing Works (Flashing/Sealant/downpipes)	30	16MAR06	24APR06	-56
loise Mitigation No. 03					
7-7314	Finishing Works (Flashing/Sealant/downpipes)	30	16MAR06	24APR06	-56
Seawalls and Marine Works					
-Shaped Walls					
9-91331	Reprovision of Pavilion at Sea Wall B	825*	19JUN03A	29MAR06	-36
9-913332	Finishing and Furnitures for Pavilion	12	16MAR06	29MAR06	-36
2. Entrusted Watermains					
ntrusted Water Mains					
2-12173	Pressure test & Cleaning for DN1000; CH2300-2810	18	14FEB06A	27MAR06	-85
4. Landscape Works					
andscape Softworks					
4-14110	L'scape Works at Slopes 6SW-D/C186/1/78	6	07SEP05A	08APR06	-58
4-14109	L'scape Works behind NM02 & NM03	6	27FEB06A	11APR06	0
4-14111	L'scape at footpath/cent. barrier/FB CH2300-3010	24	30MAR06	02MAY06	-62
8. Variation Works					
dditional Staircase at South Ramp of FB01					
O-511-08	Construct stair and column	18	21FEB06A	10MAR06A	
O-511-10	Steel works and roof cladding	24	11MAR06A	08APR06	229
O-511-12	[illegible]	24	[illegible]	[illegible]	229
PR from Chainage 3+010 to Chainage 3+730					
. Preliminaries					
roposed Utility Works					
9-12433	Proposed CATV on E/B C.way CH2910-3250	9	13DEC05A	22MAR06	-109



Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Total Float
Proposed Utility Works					
1-12434	Proposed HT on E/B C.way CH2910-3250	9	14DEC05A	23MAR06	-103
1-12435	Proposed HKT on E/B C.way CH2910-3250	9	22DEC05A	22MAR06	-103
1-12437	Proposed HKBN on E/B C.way CH2910-3250	9	22DEC05A	22MAR06	-103
1-12436	Proposed CLP on E/B C.way CH2910-3250	9	09JAN06A	22MAR06	0
1-12355	Proposed CLP on E/B C.way CH3250-3460	16	22MAR06	10APR06	-108
1-12352	Proposed HKT on E/B C.way CH3250-3460	16	29MAR06	20APR06	-108
1-12353	Proposed HKBN on E/B C.way CH3250-3460	16	29MAR06	20APR06	-108
1-12351	Proposed CATV on E/B C.way CH3250-3460	16	06APR06	27APR06	-108
1-12354	Proposed HT on E/B C.way CH3250-3460	16	06APR06	27APR06	-108
. Roadworks					
Drainage Works					
3-33232	Drainage Works on E/B CWay bet CH3250-3460	50	04OCT05A	16MAR06	-106
3-332312	Lay gullies and asso. pipes at E/B CH3130-3450	15	03JAN06A	21MAR06	-109
3-33233	Gullies gHB2.2A & gHB2.2B at W/B CH3270	3	06APR06	08APR06	-105
Pipe Works (Local Supply Watermains)					
3-33304	DN600 Pipe Testing for CH3400-3720	18	16MAR06	06APR06	-93
3-33303	DN600 Pipe Testing for CH3040-3400	19	07APR06	02MAY06	-62
Road Works					
3-3340	Dragon Garden Accommodation	1,209*	12APR02A	15MAY06	-109
3-334008	Finishing & Reinstatement works at Dragon Gard.	100	26APR04A	15MAY06	0
3-33171	Formation/sub-base, kerbs; E/B CH3100-3460	40*	13FEB06A	30MAR06	-107
3-33173	Construct rd pave & f/p; E/B CH3100-3460	12	03MAR06A	04APR06	-107
3-33174	Rd Finishes/Marking for 1st half of CH3100-3460	10	01APR06	13APR06	-107
3-33184	Rd Finishes/Marking for 1st half of CH3460-3670	10	01APR06	13APR06	-107
3-331732	1st TTA for Road Finishing Works at CH3100-3670	0		04APR06	-107
3-33176	2nd TTA for Road Finishing Works at CH3100-3670	0		13APR06	-107
3-33144	Rd Finishing/Marking for 2nd half of CH3100-3670	8	16APR06	26APR06	-107
0. Geotechnical & Slope Works					
Existing Slope Works					
0-1092	Remedial Works to Slope No. FR41	801*	26JUL03A	06APR06	-54
0-10928	Fill behind RW104 & Finishing Work	16	07JAN04A	06APR06	-54
2. Entrusted Watermains					
Entrusted Water Mains					
2-123023	NWT/CATV/HT/HKT/HKBN/CLP ducts at S.C.V.4 west	6	16MAR06	22MAR06	-87
2-12303	Pressure test & Cleaning for DN1000; CH3265-3920	18	16MAR06	06APR06	-93
2-123026	NWT/CATV/HT/HKT/HKBN/CLP ducts at S.C.V.4 east	6	23MAR06	29MAR06	-87
[illegible]					
Landscape Softworks					
4-141014	L'scape Works at Slope 9	4	02AUG05A	12APR06	0
4-141016	L'scape Works at Slope 11	4	04AUG05A	12APR06	0
4-141015	L'scape Works at Slope 10	4	16AUG05A	13APR06	0
4-141012	L'scape Works at Slope 8	8	08SEP05A	11APR06	-58



Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Total Float
Landscape Softworks					
4-141017	L'scape Works at RERW14	4	08APR06	12APR06	-58
4-14101	L'scape at Footpath/cent. barrier/FB CH3010-3730	24	10APR06	12MAY06	-70
4-141018	L'scape Works at Slope 6SE-C/C25	4	11APR06	18APR06	-58
4-141013	L'scape Works at Slope 6SE-C/FR41	4	12APR06	19APR06	-58
8. Variation Works					
Additional Drainage & revised roadworks at A10					
'O-50202	Const. add. drainage & barriers at Junction A10	30	27APR06	03JUN06	211
Additional Side Slope at East of RW104					
'O-524	Const. add. Slope at East of RW104	30	17FEB06A	06APR06	-54
PR from Chainage 3+730 to Chainage 4+470					
. Preliminaries					
Proposed Utility Works					
1-12497	Proposed CLP on E/B C.way CH3900-3980	6	06SEP05A	16MAR06	-88
11-124732	Proposed CATV on E/B C.way CH3980-4330	18	28NOV05A	29MAR06	0
11-124742	Proposed HT on E/B C.way CH3980-4330	18	28NOV05A	29MAR06	0
1-124442	Proposed CLP on W/B C.way CH3850-3950	6	28DEC05A	16MAR06	-82
1-12485	Proposed CLP on W/B C.way CH4300-4470	10	07JAN06A	22MAR06	-104
1-12473	Proposed CATV on E/B C.way CH3670-3900	12	22FEB06A	22MAR06	-87
1-12474	Proposed HT on E/B C.way CH3670-3900	12	22FEB06A	22MAR06	-87
1-12491	Proposed CATV on E/B C.way CH3900-3980	6	04MAR06A	22MAR06	0
1-12492	Proposed HT on E/B C.way CH3900-3980	6	04MAR06A	22MAR06	0
1-12496	Proposed HKT on E/B C.way CH3900-3980	6	04MAR06A	30MAR06	-88
1-124962	HKT Cross Rd. Ducts at E/B CH3950	4	04MAR06A	09MAR06A	
1-12493	Proposed NWT on E/B C.way CH3980	6	06MAR06A	13MAR06A	
1-124632	CLP Cross Rd. Ducts at E/B CH3970	4	13MAR06A	17MAR06	0
1-124761	Proposed HKBN on E/B C.way CH3670-3900	12	16MAR06	29MAR06	-87
1-124432	Proposed HKT on W/B C.way CH3850-3950	6	17MAR06	23MAR06	-82
1-124434	Proposed HKBN on W/B C.way CH3850-3950	6	17MAR06	23MAR06	-82
1-12484	Proposed HKT on W/B C.way CH4300-4383	7	23MAR06	30MAR06	-104
1-12486	Proposed HKBN on W/B C.way CH4300-4470	7	25MAR06	01APR06	-104
1-124722	Proposed NWT on E/B C.way CH4055-4130	6	30MAR06	06APR06	0
1-12485	Proposed HT on W/B C.way CH4340-4470	7	03APR06	11APR06	-104
1-124823	HKT Cross Rd. Ducts at E/B CH4133	4	07APR06	11APR06	-109
1-12484	Proposed CATV on W/B C.way CH4340-4470	7	12APR06	22APR06	-104
1-12483	Proposed NWT on W/B C.way CH4550	7	12APR06	22APR06	-104
. Roadworks					
[illegible]	[illegible]				
3-3444	Drainage Works at E/B C'way CH4050-4160	40	08NOV05A	06APR06	-109
Pipe Works (Local Supply Watermains)					
3-3432	Pipe Works at E/B CH4055-4135	10	30MAR06	11APR06	-109
3-34341	DN600 Pipe Testing for CH3720-4370	18	07APR06	02MAY06	-62
3-34322	Test & Connect DN100 pipe; CH4055-4135	18	12APR06	06MAY06	-66



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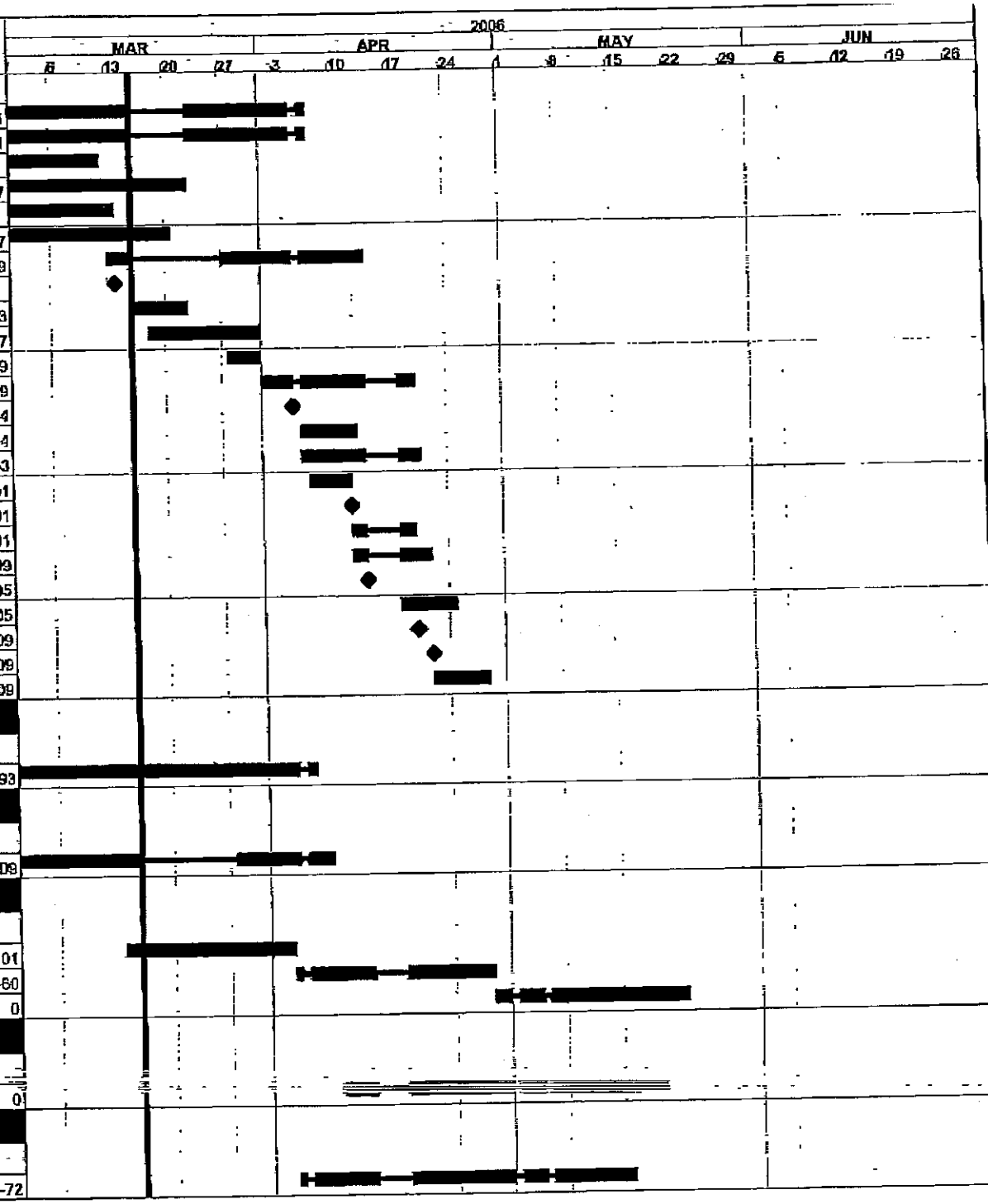
Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Total Float
Road Works					
03-34546	Stage 5 TTA (works at central divider)	106*	26NOV05A	06APR06	-101
03-345462	Const. central divider/provision of lighting	18	26NOV05A	06APR06	-101
03-34542	Construct rd pave & f/p; E/B CH3670-3850	20	30DEC05A	11MAR06A	
03-34034	Construct rd pave & f/p; W/B CH3850-3950	10	18JAN06A	22MAR06	-97
03-345124	Construct rd pave & f/p; W/B CH4200-4360	10	06FEB06A	13MAR06A	
03-3466	Rd. formation/sub-base, kerbs; E/B CH3900-3980	12	01MAR06A	20MAR06	-97
03-3456	Formation/sub-base, kerbs; E/B CH4060-4170	18	13MAR06A	13APR06	-109
03-345126	Divert Traffic to W/B Perma C'way CH4200-4360	0		13MAR06A	
03-34543	Rd finishes, marking & lighting; E/B CH3670-3850	6	16MAR06	22MAR06	-93
03-3467	Construct rd pave & f/p; E/B CH3900-3980	12	18MAR06	31MAR06	-97
03-34558	Rd finishes, marking & lighting; R10	4	28MAR06	31MAR06	-89
03-345422	Construct rd pave; E/B CH3920-4170	12	01APR06	19APR06	-109
03-3411	1st TTA for Road Finishing Works at CH3670-3920	0		04APR06	-104
03-34504	Rd Finishes/Marking for 1st half of CH3670-3920	6	06APR06	12APR06	-104
03-34671	Construct a Round-about at CH3900	10	06APR06	20APR06	-53
03-34545	Rd Finishes/Marking for C'way CH4270-4470	4	07APR06	11APR06	-101
03-345452	TTA for Rem. Rd Finishing Works at CH4270-4470	0		11APR06	-101
03-34515	Rd Finishes/Marking for Rem. C'way CH4270-4470	4	12APR06	19APR06	-101
03-34544	Rd Finishing/Marking for 1st half of CH3920-4330	6	12APR06	21APR06	-109
03-345042	2nd TTA for Road Finishing Works at CH3670-3920	0		13APR06	-105
03-345043	Rd Finishes/Marking for 2nd half of CH3670-3920	6	18APR06	24APR06	-105
03-345424	1st TTA for Road Finishing Works at CH3920-4270	0		19APR06	-109
03-345442	2nd TTA for Road Finishing Works at CH3900-4330	0		21APR06	-109
03-34514	Rd Finishing/Marking for 2nd hal of CH3950-4330	6	22APR06	28APR06	-109
5. Footbridges					
Footbridge FB03					
05-5470	E&M and Finishing Works for Footbridge FB03	30	13FEB06A	06APR06	-93
11. Entrusted Sewerage Works					
Entrusted Sewers/Drains					
11-1127	Sewer Works at E/B CH4050-4180	40	23NOV05A	06APR06	-109
12. Entrusted Watermains					
Entrusted Water Mains					
12-1224	DN1000FW/Associated Wks at CH4320	12	14MAR06A	03APR06	-101
12-12242	Pressure test & Cleaning for DN1000; CH3920-4367	18	04APR06	28APR06	-60
12-12244	Final testing for DN1000; CH2300-4367	18	29APR06	22MAY06	0
13. Reprovisioning of LCSD & FEHD Facilities					
13-1322	Construct RCP F	30	10APR06	19MAY06	0
14. Landscape Works					
Landscape Softworks					
14-14102	L'scape at Footpath/cent. barrier/FB CH3730-4470	30	04APR06	15MAY06	-72



APPENDIX C

Monitoring schedule for May and June 2006

Environmental Monitoring and Audit Schedule - May 2006

Note 1: **L30** denotes $L_{eq(30\ min)}$ monitoring
Note 2: **TSP** denotes Total Suspended Particulate monitoring
Note 3: **MW** denotes Marine Water Quality monitoring
Note 4: **L&V** denotes Landscape and Visual audit and monitoring

May-2006

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3 24-hour TSP	4 Site Inpsection L30 3 x 1-hour TSP	5	6
7	8	9 24-hour TSP	10 L30 3 x 1-hour TSP	11 Site Inpsection + L&V	12	13
14	15 24-hour TSP	16 L30 3 x 1-hour TSP	17	18 Site Inpsection	19	20 24-hour TSP
21	22	23 L30 3 x 1-hour TSP	24	25 Site Inpsection + L&V	26 24-hour TSP	27
28	29 L30 3 x 1-hour TSP	30	31			

Tentative Environmental Monitoring and Audit Schedule - June 2006

Note 1: **L30** denotes $L_{eq(30\ min)}$ monitoring
Note 2: **TSP** denotes Total Suspended Particulate monitoring
Note 3: **MW** denotes Marine Water Quality monitoring
Note 4: **L&V** denotes Landscape and Visual audit and monitoring

Jun-2006

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 Site Inpsection 24-hour TSP	2 3 x 1-hour TSP	3
4	5	6	7 24-hour TSP	8 Site Inpsection + L&V L30 3 x 1-hour TSP	9	10
11	12	13 24-hour TSP	14 L30 3 x 1-hour TSP	15 Site Inpsection	16	17
18	19 24-hour TSP	20 L30 3 x 1-hour TSP	21	22 Site Inpsection + L&V	23	24 24-hour TSP
25	26 L30 3 x 1-hour TSP	27	28	29 Site Inpsection	30 24-hour TSP	

APPENDIX D

Calibration certificates of 24-hour TSP monitoring equipment

TISCH ENVIROMENTAL, INC.
145 SOUTH MIAMI AVE.
VILLAGE OF CLEVES, OH 45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Feb 10, 2005 Rootsmeter S/N 9833620 Ta (K) - 292
Operator Tisch Orifice I.D. - 1378 Pa (mm) - 754.38

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4010	3.2	2.00
2	NA	NA	1.00	0.9870	6.3	4.00
3	NA	NA	1.00	0.8840	7.8	5.00
4	NA	NA	1.00	0.8420	8.7	5.50
5	NA	NA	1.00	0.6960	12.5	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0087	0.7200	1.4234		0.9957	0.7107	0.8799
1.0045	1.0178	2.0130		0.9917	1.0047	1.2443
1.0024	1.1340	2.2506		0.9896	1.1194	1.3912
1.0013	1.1892	2.3604		0.9884	1.1739	1.4591
0.9961	1.4313	2.8468		0.9834	1.4129	1.7597
Qstd slope (m) =		2.00216		Qa slope (m) =		1.25372
intercept (b) =		-0.02053		intercept (b) =		-0.01269
coefficient (r) =		0.99997		coefficient (r) =		0.99997

y axis = SQRT[H2O(Pa/760)(298/Ta)] y axis = SQRT[H2O(Ta/Pa)]

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

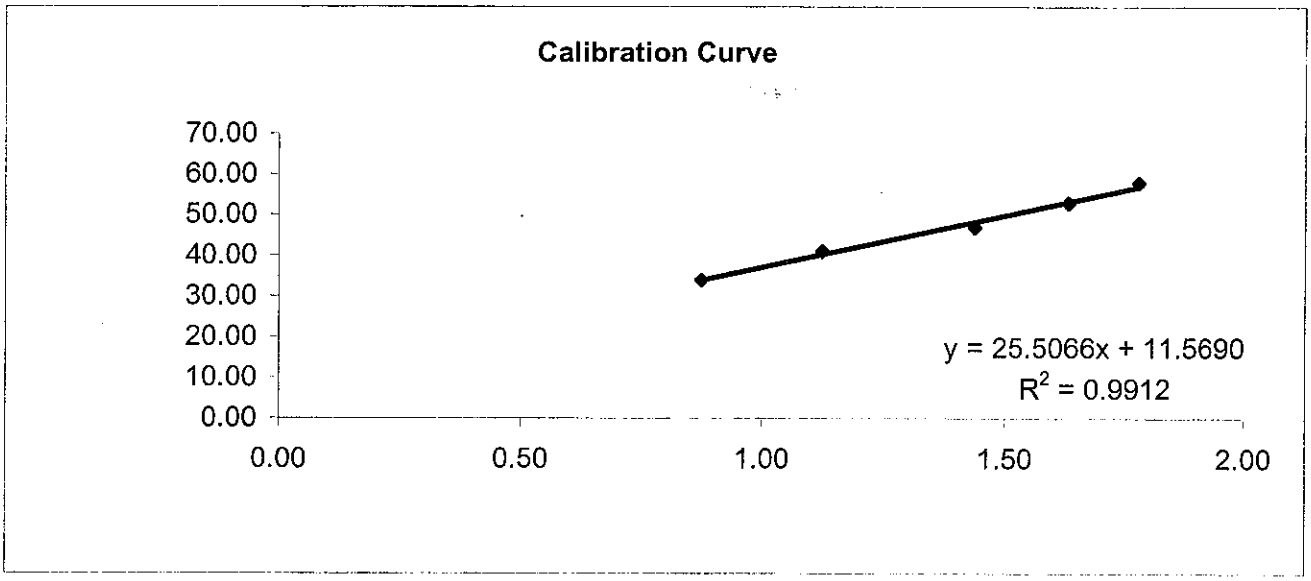
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	10-Apr-06	**Barometric pressure**	757 mm Hg
Calibration due date	9-Jun-06	**Tempature (°C)**	25 °C
Sampler location	WA3 - Hong Kong Garden (Regent Heights)	**Tempature (K)**	298 K
Sampler model	TE-5170	P_{std}	760 mm Hg
Sampler serial number	0505	T_{std}	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m_s	2.00216
Intercept of the standard curve, b_s	-0.02053

Resistance Plate No.	Manometer Reading (inch H_2O)	Flow Recorder Reading (CFM)	Calculated Q_{std} (m^3/min)	Continuous Flow Recorder Reading IC (CFM)
5	3.00	34.00	0.87	33.93
7	5.00	41.00	1.12	40.92
10	8.20	47.00	1.44	46.91
13	10.60	53.00	1.63	52.90
18	12.60	58.00	1.78	57.89



Linear Regression

Sampler slope (m) :	**25.5066**
Sampler intercept (b) :	**11.5690**
Correlation coefficient (R^2) :	**0.9912**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam Date: 10-4-06

Checked by: [signature] Date: 11-4-06

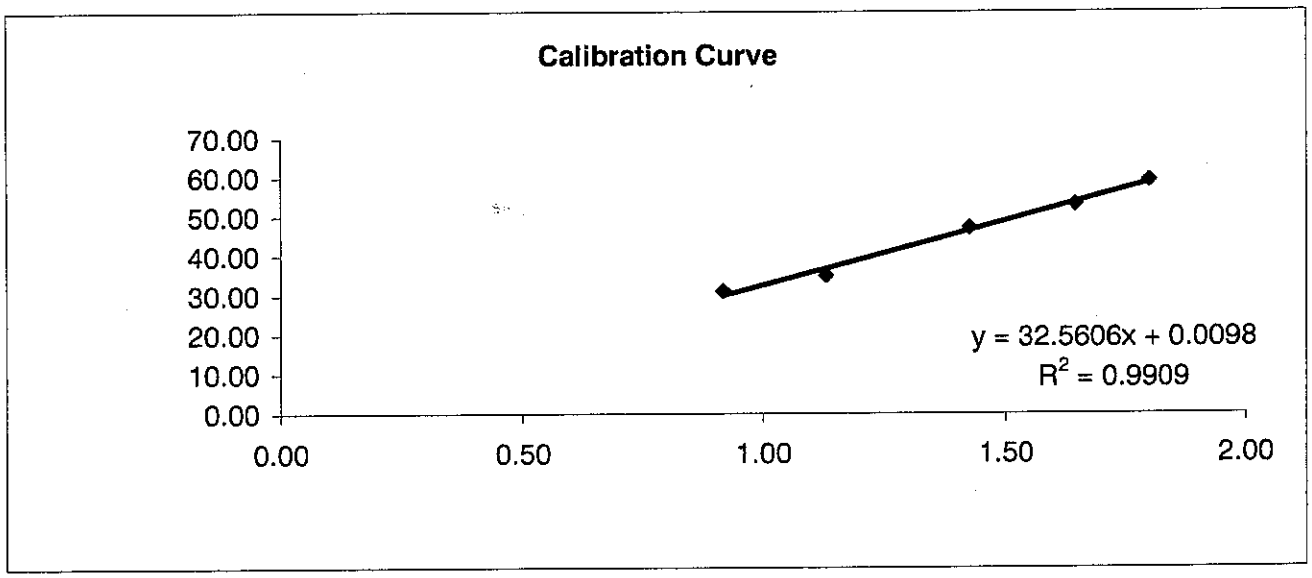
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	28-Apr-06	**Barometric pressure**	758 mm Hg
Calibration due date	27-Jun-06	**Tempature (°C)**	23 °C
Sampler location	WA4 - Hong Kong Garden (Between Blk1 & Blk2)	**Tempature (K)**	296 K
Sampler model	TE-5170	**P_{std}**	760 mm Hg
Sampler serial number	0512	**T_{std}**	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m_s	2.00216
Intercept of the standard curve, b_s	-0.02053

Resistance Plate No.	Manometer Reading (inch H_2O)	Flow Recorder Reading (CFM)	Calculated Q_{std} (m^3/min)	Continuous Flow Recorder Reading IC (CFM)
5	3.30	31.00	0.92	31.06
7	5.00	35.00	1.13	35.07
10	8.00	47.00	1.43	47.10
13	10.70	53.00	1.65	53.11
18	12.80	59.00	1.80	59.12



Linear Regression

Sampler slope (m) :	**32.5606**
Sampler intercept (b) :	**0.0098**
Correlation coefficient (R^2) :	**0.9909**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam Date: 28-4-06

Checked by: Kei Date: 28-4-06

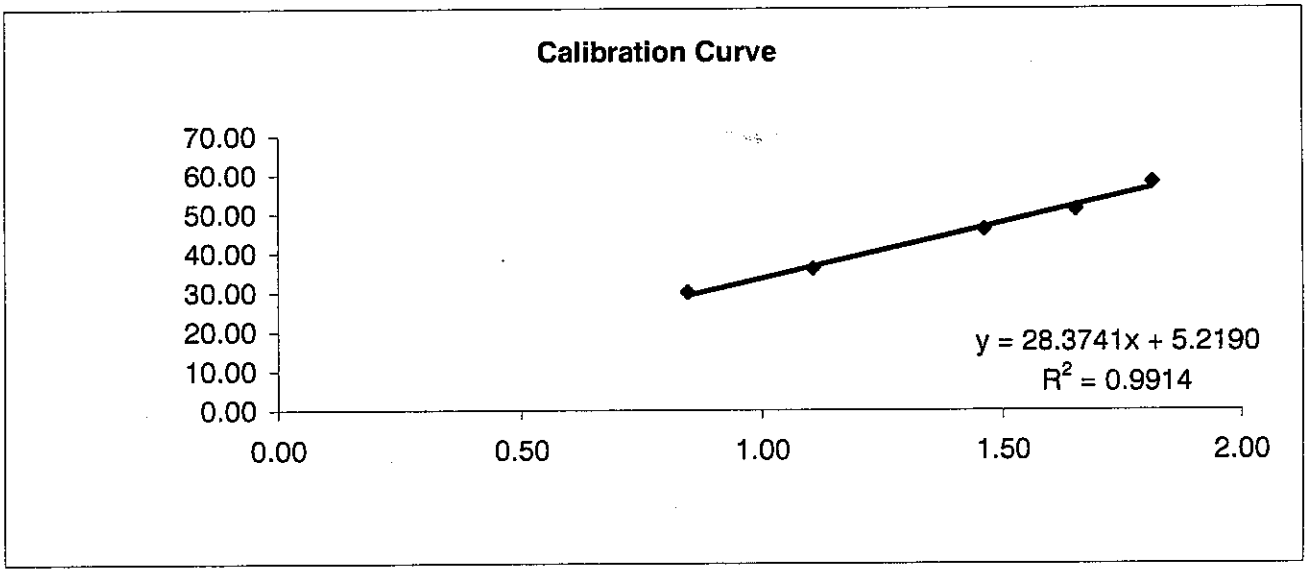
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	28-Apr-06	**Barometric pressure**	758 mm Hg
Calibration due date	27-Jun-06	**Tempature (°C)**	23 °C
Sampler location	WA5 - Hong Kong Garden (Blk4)	**Tempature (K)**	296 K
Sampler model	TE-5170	**P_{std}**	760 mm Hg
Sampler serial number	0717	**T_{std}**	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m_s	2.00216
Intercept of the standard curve, b_s	-0.02053

Resistance Plate No.	Manometer Reading (inch H_2O)	Flow Recorder Reading (CFM)	Calculated Q_{std} (m^3/min)	Continuous Flow Recorder Reading IC (CFM)
5	2.80	30.00	0.85	30.06
7	4.80	36.00	1.11	36.07
10	8.40	46.00	1.46	46.09
13	10.80	51.00	1.66	51.10
18	13.00	58.00	1.81	58.12



Linear Regression

Sampler slope (m) :	**28.3741**
Sampler intercept (b) :	**5.2190**
Correlation coefficient (R^2) :	**0.9914**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam Date: 28-4-06

Checked by: Kei Date: 28-4-06

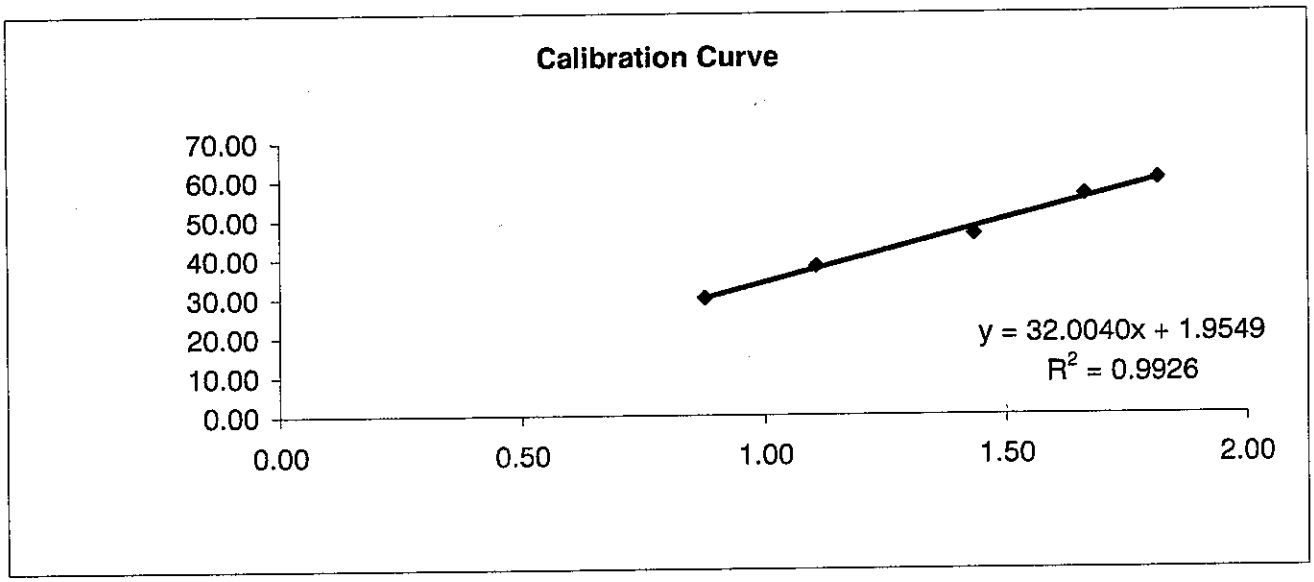
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	28-Apr-06	**Barometric pressure**	758 mm Hg
Calibration due date	27-Jun-06	**Tempature (°C)**	23 °C
Sampler location	WA6 - Tsing Lung Tau Temple	**Tempature (K)**	296 K
Sampler model	TE-5170	**P_{std}**	760 mm Hg
Sampler serial number	1338	**T_{std}**	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m_s	2.00216
Intercept of the standard curve, b_s	-0.02053

Resistance Plate No.	Manometer Reading (inch H_2O)	Flow Recorder Reading (CFM)	Calculated Q_{std} (m^3/min)	Continuous Flow Recorder Reading IC (CFM)
5	3.00	30.00	0.88	30.06
7	4.80	38.00	1.11	38.08
10	8.10	46.00	1.43	46.09
13	10.90	56.00	1.66	56.11
18	13.00	60.00	1.81	60.12



Linear Regression

Sampler slope (m) :	**32.0040**
Sampler intercept (b) :	**1.9549**
Correlation coefficient (R^2) :	**0.9926**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam Date: 28-4-06

Checked by: Kei Date: 28-4-06

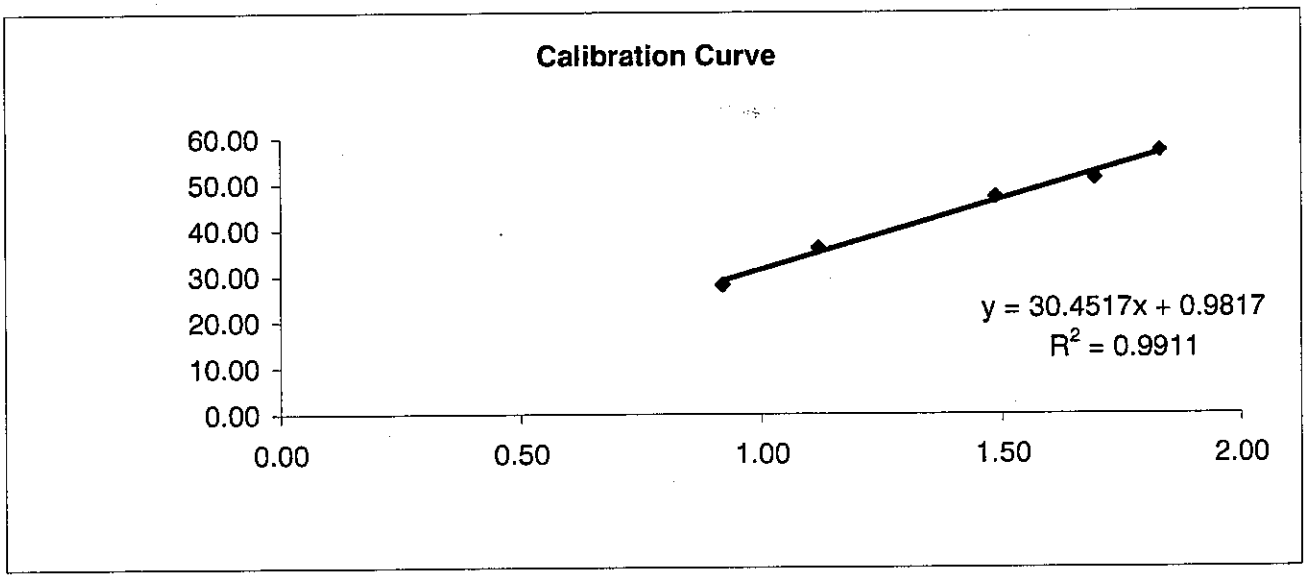
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	28-Apr-06	**Barometric pressure**	758 mm Hg
Calibration due date	27-Jun-06	**Tempature (°C)**	23 °C
Sampler location	WA7 - Sea Crest Villa (Phase 4 Blk 12)	**Tempature (K)**	296 K
Sampler model	TE-5170	**P_{std}**	760 mm Hg
Sampler serial number	0517	**T_{std}**	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m_s	2.00216
Intercept of the standard curve, b_s	-0.02053

Resistance Plate No.	Manometer Reading (inch H_2O)	Flow Recorder Reading (CFM)	Calculated Q_{std} (m^3/min)	Continuous Flow Recorder Reading IC (CFM)
5	3.30	28.00	0.92	28.06
7	4.90	36.00	1.12	36.07
10	8.70	47.00	1.49	47.10
13	11.30	51.00	1.69	51.10
18	13.20	57.00	1.83	57.12



Linear Regression

Sampler slope (m) : **30.4517**
Sampler intercept (b) : **0.9817**
Correlation coefficient (R^2) : **0.9911**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: LAM Date: 28-4-06

Checked by: Kei Date: 28-4-06

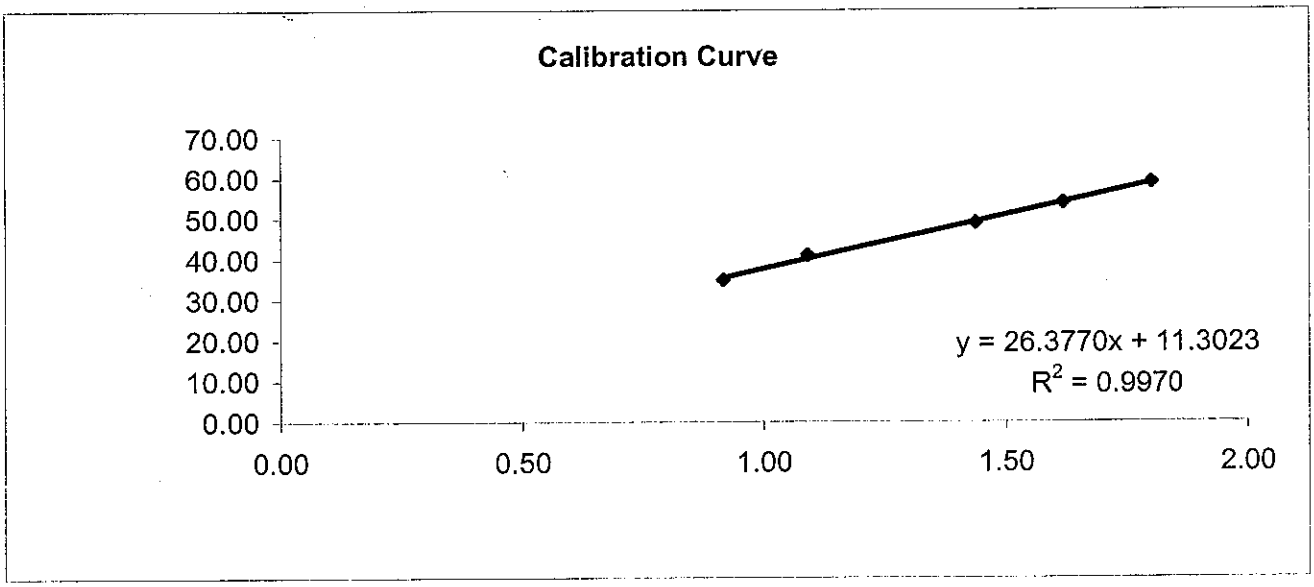
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	10-Apr-06	**Barometric pressure**	757 mm Hg
Calibration due date	9-Jun-06	**Tempature (°C)**	25 °C
Sampler location	WA8 - Sea Crest Villa (Phase 3 Block 8)	**Tempature (K)**	298 K
Sampler model	TE-5170	**P_{std}**	760 mm Hg
Sampler serial number	0526	**T_{std}**	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m_s	2.00216
Intercept of the standard curve, b_s	-0.02053

Resistance Plate No.	Manometer Reading (inch H_2O)	Flow Recorder Reading (CFM)	Calculated Q_{std} (m^3/min)	Continuous Flow Recorder Reading IC (CFM)
5	3.30	35.00	0.92	34.93
7	4.70	41.00	1.09	40.92
10	8.20	49.00	1.44	48.90
13	10.40	54.00	1.62	53.89
18	12.90	59.00	1.80	58.88



Linear Regression

Sampler slope (m) :	**26.3770**
Sampler intercept (b) :	**11.3023**
Correlation coefficient (R^2) :	**0.9970**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam Date: 10-4-06

Checked by: [signature] Date: 11-4-06

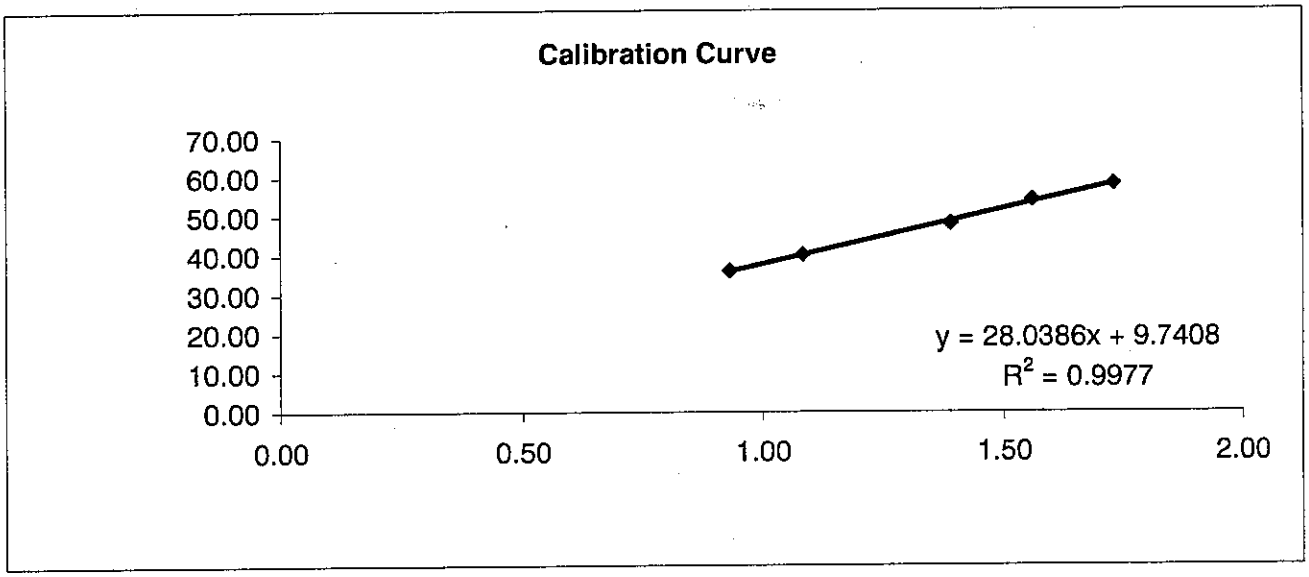
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	28-Apr-06	**Barometric pressure**	758 mm Hg
Calibration due date	27-Jun-06	**Tempature (°C)**	23 °C
Sampler location	WA9 - Sea Crest Villa (Phase 2 Blk 6)	**Tempature (K)**	296 K
Sampler model	TE-5170	**P_{std}**	760 mm Hg
Sampler serial number	0523	**T_{std}**	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m_s	2.00216
Intercept of the standard curve, b_s	-0.02053

Resistance Plate No.	Manometer Reading (inch H_2O)	Flow Recorder Reading (CFM)	Calculated Q_{std} (m^3/min)	Continuous Flow Recorder Reading IC (CFM)
5	3.40	36.00	0.93	36.07
7	4.60	40.00	1.08	40.08
10	7.60	48.00	1.39	48.10
13	9.60	54.00	1.56	54.11
18	11.80	58.00	1.73	58.12



Linear Regression

Sampler slope (m) :	**28.0386**
Sampler intercept (b) :	**9.7408**
Correlation coefficient (R^2) :	**0.9977**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam Date: 28-4-06

Checked by: Kei Date: 2P-4-06

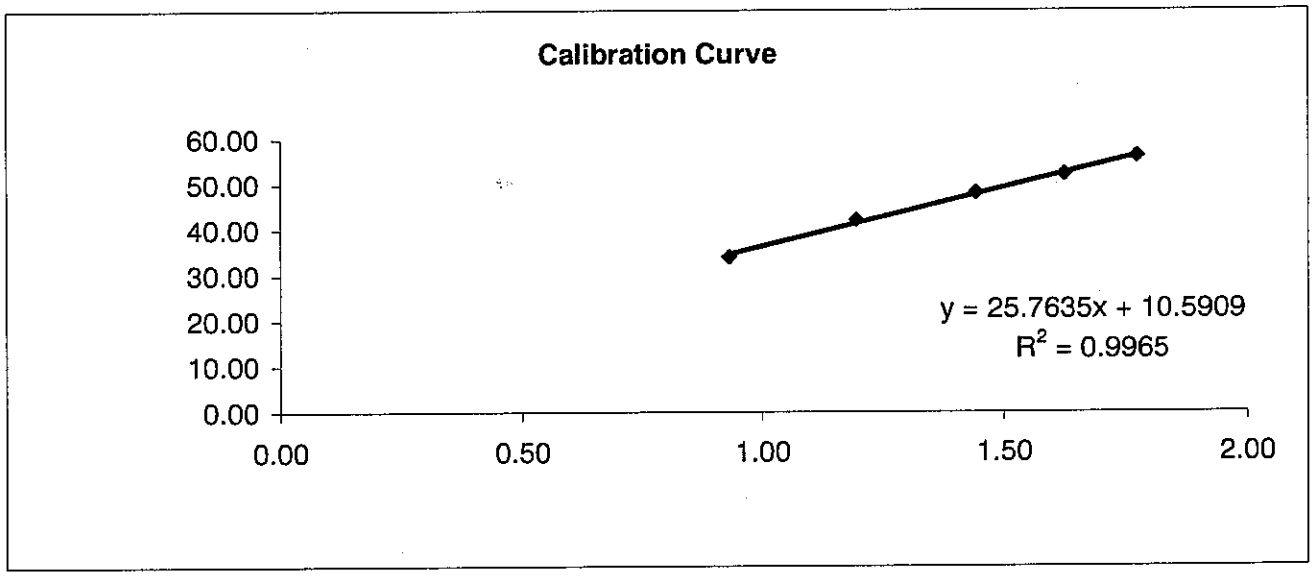
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	28-Apr-06	**Barometric pressure**	758 mm Hg
Calibration due date	27-Jun-06	**Tempature (°C)**	23 °C
Sampler location	WA10 - Sea Crest Villa (Phase 1 Blk 1)	**Tempature (K)**	296 K
Sampler model	TE-5170	**P_{std}**	760 mm Hg
Sampler serial number	0507	**T_{std}**	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m_s	2.00216
Intercept of the standard curve, b_s	-0.02053

Resistance Plate No.	Manometer Reading (inch H_2O)	Flow Recorder Reading (CFM)	Calculated Q_{std} (m^3/min)	Continuous Flow Recorder Reading IC (CFM)
5	3.40	34.00	0.93	34.07
7	5.60	42.00	1.19	42.09
10	8.20	48.00	1.44	48.10
13	10.40	52.00	1.62	52.11
18	12.40	56.00	1.77	56.11



Linear Regression

Sampler slope (m) :	**25.7635**
Sampler intercept (b) :	**10.5909**
Correlation coefficient (R^2) :	**0.9965**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam Date: 28-4-06

Checked by: Kei Date: 29-4-06

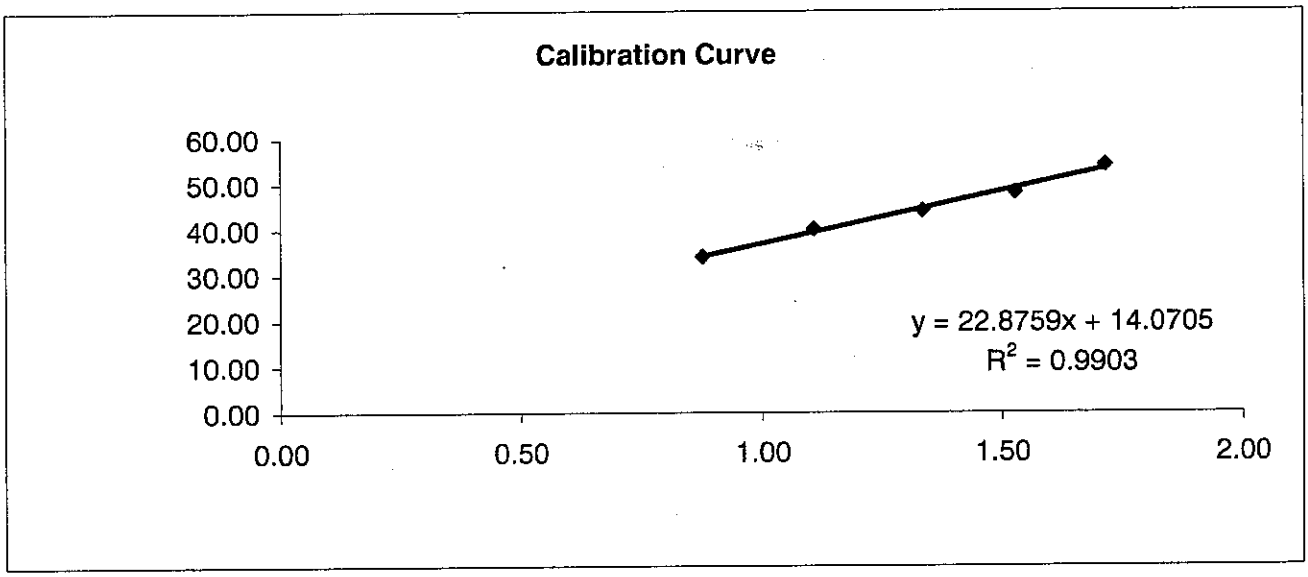
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	28-Apr-06	**Barometric pressure**	758 mm Hg
Calibration due date	27-Jun-06	**Tempature (°C)**	23 °C
Sampler location	WA11 - Lido Garden Tower 1	**Tempature (K)**	296 K
Sampler model	TE-5170	**P_{std}**	760 mm Hg
Sampler serial number	0521	**T_{std}**	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m_s	2.00216
Intercept of the standard curve, b_s	-0.02053

Resistance Plate No.	Manometer Reading (inch H_2O)	Flow Recorder Reading (CFM)	Calculated Q_{std} (m^3/min)	Continuous Flow Recorder Reading IC (CFM)
5	3.00	34.00	0.88	34.07
7	4.80	40.00	1.11	40.08
10	7.00	44.00	1.33	44.09
13	9.20	48.00	1.53	48.10
18	11.60	54.00	1.71	54.11



Linear Regression

Sampler slope (m) :	**22.8759**
Sampler intercept (b) :	**14.0705**
Correlation coefficient (R^2) :	**0.9903**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam Date: 28-4-06

Checked by: Kei Date: 28-4-06

APPENDIX E

Calibration certificates of 1-hour TSP monitoring equipment

THERMO ELECTRON
27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-6949
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D320

PDR-1000 CALIBRATION CERTIFICATE

This calibration is traceable to the National Institute of Standards and Testing

SERIAL NUMBER:	4736
CALIBRATION RATIO:	1.004
AVG. PDR-1000 CONCENTRATION:	2.75 mg/m3
CALIBRATION MASTER AVG. CONCENTRATION:	2.44 mg/m3
DR BACKROUND CONCENTRATION:	.271 mg/m3
TEMPERATURE:	74F
HUMIDITY:	44%

TECHNICIAN K. Lachapelle DATE: 7/27/04

THERMO ELECTRON
27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-6949
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D325 LAST CALIBRATED 12/17/04

PDR-1000 CALIBRATION

CERTIFICATE

This calibration is traceable to the National Institute of Standards and Testing

SERIAL NUMBER:	4239
CALIBRATION RATIO:	0.9900
AVG. PDR-1000 CONCENTRATION:	2.53 mg/m3
CALIBRATION MASTER AVG. CONCENTRATION:	2.24 mg/m3
DR BACKROUND CONCENTRATION:	.280 mg/m3
TEMPERATURE:	71.7F
HUMIDITY:	21%

TECHNICIAN: DON MCELMAN DATE: 2/03/05

THERMO ELECTRON
27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-6949
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D320 LAST CALIBRATED 10/1/04

PDR-1000 CALIBRATION CERTIFICATE

This calibration is traceable to the National Institute of Standards and Testing

SERIAL NUMBER:	3893
CALIBRATION RATIO:	.994
AVG. PDR-1000 CONCENTRATION:	2.74 mg/m3
CALIBRATION MASTER AVG. CONCENTRATION:	2.42 mg/m3
DR BACKROUND CONCENTRATION:	.262 mg/m3
TEMPERATURE:	78F
HUMIDITY:	22%

TECHNICIAN K. Lachapelle DATE: 10/6/04

THERMO ELECTRON
27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-6949
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D320 LAST CALIBRATED 10/1/04

PDR-1000 CALIBRATION CERTIFICATE

This calibration is traceable to the National Institute of Standards and Testir

SERIAL NUMBER:	380
CALIBRATION RATIO:	1.00
AVG. PDR-1000 CONCENTRATION:	2.91 mg/m
CALIBRATION MASTER AVG. CONCENTRATION:	2.45 mg/m
DR BACKROUND CONCENTRATION:	.448 mg/m
TEMPERATURE:	78
HUMIDITY:	22

TECHNICIAN K. Lachapelle DATE: 10/6/04

THERMO ELECTRON
27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-1211
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D325 LAST CALIBRATED : 3/14/06

PDR-1000 CALIBRATION

CERTIFICATE

This calibration is traceable to the National Institute of Standards and Testing

SERIAL NUMBER: ---------- 4243

CALIBRATION RATIO: ---------- 1.007

AVG. PDR-1000 CONCENTRATION: ----------2.03 mg/m3

CALIBRATION MASTER AVG. CONCENTRATION: ---------- 1.68 mg/m3

DR BACKROUND CONCENTRATION: ---------- .305 mg/m3

TEMPERATURE: ---------- 71.8F

HUMIDITY: ---------- 24%

TECHNICIAN: -- DON MCELMAN

DATE: ---- 4/10/06

THERMO ELECTRON
27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-1211
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D325 LAST CALIBRATED : 3/14/06

PDR-1000 CALIBRATION CERTIFICATE

This calibration is traceable to the National Institute of Standards and Testing

SERIAL NUMBER: ---------- 4492

CALIBRATION RATIO: ---------- 0.999

AVG. PDR-1000 CONCENTRATION: ----------2.01 mg/m3

CALIBRATION MASTER AVG. CONCENTRATION: ---------- 1.74 mg/m3

DR BACKROUND CONCENTRATION: ---------- .240 mg/m3

TEMPERATURE: ---------- 71.8F

HUMIDITY: ---------- 24%

TECHNICIAN: -- DON MCELMAN

DATE: ---- 4/10/06

THERMO ELECTRON
27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-1211
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D325 LAST CALIBRATED : 3/14/06

PDR-1000 CALIBRATION

CERTIFICATE

This calibration is traceable to the National Institute of Standards and Testing

SERIAL NUMBER: ---------- 4705

CALIBRATION RATIO: ---------- 1.011

AVG. PDR-1000 CONCENTRATION: ----------1.93 mg/m3

CALIBRATION MASTER AVG. CONCENTRATION: ---------- 1.68 mg/m3

DR BACKROUND CONCENTRATION: ---------- .211 mg/m3

TEMPERATURE: ---------- 73.8F

HUMIDITY: ---------- 24%

TECHNICIAN: -- DON MCELMAN

DATE: ---- 4/11/06

THERMO ELECTRON
27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-1211
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D325 LAST CALIBRATED : 3/14/06

PDR-1000 CALIBRATION

CERTIFICATE

This calibration is traceable to the National Institute of Standards and Testing

SERIAL NUMBER: ---------- 4715

CALIBRATION RATIO: ---------- 1.007

AVG. PDR-1000 CONCENTRATION: ----------1.83 mg/m3

CALIBRATION MASTER AVG. CONCENTRATION: ---------- 1.52 mg/m3

DR BACKROUND CONCENTRATION: ---------- .255 mg/m3

TEMPERATURE: ---------- 71.8F

HUMIDITY: ---------- 24%

TECHNICIAN: -- DON MCELMAN

DATE: ---- 4/10/06

APPENDIX F

Detailed air quality (1-hour TSP) monitoring results

Details of 1-Hour TSP Monitoring

Date	Receptor No.	Set No.	Time periods Start	Time periods Finish	Weather condition	Site condition	Temp. (°C)	Pressure (mmHg)	1-hour TSP Level (µg/m³)	Remarks
4-May-06	WA3	1	13:06	14:06	Cloudy	Normal Operation	27.0	759.0	276.0	
4-May-06	WA3	2	14:06	15:06	Cloudy	Normal Operation	27.0	759.0	293.5	
4-May-06	WA3	3	15:06	16:06	Cloudy	Normal Operation	27.0	759.0	293.0	
4-May-06	WA4	1	13:03	14:03	Cloudy	Normal Operation	27.0	759.0	251.5	
4-May-06	WA4	2	14:03	15:03	Cloudy	Normal Operation	27.0	759.0	260.9	
4-May-06	WA4	3	15:03	16:03	Cloudy	Normal Operation	27.0	759.0	242.7	
4-May-06	WA5	1	13:19	14:19	Cloudy	Normal Operation	27.0	759.0	256.5	
4-May-06	WA5	2	14:19	15:19	Cloudy	Normal Operation	27.0	759.0	251.3	
4-May-06	WA5	3	15:19	16:19	Cloudy	Normal Operation	27.0	759.0	234.1	
4-May-06	WA6	1	8:40	9:40	Cloudy	Normal Operation	27.0	759.0	239.9	
4-May-06	WA6	2	9:40	10:40	Cloudy	Normal Operation	27.0	759.0	241.0	
4-May-06	WA6	3	10:40	11:40	Cloudy	Normal Operation	27.0	759.0	236.6	
4-May-06	WA7	1	9:00	10:00	Cloudy	Normal Operation	27.0	759.0	234.8	
4-May-06	WA7	2	10:00	11:00	Cloudy	Normal Operation	27.0	759.0	240.2	
4-May-06	WA7	3	11:00	12:00	Cloudy	Normal Operation	27.0	759.0	260.9	
4-May-06	WA8	1	13:28	14:28	Cloudy	Normal Operation	27.0	759.0	265.8	
4-May-06	WA8	2	14:28	15:28	Cloudy	Normal Operation	27.0	759.0	265.8	
4-May-06	WA8	3	15:28	16:28	Cloudy	Normal Operation	27.0	759.0	255.4	
4-May-06	WA9	1	9:00	10:00	Cloudy	Normal Operation	27.0	759.0	243.3	
4-May-06	WA9	2	10:00	11:00	Cloudy	Normal Operation	27.0	759.0	247.1	
4-May-06	WA9	3	11:00	12:00	Cloudy	Normal Operation	27.0	759.0	269.8	
4-May-06	WA10	1	9:00	10:00	Cloudy	Normal Operation	27.0	759.0	228.6	
4-May-06	WA10	2	10:00	11:00	Cloudy	Normal Operation	27.0	759.0	260.5	
4-May-06	WA10	3	11:00	12:00	Cloudy	Normal Operation	27.0	759.0	258.4	
4-May-06	WA11	1	8:16	9:16	Cloudy	Normal Operation	27.0	759.0	204.4	
4-May-06	WA11	2	9:16	10:16	Cloudy	Normal Operation	27.0	759.0	192.1	
4-May-06	WA11	3	10:16	11:16	Cloudy	Normal Operation	27.0	759.0	185.2	
10-May-06	WA3	1	8:46	9:46	Sunny	Normal Operation	32.0	758.0	204.3	
10-May-06	WA3	2	9:46	10:46	Sunny	Normal Operation	32.0	758.0	197.1	
10-May-06	WA3	3	10:46	11:46	Sunny	Normal Operation	32.0	758.0	185.5	
10-May-06	WA4	1	9:00	10:00	Sunny	Normal Operation	32.0	758.0	187.9	
10-May-06	WA4	2	10:00	11:00	Sunny	Normal Operation	32.0	758.0	169.5	
10-May-06	WA4	3	11:00	12:00	Sunny	Normal Operation	32.0	758.0	155.8	
10-May-06	WA5	1	8:58	9:58	Sunny	Normal Operation	32.0	758.0	157.5	
10-May-06	WA5	2	9:58	10:58	Sunny	Normal Operation	32.0	758.0	142.4	
10-May-06	WA5	3	10:58	11:58	Sunny	Normal Operation	32.0	758.0	142.6	
10-May-06	WA6	1	13:01	14:01	Sunny	Normal Operation	32.0	758.0	173.8	
10-May-06	WA6	2	14:01	15:01	Sunny	Normal Operation	32.0	758.0	172.9	
10-May-06	WA6	3	15:01	16:01	Sunny	Normal Operation	32.0	758.0	199.5	
10-May-06	WA7	1	13:16	14:16	Sunny	Normal Operation	32.0	758.0	206.9	
10-May-06	WA7	2	14:16	15:16	Sunny	Normal Operation	32.0	758.0	211.5	
10-May-06	WA7	3	15:16	16:16	Sunny	Normal Operation	32.0	758.0	221.8	
10-May-06	WA8	1	8:33	9:33	Sunny	Normal Operation	32.0	758.0	162.2	
10-May-06	WA8	2	9:33	10:33	Sunny	Normal Operation	32.0	758.0	161.3	
10-May-06	WA8	3	10:33	11:33	Sunny	Normal Operation	32.0	758.0	157.4	
10-May-06	WA9	1	8:44	9:44	Sunny	Normal Operation	32.0	758.0	217.6	
10-May-06	WA9	2	9:44	10:44	Sunny	Normal Operation	32.0	758.0	210.4	
10-May-06	WA9	3	10:44	11:44	Sunny	Normal Operation	32.0	758.0	211.9	
10-May-06	WA10	1	8:36	9:36	Sunny	Normal Operation	32.0	758.0	169.6	
10-May-06	WA10	2	9:36	10:36	Sunny	Normal Operation	32.0	758.0	139.6	
10-May-06	WA10	3	10:36	11:36	Sunny	Normal Operation	32.0	758.0	107.7	
10-May-06	WA11	1	8:16	9:16	Sunny	Normal Operation	32.0	758.0	204.4	
10-May-06	WA11	2	9:16	10:16	Sunny	Normal Operation	32.0	758.0	192.1	
10-May-06	WA11	3	10:16	11:16	Sunny	Normal Operation	32.0	758.0	185.2	
16-May-06	WA3	1	8:45	9:45	Cloudy	Normal Operation	25.0	757.0	139.2	
16-May-06	WA3	2	9:45	10:45	Cloudy	Normal Operation	25.0	757.0	158.8	
16-May-06	WA3	3	10:45	11:45	Cloudy	Normal Operation	25.0	757.0	135.4	
16-May-06	WA4	1	9:00	10:00	Cloudy	Normal Operation	25.0	757.0	247.1	
16-May-06	WA4	2	10:00	11:00	Cloudy	Normal Operation	25.0	757.0	245.4	
16-May-06	WA4	3	11:00	12:00	Cloudy	Normal Operation	25.0	757.0	205.8	
16-May-06	WA5	1	13:02	14:02	Cloudy	Normal Operation	25.0	757.0	195.4	
16-May-06	WA5	2	14:02	15:02	Cloudy	Normal Operation	25.0	757.0	185.2	
16-May-06	WA5	3	15:02	16:02	Cloudy	Normal Operation	25.0	757.0	177.4	
16-May-06	WA6	1	13:38	14:38	Cloudy	Normal Operation	25.0	757.0	153.5	
16-May-06	WA6	2	14:38	15:38	Cloudy	Normal Operation	25.0	757.0	111.9	
16-May-06	WA6	3	15:38	16:38	Cloudy	Normal Operation	25.0	757.0	83.2	
16-May-06	WA7	1	13:32	14:32	Cloudy	Normal Operation	25.0	757.0	239.5	
16-May-06	WA7	2	14:32	15:32	Cloudy	Normal Operation	25.0	757.0	233.8	
16-May-06	WA7	3	15:32	16:32	Cloudy	Normal Operation	25.0	757.0	231.7	
16-May-06	WA8	1	13:23	14:23	Cloudy	Normal Operation	25.0	757.0	226.2	
16-May-06	WA8	2	14:23	15:23	Cloudy	Normal Operation	25.0	757.0	221.8	
16-May-06	WA8	3	15:23	16:23	Cloudy	Normal Operation	25.0	757.0	219.2	
16-May-06	WA9	1	8:33	9:33	Cloudy	Normal Operation	25.0	757.0	163.1	
16-May-06	WA9	2	9:33	10:33	Cloudy	Normal Operation	25.0	757.0	141.8	
16-May-06	WA9	3	10:33	11:33	Cloudy	Normal Operation	25.0	757.0	109.2	
16-May-06	WA10	1	9:00	10:00	Cloudy	Normal Operation	25.0	757.0	197.6	
16-May-06	WA10	2	10:00	11:00	Cloudy	Normal Operation	25.0	757.0	180.6	
16-May-06	WA10	3	11:00	12:00	Cloudy	Normal Operation	25.0	757.0	173.8	
16-May-06	WA11	1	13:14	14:14	Cloudy	Normal Operation	25.0	757.0	182.0	
16-May-06	WA11	2	14:14	15:14	Cloudy	Normal Operation	25.0	757.0	166.7	
16-May-06	WA11	3	15:14	16:14	Cloudy	Normal Operation	25.0	757.0	168.6	
23-May-06	WA3	1	9:00	10:00	Cloudy	Normal Operation	25.0	758.0	235.9	
23-May-06	WA3	2	10:00	11:00	Cloudy	Normal Operation	25.0	758.0	215.0	

Details of 1-Hour TSP Monitoring

Date	Receptor No.	Set No.	Time periods Start	Time periods Finish	Weather condition	Site condition	Temp. (°C)	Pressure (mmHg)	1-hour TSP Level (μg/m³)	Remarks
23-May-06	WA3	3	11:00	12:00	Cloudy	Normal Operation	25.0	758.0	209.2	
23-May-06	WA4	1	9:00	10:00	Cloudy	Normal Operation	25.0	758.0	229.3	
23-May-06	WA4	2	10:00	11:00	Cloudy	Normal Operation	25.0	758.0	200.8	
23-May-06	WA4	3	11:00	12:00	Cloudy	Normal Operation	25.0	758.0	201.2	
23-May-06	WA5	1	14:01	15:01	Cloudy	Normal Operation	25.0	758.0	227.2	
23-May-06	WA5	2	15:01	16:01	Cloudy	Normal Operation	25.0	758.0	169.6	
23-May-06	WA5	3	16:01	17:01	Cloudy	Normal Operation	25.0	758.0	126.8	
23-May-06	WA6	1	14:10	15:10	Cloudy	Normal Operation	25.0	758.0	231.3	
23-May-06	WA6	2	15:10	16:10	Cloudy	Normal Operation	25.0	758.0	194.7	
23-May-06	WA6	3	16:10	17:10	Cloudy	Normal Operation	25.0	758.0	176.3	
23-May-06	WA7	1	14:12	15:12	Cloudy	Normal Operation	25.0	758.0	215.2	
23-May-06	WA7	2	15:12	16:12	Cloudy	Normal Operation	25.0	758.0	174.4	
23-May-06	WA7	3	16:12	17:12	Cloudy	Normal Operation	25.0	758.0	206.5	
23-May-06	WA8	1	13:45	14:45	Cloudy	Normal Operation	25.0	758.0	251.4	
23-May-06	WA8	2	14:45	15:45	Cloudy	Normal Operation	25.0	758.0	211.6	
23-May-06	WA8	3	15:45	16:45	Cloudy	Normal Operation	25.0	758.0	239.6	
23-May-06	WA9	1	8:47	9:47	Cloudy	Normal Operation	25.0	758.0	291.0	
23-May-06	WA9	2	9:47	10:47	Cloudy	Normal Operation	25.0	758.0	271.1	
23-May-06	WA9	3	10:47	11:47	Cloudy	Normal Operation	25.0	758.0	277.0	
23-May-06	WA10	1	8:25	9:25	Cloudy	Normal Operation	25.0	758.0	297.6	
23-May-06	WA10	2	9:25	10:25	Cloudy	Normal Operation	25.0	758.0	280.5	
23-May-06	WA10	3	10:25	11:25	Cloudy	Normal Operation	25.0	758.0	284.1	
23-May-06	WA11	1	13:01	14:01	Cloudy	Normal Operation	25.0	758.0	228.5	
23-May-06	WA11	2	14:01	15:01	Cloudy	Normal Operation	25.0	758.0	239.8	
23-May-06	WA11	3	15:01	16:01	Cloudy	Normal Operation	25.0	758.0	260.3	
29-May-06	WA3	1	9:00	10:00	Cloudy	Normal Operation	24.0	756.0	198.8	
29-May-06	WA3	2	10:00	11:00	Cloudy	Normal Operation	24.0	756.0	162.6	
29-May-06	WA3	3	11:00	12:00	Cloudy	Normal Operation	24.0	756.0	156.8	
29-May-06	WA4	1	9:00	10:00	Cloudy	Normal Operation	24.0	756.0	210.6	
29-May-06	WA4	2	10:00	11:00	Cloudy	Normal Operation	24.0	756.0	179.6	
29-May-06	WA4	3	11:00	12:00	Cloudy	Normal Operation	24.0	756.0	169.7	
29-May-06	WA5	1	13:20	14:20	Cloudy	Normal Operation	24.0	756.0	189.3	
29-May-06	WA5	2	14:20	15:20	Cloudy	Normal Operation	24.0	756.0	180.9	
29-May-06	WA5	3	15:20	16:20	Cloudy	Normal Operation	24.0	756.0	196.9	
29-May-06	WA6	1	13:24	14:24	Cloudy	Normal Operation	24.0	756.0	185.3	
29-May-06	WA6	2	14:24	15:24	Cloudy	Normal Operation	24.0	756.0	177.3	
29-May-06	WA6	3	15:24	16:24	Cloudy	Normal Operation	24.0	756.0	180.4	
29-May-06	WA7	1	13:23	14:23	Cloudy	Normal Operation	24.0	756.0	180.1	
29-May-06	WA7	2	14:23	15:23	Cloudy	Normal Operation	24.0	756.0	149.2	
29-May-06	WA7	3	15:23	16:23	Cloudy	Normal Operation	24.0	756.0	176.1	
29-May-06	WA8	1	13:33	14:33	Cloudy	Normal Operation	24.0	756.0	207.4	
29-May-06	WA8	2	14:33	15:33	Cloudy	Normal Operation	24.0	756.0	192.9	
29-May-06	WA8	3	15:33	16:33	Cloudy	Normal Operation	24.0	756.0	236.0	
29-May-06	WA9	1	9:00	10:00	Cloudy	Normal Operation	24.0	756.0	200.3	
29-May-06	WA9	2	10:00	11:00	Cloudy	Normal Operation	24.0	756.0	177.6	
29-May-06	WA9	3	11:00	12:00	Cloudy	Normal Operation	24.0	756.0	183.4	
29-May-06	WA10	1	8:50	9:50	Cloudy	Normal Operation	24.0	756.0	167.2	
29-May-06	WA10	2	9:50	10:50	Cloudy	Normal Operation	24.0	756.0	94.9	
29-May-06	WA10	3	10:50	11:50	Cloudy	Normal Operation	24.0	756.0	124.7	
29-May-06	WA11	1	8:20	9:20	Cloudy	Normal Operation	24.0	756.0	212.1	
29-May-06	WA11	2	9:20	10:20	Cloudy	Normal Operation	24.0	756.0	190.5	
29-May-06	WA11	3	10:20	11:20	Cloudy	Normal Operation	24.0	756.0	184.4	

APPENDIX G

Detailed air quality (24-hour TSP) monitoring results

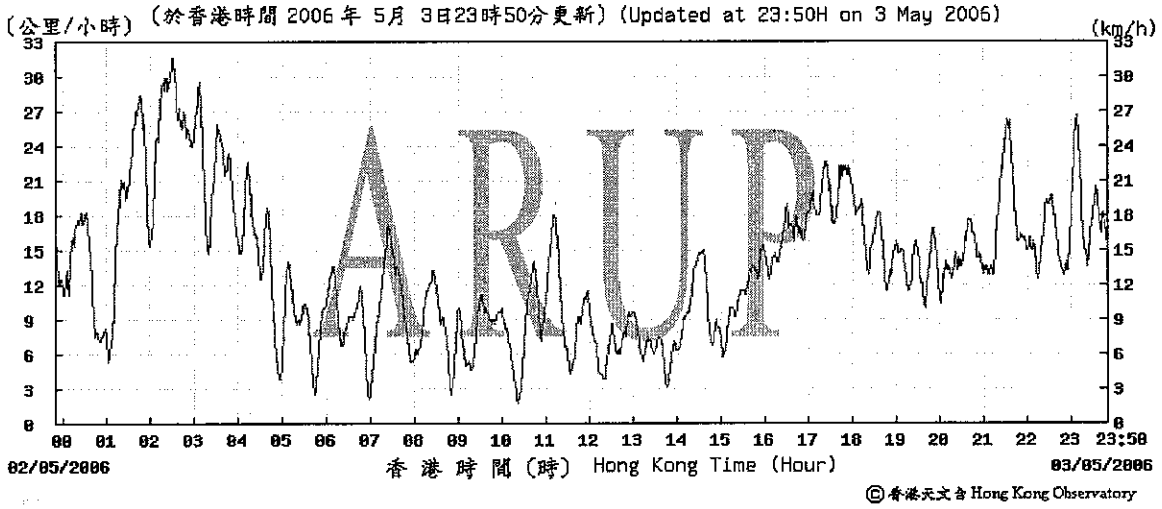
Details of 24-Hour TSP Monitoring

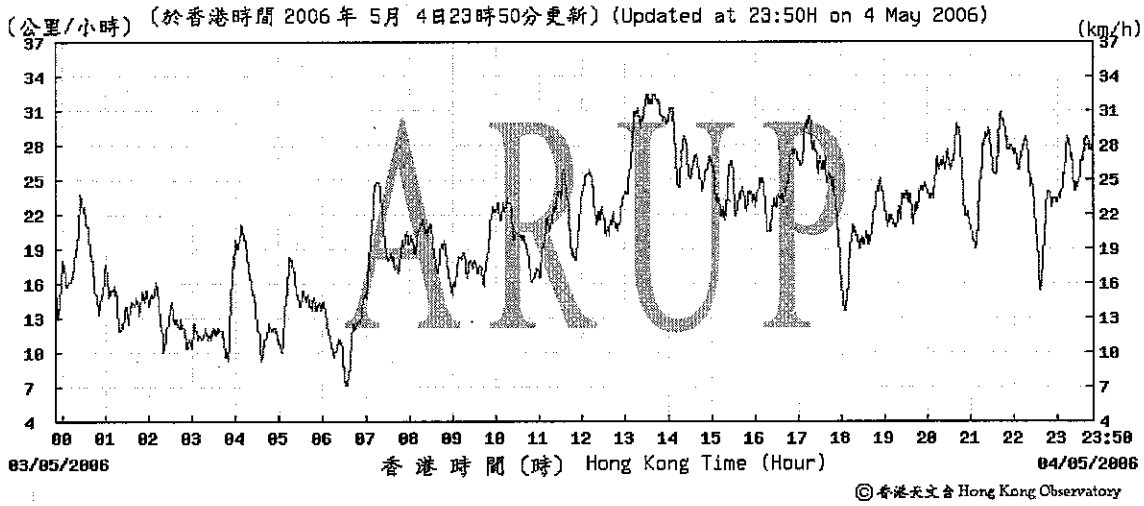
Date	Receptor No.	Weather condition	Site condition	Filter Weight (g)		TSP weight (g)	Flow Rate (m^3/min)		Average Flow Rate (m^3/min)	Elapse Time		Sampling Time (mins.)	Total vol. (m^3)	24-hour TSP Level ($\mu g/m^3$)	Remarks
				Initial	Final		Initial	Final		Start	Finish				
2-May-06	WA3	Fine	Normal Operation	2.8413	3.0220	0.1807	1.5121	1.5134	1.5128	6665.50	6689.50	1440.00	2178.36	83.0	
2-May-06	WA4	Fine	Normal Operation	2.8373	2.9190	0.0817	1.2315	1.2323	1.2319	6932.87	6956.87	1440.00	1773.94	46.1	
2-May-06	WA5	Fine	Normal Operation	2.8297	2.8826	0.0529	0.9469	0.8770	0.9120	3618.18	3642.18	1440.00	1313.21	40.3	
2-May-06	WA6	Fine	Normal Operation	2.8450	2.9728	0.1278	1.0669	1.0989	1.0829	5249.70	5273.70	1440.00	1559.38	82.0	
2-May-06	WA7	Fine	Normal Operation	2.8381	2.9282	0.0901	1.0873	1.1540	1.1207	6711.36	6735.36	1440.00	1613.74	55.8	
2-May-06	WA8	Fine	Normal Operation	2.8167	2.8831	0.0664	0.8640	0.8649	0.8645	6722.03	6746.03	1440.00	1244.81	53.3	
2-May-06	WA9	Fine	Normal Operation	2.8329	2.8939	0.0610	0.9043	0.9051	0.9047	6856.23	6880.23	1440.00	1302.77	46.8	
2-May-06	WA10	Fine	Normal Operation	2.8338	2.9190	0.0852	0.9901	1.2636	1.1269	6676.85	6700.85	1440.00	1622.66	52.5	
2-May-06	WA11	Fine	Normal Operation	2.8485	2.9466	0.0981	0.6999	0.7008	0.7004	6981.55	7005.55	1440.00	1008.50	97.3	
9-May-06	WA3	Fine	Normal Operation	2.8267	2.9269	0.1002	0.8719	0.9122	0.8921	6689.50	6713.50	1440.00	1284.55	78.0	
9-May-06	WA4	Fine	Normal Operation	2.8225	2.8716	0.0491	0.9158	0.9168	0.9163	6956.87	6980.87	1440.00	1319.47	37.2	
9-May-06	WA5	Fine	Normal Operation	2.8310	2.8786	0.0476	0.8674	0.8684	0.8679	3642.19	3666.19	1440.00	1249.78	38.1	
9-May-06	WA6	Fine	Normal Operation	2.8398	2.8974	0.0576	1.0263	0.9963	1.0113	5273.70	5297.70	1440.00	1456.27	39.6	
9-May-06	WA7	Fine	Normal Operation	2.8479	2.9027	0.0548	1.0780	1.1445	1.1113	6735.36	6759.36	1440.00	1600.20	34.2	
9-May-06	WA8	Fine	Normal Operation	2.8239	2.8666	0.0427	0.8155	0.8168	0.8162	6746.04	6770.04	1440.00	1175.26	36.3	
9-May-06	WA9	Fine	Normal Operation	2.8394	2.8890	0.0496	0.7874	0.7886	0.7880	6880.24	6904.24	1440.00	1134.72	43.7	
9-May-06	WA10	Fine	Normal Operation	2.8539	2.9171	0.0632	1.2099	1.2115	1.2107	6700.85	6724.85	1440.00	1743.41	36.3	
9-May-06	WA11	Fine	Normal Operation	2.8654	2.9227	0.0573	0.6889	0.6902	0.6896	7005.55	7029.55	1440.00	992.95	57.7	
15-May-06	WA3	Fine	Normal Operation	2.8494	2.9565	0.1071	0.8040	0.8015	0.8028	6713.50	6737.50	1440.00	1155.96	92.7	
15-May-06	WA4	Fine	Normal Operation	2.8256	2.9713	0.1457	1.1079	1.1058	1.1069	6980.87	7004.87	1440.00	1593.86	91.4	
15-May-06	WA5	Fine	Normal Operation	2.8486	2.9660	0.1174	0.9465	0.9443	0.9454	3666.19	3690.19	1440.00	1361.38	86.2	
15-May-06	WA6	Fine	Normal Operation	2.8371	2.8949	0.0578	1.1917	1.1893	1.1905	5297.70	5321.70	1440.00	1714.32	33.7	
15-May-06	WA7	Fine	Normal Operation	2.8351	3.0025	0.1674	1.0211	1.1504	1.0858	6759.37	6783.37	1440.00	1563.48	107.1	
15-May-06	WA8	Fine	Normal Operation	2.8565	3.0109	0.1544	0.8635	0.8610	0.8623	6770.04	6794.04	1440.00	1241.64	124.4	
15-May-06	WA9	Fine	Normal Operation	2.8699	2.9831	0.1132	0.7251	0.7230	0.7241	6904.24	6928.24	1440.00	1042.63	108.6	
15-May-06	WA10	Fine	Normal Operation	2.8394	3.0432	0.2038	1.2619	1.2974	1.2797	6724.85	6748.85	1440.00	1842.70	110.6	
15-May-06	WA11	Fine	Normal Operation	2.8591	3.0707	0.2116	0.7871	0.7843	0.7857	7029.55	7053.55	1440.00	1131.41	187.0	
20-May-06	WA3	Fine	Normal Operation	2.8693	2.9963	0.1270	1.1169	1.1153	1.1161	6737.50	6761.50	1440.00	1607.18	79.0	
20-May-06	WA4	Fine	Normal Operation	2.8369	2.9380	0.1011	1.2299	1.2287	1.2293	7004.87	7028.87	1440.00	1770.19	57.1	
20-May-06	WA5	Fine	Normal Operation	2.8554	3.0635	0.2081	1.5808	1.5789	1.5799	3690.19	3714.19	1440.00	2274.98	91.5	
20-May-06	WA6	Fine	Normal Operation	2.8563	3.0946	0.2383	1.6599	1.6581	1.6590	5321.70	5345.70	1440.00	2388.96	99.8	
20-May-06	WA7	Fine	Normal Operation	2.8427	2.9358	0.0931	1.0859	1.1504	1.1182	6783.37	6807.37	1440.00	1610.14	57.8	
20-May-06	WA8	Fine	Normal Operation	2.8500	2.9366	0.0866	0.8624	0.8610	0.8617	6794.04	6818.04	1440.00	1240.85	69.8	
20-May-06	WA9	Fine	Normal Operation	2.8533	2.9406	0.0873	1.0098	0.9370	0.9734	6928.24	6952.24	1440.00	1401.70	62.3	
20-May-06	WA10	Fine	Normal Operation	2.8445	2.9403	0.0958	0.9883	0.9091	0.9487	6748.85	6772.85	1440.00	1366.13	70.1	
20-May-06	WA11	Fine	Normal Operation	2.8627	2.9770	0.1143	0.8296	0.8281	0.8289	7053.55	7077.55	1440.00	1193.54	95.8	
26-May-06	WA3	Cloudy	Normal Operation	2.8343	2.9123	0.0780	0.8764	0.8732	0.8748	6761.50	6785.50	1440.00	1259.71	61.9	
26-May-06	WA4	Cloudy	Normal Operation	2.8643	2.9621	0.0978	1.2254	1.2836	1.2545	7028.87	7052.87	1440.00	1806.48	54.1	
26-May-06	WA5	Cloudy	Normal Operation	2.8640	2.9278	0.0638	1.0116	0.9386	0.9751	3714.19	3738.19	1440.00	1404.14	45.4	
26-May-06	WA6	Cloudy	Normal Operation	2.8522	2.9082	0.0560	0.9053	0.9030	0.9042	5345.70	5369.70	1440.00	1301.98	43.0	
26-May-06	WA7	Cloudy	Normal Operation	2.8519	2.9127	0.0608	1.1472	1.0137	1.0805	6807.37	6831.37	1440.00	1555.85	39.1	
26-May-06	WA8	Cloudy	Normal Operation	2.8720	2.9259	0.0539	0.8197	0.8168	0.8183	6818.04	6842.04	1440.00	1178.28	45.7	
26-May-06	WA9	Cloudy	Normal Operation	2.8730	2.9113	0.0383	0.5422	0.7176	0.6299	6952.24	6976.24	1440.00	907.06	42.2	
26-May-06	WA10	Cloudy	Normal Operation	2.8378	2.9107	0.0729	1.2154	1.3274	1.2714	6772.85	6796.85	1440.00	1830.82	39.8	
26-May-06	WA11	Cloudy	Normal Operation	2.8542	2.9167	0.0625	0.6933	0.6902	0.6918	7077.55	7101.55	1440.00	996.12	62.7	

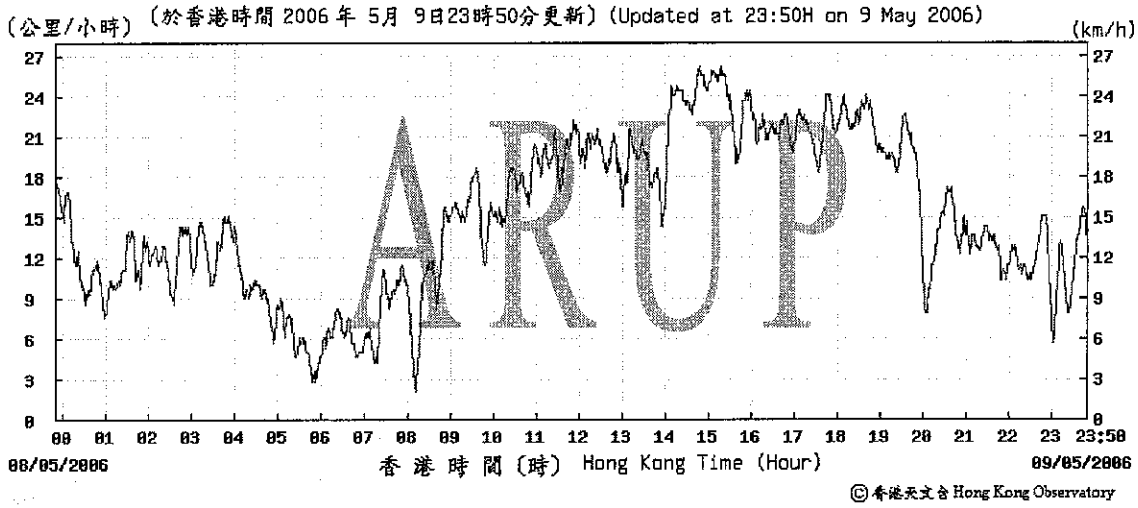
APPENDIX H

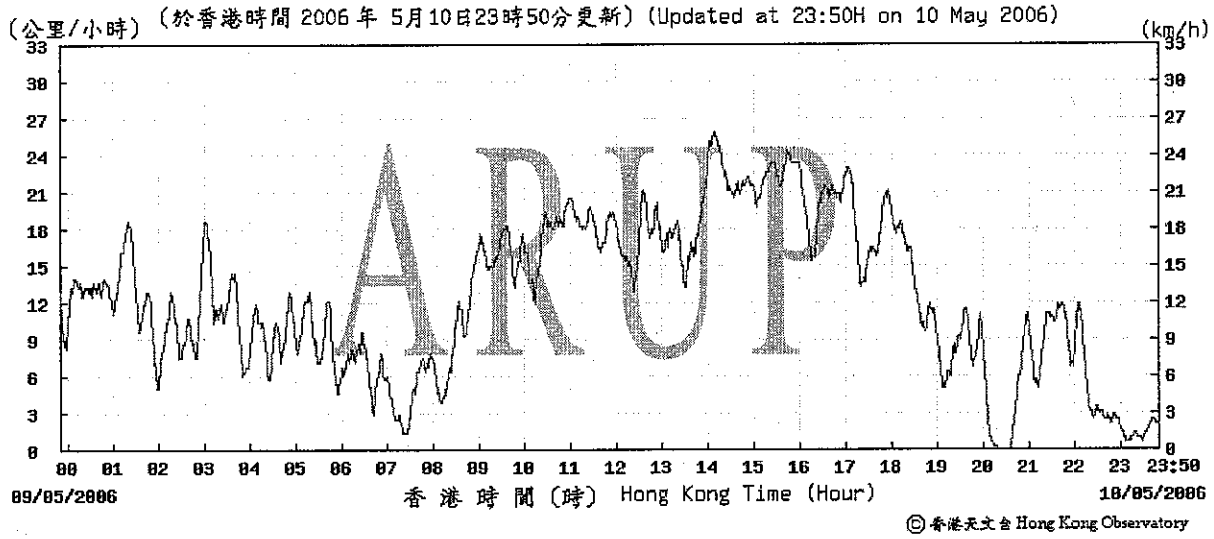
Detailed wind monitoring data for the air quality monitoring period

Wind Monitoring Data – Wind Speed during air quality monitoring in May 2006








(公里/小時) (於香港時間 2006 年 5月10日23時50分更新) (Updated at 23:50H on 10 May 2006)
(km/h)
09/05/2006
香 港 時 間 (時) Hong Kong Time (Hour)
10/05/2006
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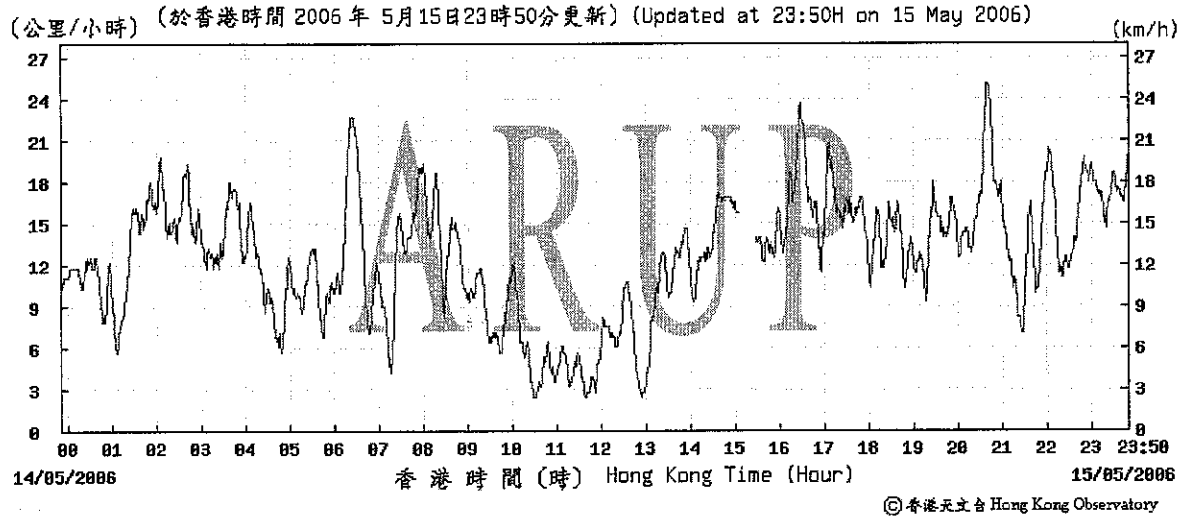
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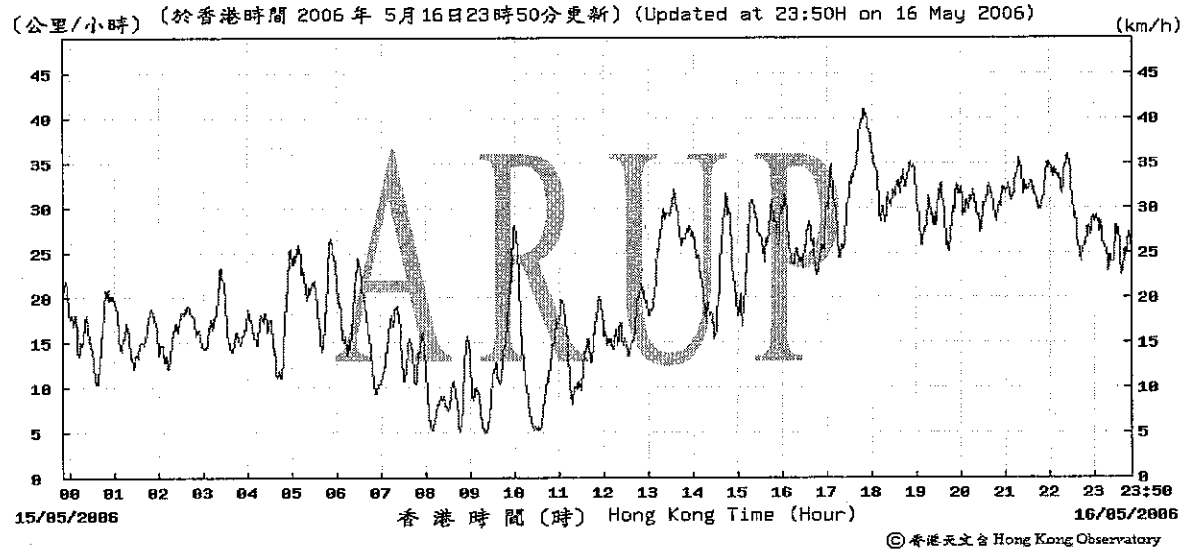
14/05/2006
香 港 時 間 (時) Hong Kong Time (Hour)
15/05/2006
© 香港天文台 Hong Kong Observatory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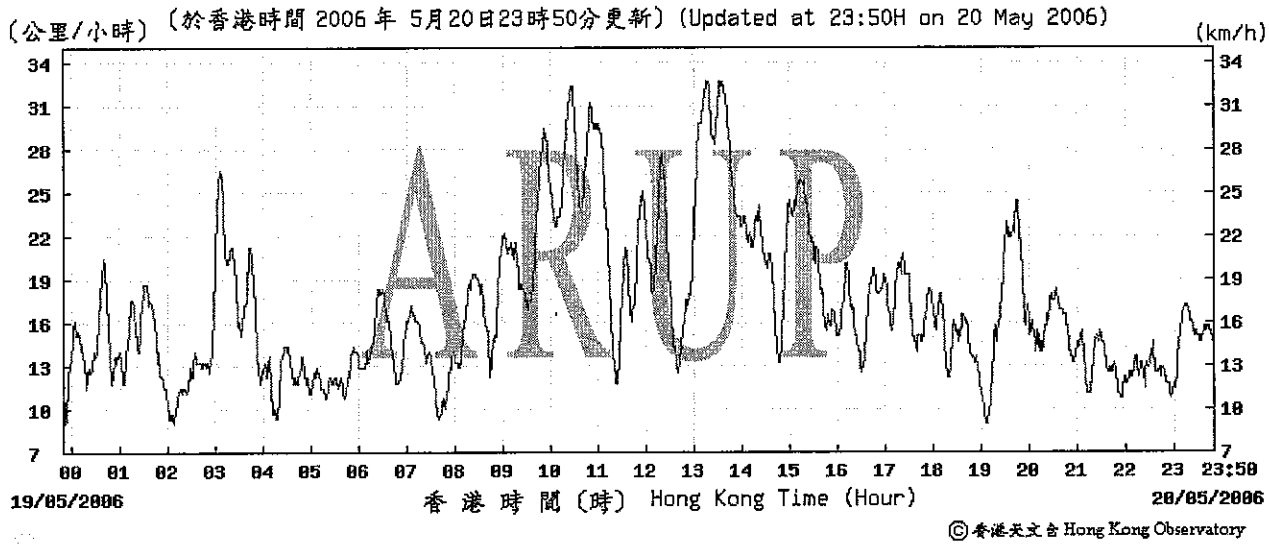
(km/h)
15/05/2006
香 港 時 間 (時) Hong Kong Time (Hour)
16/05/2006
© 香港天文台 Hong Kong Observatory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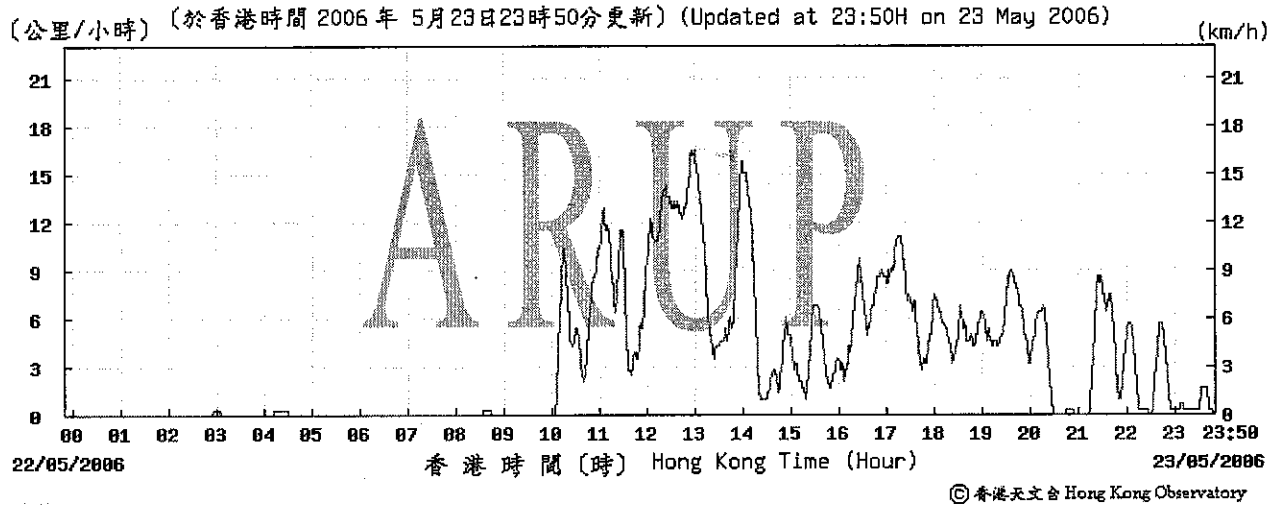
(km/h)
34 31 28 25 22 19 16 13 10 7
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 23:50
19/05/2006
香 港 時 間 (時) Hong Kong Time (Hour)
20/05/2006
© 香港天文台 Hong Kong Observatory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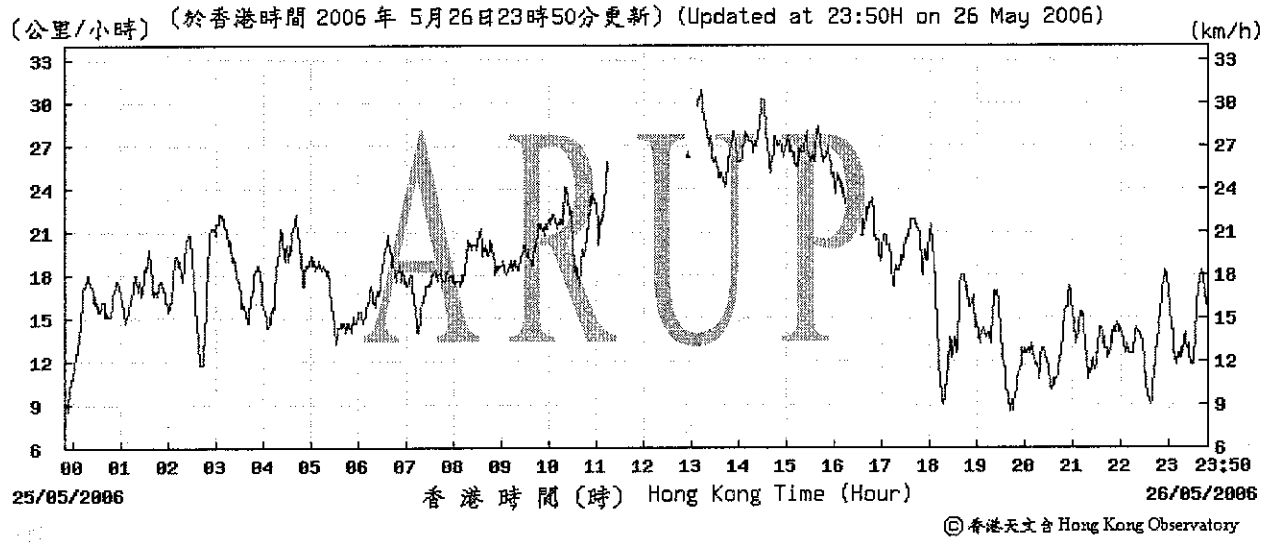
(km/h)
21 18 15 12 9 6 3 0
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 23:50
22/05/2006
香 港 時 間 (時) Hong Kong Time (Hour)
23/05/2006
© 香港天文台 Hong Kong Observatory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(km/h)
33 30 27 24 21 18 15 12 9 6
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 23:50
25/05/2006
香 港 時 間 (時) Hong Kong Time (Hour)
26/05/2006
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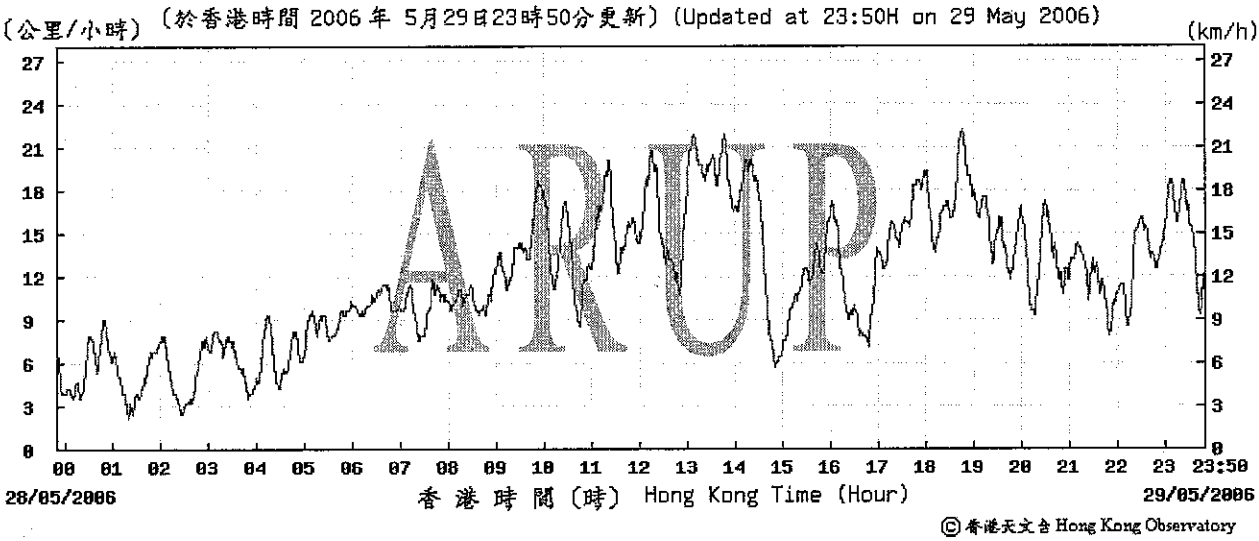
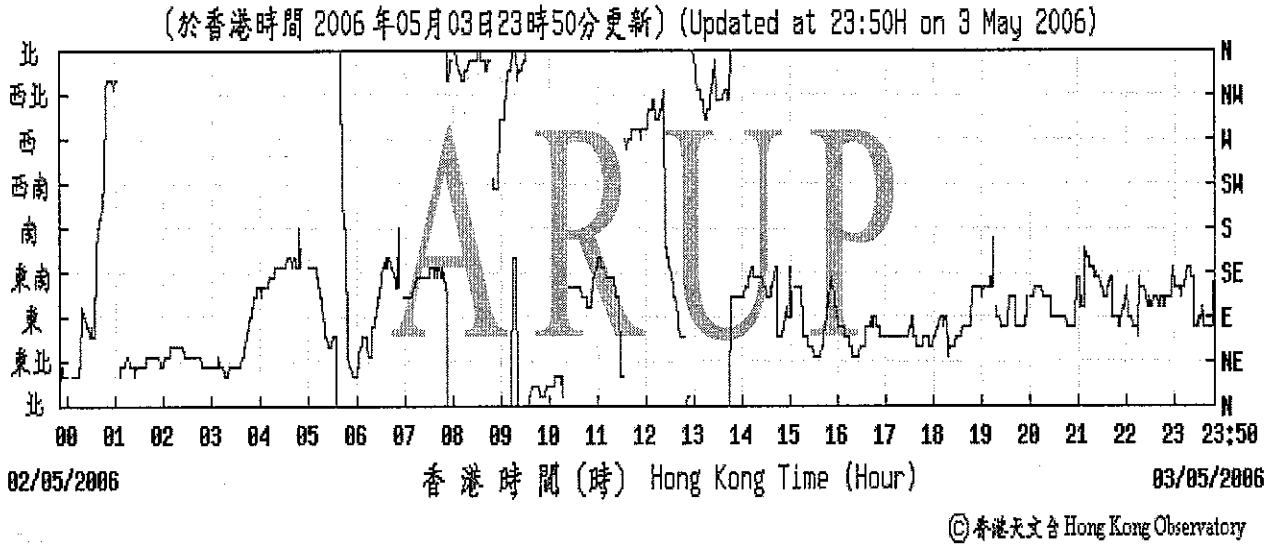


Wind Monitoring Data – Wind direction during air quality monitoring in May 2006



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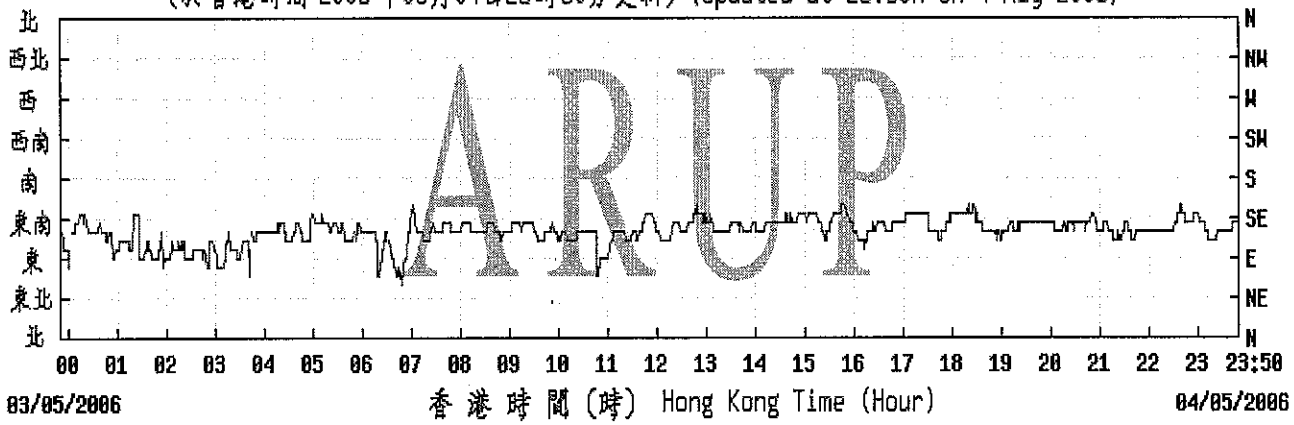

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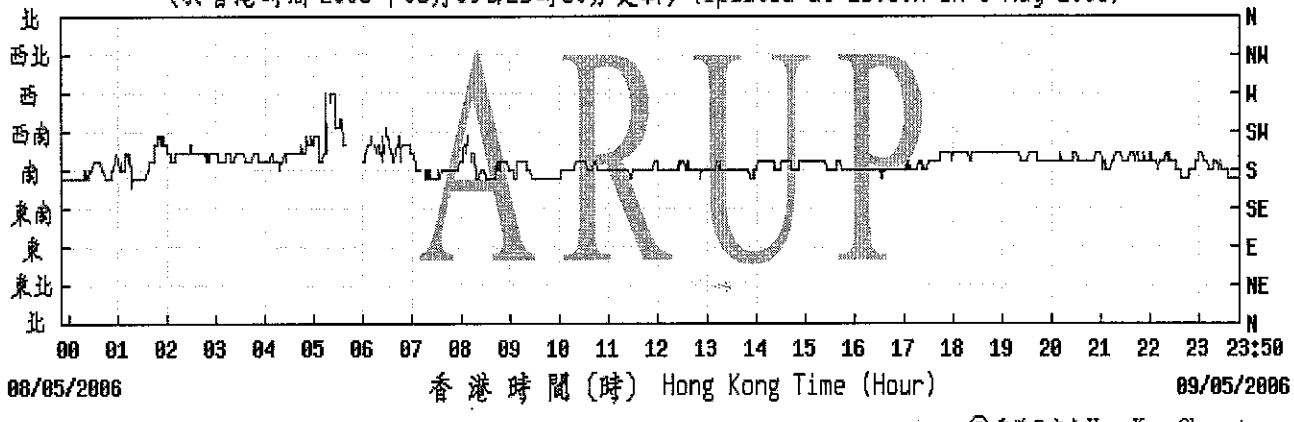
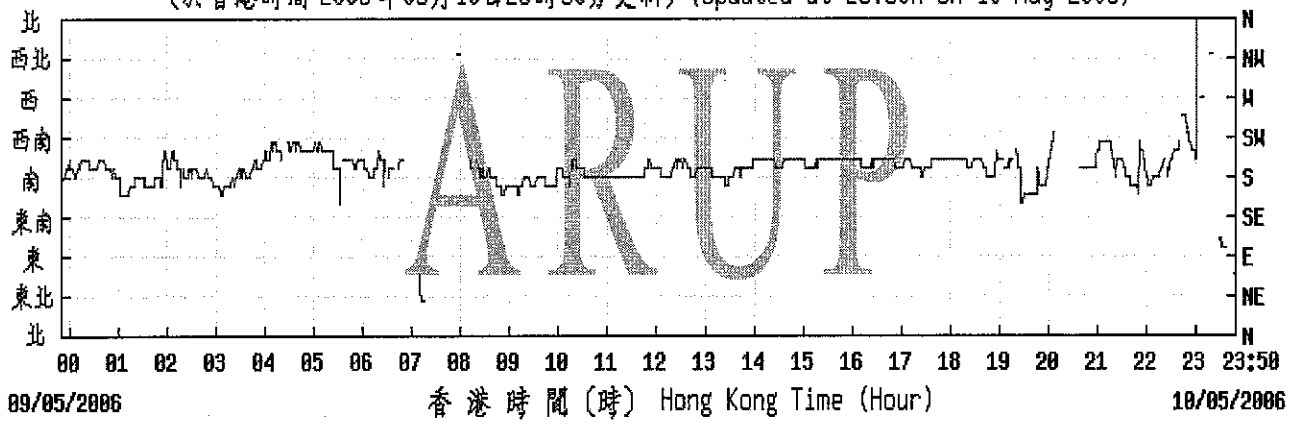


(於香港時間 2006 年05月10日23時50分更新) (Updated at 23:50H on 10 May 2006)



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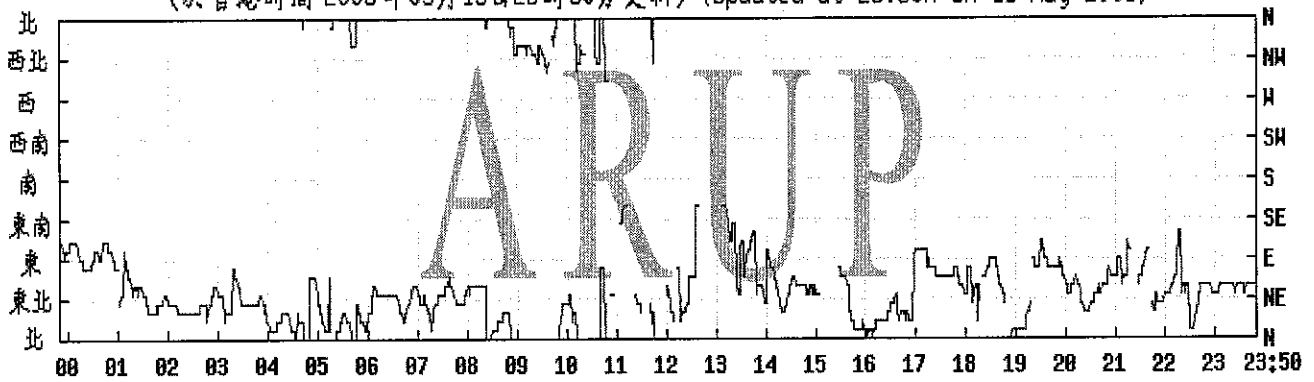

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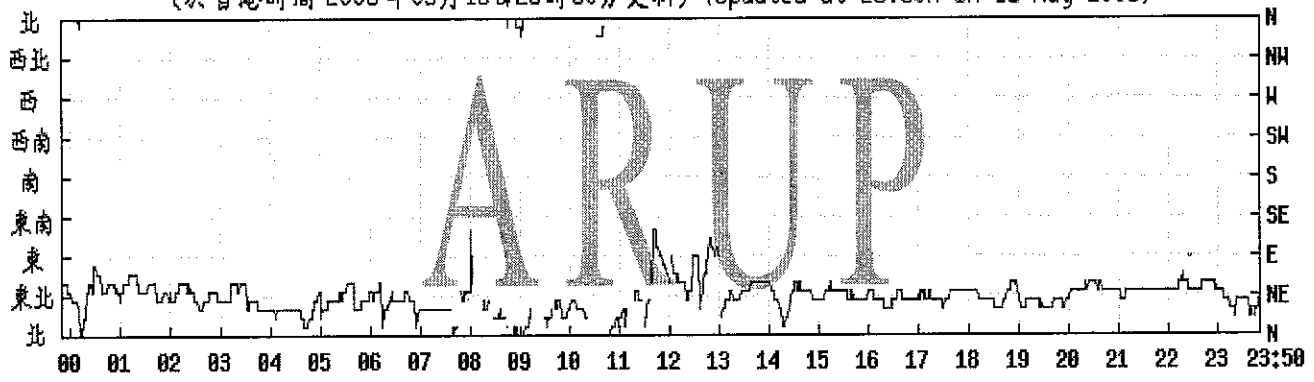

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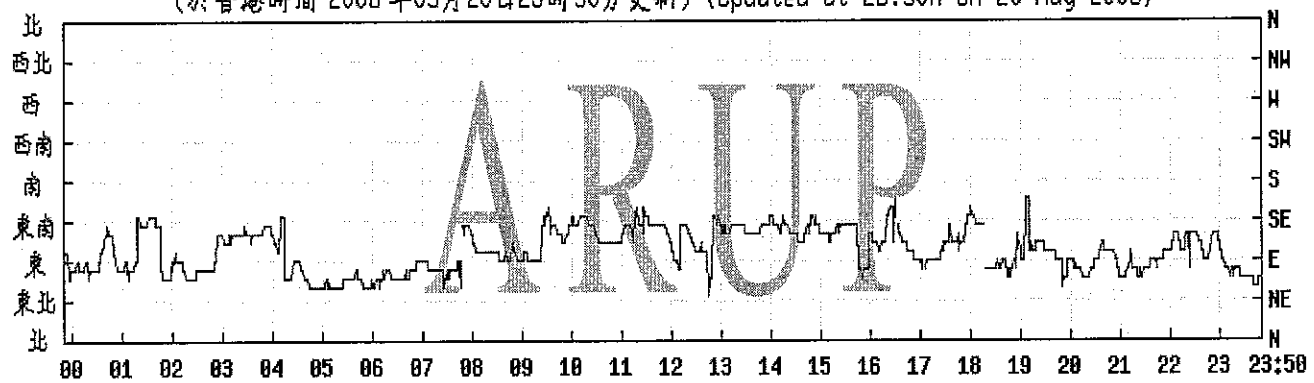

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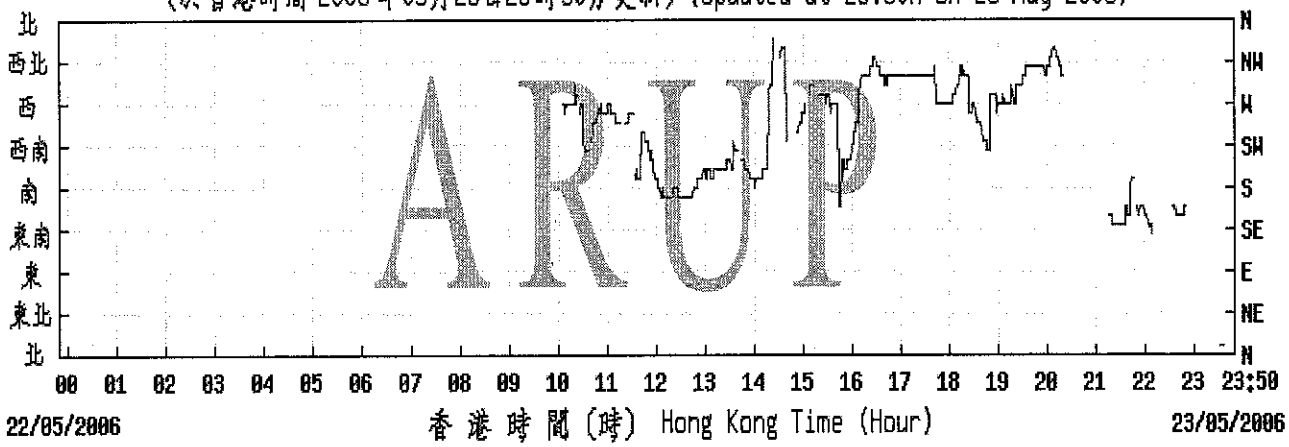

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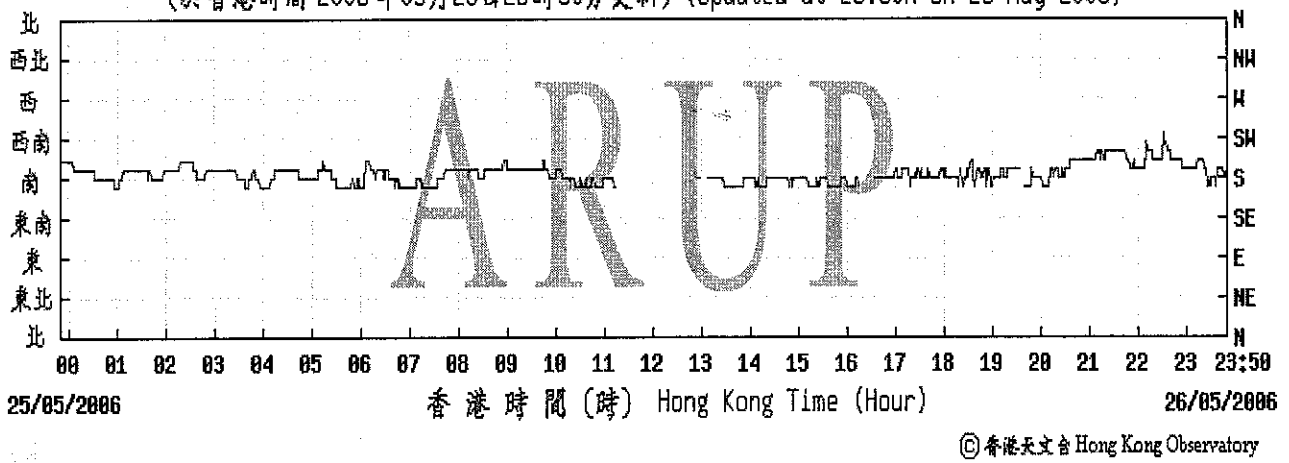

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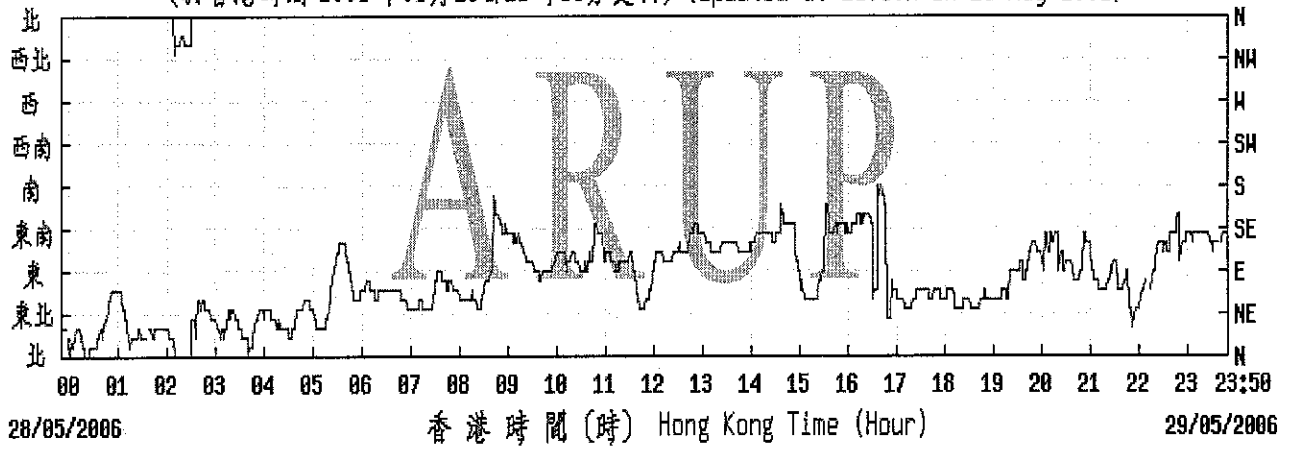

APPENDIX I

Calibration certificates of noise monitoring equipment

Brüel & Kjær

SPECTRIS CHINA LIMITED
思百吉中國有限公司

CERTIFICATE OF CALIBRATION

Certificate No. : 2KS050708-1 **Page 1 of 2**

Calibration of :

Description : Acoustical Calibrator
Manufacture : Brüel & Kjær
Type No. : 4230
Serial No. : 1233887

Client :

ARUP Acoustic Consultant
Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong
Kowloon

Calibration Conditions :

Air Temperature	:	23	**°C**
Air Pressure	:	100.9	**kPa**
Relative Humidity	:	56	**%**

Test Specifications :

The Acoustical Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by Brüel & Kjær, or equivalent. The standard(s) and instrument(s) used in the calibration are traceable to international standard and are calibrated on a schedule which is adjusted to maintain the required accuracy level.

Test Result :

A list of the performed (sub) tests is stated on page 2 of this certificate. Actual Measurement are documented on worksheet.

Date of Calibration : 01 August, 2005
Calibrated By :

Fox Ng

Certificate issued :02 August, 2005
Approved signatory :

Jacky Leung

Unit 706 7/F., Miramar Tower, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong
香港九龍尖沙咀彌敦道132號美麗華大廈7樓706室

Tel : (852) 2548 7486
Fax : (852) 2858 1168

spectris

CERTIFICATE OF CALIBRATION

Certificate No. : 2KS050708-1

Results :

List of performed (sub) test with test status:
"OK" Means the result of the (sub)test is Inside the tolerances stated in the test specifications.
" - " Means the result of the (sub)test is Outside these tolerances.

Test :	Subtest :	Status :
SPL	94 dB SPL	OK
	114 dB SPL	OK
Frequency		OK
2nd Harmonic		OK

Calibration Equipment :

Description :	*Make & Model :*	*Serial No. :*	*Last Cal. Date :*	*Traceable to:*
Digital Multi-meter	Datron 1281	27361	28 Sep., 2004	HKSCL(HOKLAS)
Frequency Counter	Philips PM6671	SM 6043	23 Sep., 2004	HKSCL(HOKLAS)
Acoustical Calibrator	B&K 4226	1843103	11 Jul., 2005	NPL via B&K (DANAK

Calibrated By : Fox Ng
Date : 01 August, 2005

Checked By :
Date : 02 August, 2005

ArupAcoustics

ARUP

Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong, Kowloon
HONG KONG

Tel: +852 2268 3216

Fax: +852 2268 3950

AAc Certificate No. 2005009

CERTIFICATE OF CONFORMITY

Description of Test Instrument	Type No	Serial No
RION Sound Level Meter	NA-27	00980789
RION ½" Microphone	UC53A	307440

Date of Test: 26 September 2005

Carried out by: Steven Wong

Signature:

Approved by: William Ng

Signature:

Ambient Conditions During Test	
Atmospheric Pressure:	1KPa
Air Temperature:	21°C
Relative Humidity:	58%

This document is to certify that the above Test Instrumentation did conform to the manufacturer's original specification on the date of the test. Any adjustments that were required to bring the instrumentation back into specification are duly noted in this document. The tests were carried out using the reference calibrator described below.

Description of Reference Calibrator	Type No	Serial No
Brüel & Kjær Multi Frequency Calibrator	4226	1531372
Brüel & Kjær Coupler	UA0915	1531372

Certificate of Calibration Serial No.	14260
By Brüel & Kjær (UK) Ltd Calibration Date:	21 September 2005
NAMAS Accredited Calibration Laboratory No.	0174

The reference calibrator, Type 4226, has traceable calibration back to National Measurement Standards. As such it is used as Arup Acoustics own 'Primary Standard' and is used only for controlled laboratory calibration tests on all sound measuring equipment owned by Arup Acoustics.

Footnote:

Arup Acoustics is not a registered NAMAS accredited calibration laboratory. This certificate is for internal use only (unless otherwise authorised) and is part of Arup Acoustics development and commitment to QC and QA procedures.

ArupAcoustics

ARUP

Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong, Kowloon
HONG KONG

Tel: +852 2268 3216

Fax: +852 2268 3950

AAc Certificate No. 2005008

CERTIFICATE OF CONFORMITY

Description of Test Instrument	Type No	Serial No
RION Sound Level Meter	NA-27	01070556
Bruel & Kjaer ½" Microphone	UC-53A	90317

Date of Test: 26 September 2005

Carried out by: Steven Wong

Approved by: William Ng

Signature: Steven

Signature: Wm Ng

Ambient Conditions During Test	
Atmospheric Pressure:	1KPa
Air Temperature:	21°C
Relative Humidity:	58%

This document is to certify that the above Test Instrumentation did conform to the manufacturer's original specification on the date of the test. Any adjustments that were required to bring the instrumentation back into specification are duly noted in this document. The tests were carried out using the reference calibrator described below.

Description of Reference Calibrator	Type No	Serial No
Brüel & Kjær Multi Frequency Calibrator	4226	1531372
Brüel & Kjær Coupler	UA0915	1531372

Certificate of Calibration Serial No.	14260
By Brüel & Kjær (UK) Ltd Calibration Date:	21 September 2005
NAMAS Accredited Calibration Laboratory No.	0174

The reference calibrator, Type 4226, has traceable calibration back to National Measurement Standards. As such it is used as Arup Acoustics own 'Primary Standard' and is used only for controlled laboratory calibration tests on all sound measuring equipment owned by Arup Acoustics.

Footnote:

Arup Acoustics is not a registered NAMAS accredited calibration laboratory. This certificate is for internal use only (unless otherwise authorised) and is part of Arup Acoustics development and commitment to QC and QA procedures.

APPENDIX J

Detailed noise monitoring results

Details of Noise Impact Monitoring

Date	NSR No.	Time periods		Weather condition	Avg. wind speed (m/s)	Noise Level dB(A)			Influencing factors/ Site condition
		Start	Finish			L_{eq}	L_{10}	L_{90}	
4-May-06	WN1	16:40	17:10	Cloudy	1.3	67.7	69.0	64.5	Normal Operation
4-May-06	WN2	15:55	16:25	Cloudy	1.3	66.8	68.5	63.5	Normal Operation
4-May-06	WN6	15:15	15:45	Cloudy	2.1	63.6	65.0	60.5	Normal Operation
4-May-06	WN7	15:10	15:40	Cloudy	1.4	64.8	66.0	61.5	Normal Operation
4-May-06	WN8	15:50	16:20	Cloudy	1.6	64.3	65.5	61.5	Normal Operation
4-May-06	WN9	14:25	14:55	Cloudy	1.0	68.1	70.0	65.0	Normal Operation
4-May-06	WN10	13:45	14:15	Cloudy	1.1	67.8	69.5	64.5	Normal Operation
4-May-06	WN11	13:00	13:30	Cloudy	1.2	68.6	70.5	66.0	Normal Operation
4-May-06	WN12	11:15	11:45	Cloudy	1.5	67.1	69.0	64.5	Normal Operation
4-May-06	WN13	9:20	9:50	Cloudy	1.4	66.8	68.5	64.0	Normal Operation
4-May-06	WN14	10:20	10:50	Cloudy	1.6	64.6	66.5	60.5	Normal Operation
4-May-06	WN15	9:30	10:00	Cloudy	1.9	64.1	65.5	60.5	Normal Operation
4-May-06	WN16	11:00	11:30	Cloudy	1.7	62.7	64.0	58.5	Normal Operation
10-May-06	WN1	10:40	11:10	Sunny	1.2	67.6	69.0	64.0	Normal Operation
10-May-06	WN2	11:25	11:55	Sunny	1.1	66.9	68.5	64.0	Normal Operation
10-May-06	WN6	13:00	13:30	Sunny	1.7	63.8	66.0	55.5	Normal Operation
10-May-06	WN7	9:55	10:25	Sunny	1.6	65.9	69.0	55.0	Normal Operation
10-May-06	WN8	10:30	11:00	Sunny	1.8	63.9	67.0	53.5	Normal Operation
10-May-06	WN9	13:50	14:20	Sunny	1.2	66.8	68.5	61.5	Normal Operation
10-May-06	WN10	14:30	15:00	Sunny	1.2	67.3	69.0	62.0	Normal Operation
10-May-06	WN11	15:20	15:50	Sunny	1.1	69.1	71.0	65.5	Normal Operation
10-May-06	WN12	9:05	9:35	Sunny	1.3	66.8	68.0	63.0	Normal Operation
10-May-06	WN13	10:10	10:40	Sunny	1.0	67.6	69.0	62.5	Normal Operation
10-May-06	WN14	15:00	15:30	Sunny	1.5	64.5	67.5	57.0	Normal Operation
10-May-06	WN15	11:05	11:35	Sunny	1.4	65.5	67.5	60.5	Normal Operation
10-May-06	WN16	14:20	14:50	Sunny	1.3	65.6	67.5	61.0	Normal Operation
16-May-06	WN1	15:10	15:40	Cloudy	1.9	66.2	68.5	63.0	Normal Operation
16-May-06	WN2	15:50	16:20	Cloudy	1.8	65.9	67.5	62.5	Normal Operation
16-May-06	WN6	9:50	10:20	Cloudy	2.0	65.7	68.0	63.0	Normal Operation
16-May-06	WN7	10:30	11:00	Cloudy	2.2	67.2	69.0	65.0	Normal Operation
16-May-06	WN8	11:10	11:40	Cloudy	2.0	66.6	68.5	64.0	Normal Operation
16-May-06	WN9	13:00	13:30	Cloudy	1.5	69.4	72.0	67.0	Normal Operation
16-May-06	WN10	13:40	14:10	Cloudy	1.7	67.0	68.5	65.0	Normal Operation
16-May-06	WN11	14:15	14:45	Cloudy	1.6	66.7	69.0	64.5	Normal Operation
16-May-06	WN12	14:25	14:55	Cloudy	2.3	67.4	69.0	64.0	Normal Operation
16-May-06	WN13	15:45	16:15	Cloudy	1.9	68.8	70.0	65.5	Normal Operation
16-May-06	WN14	16:50	17:20	Cloudy	1.6	67.1	68.5	64.5	Normal Operation
16-May-06	WN15	10:00	10:30	Cloudy	1.4	68.4	69.5	64.5	Normal Operation
16-May-06	WN16	9:00	9:30	Cloudy	1.8	70.8	73.5	67.0	Normal Operation
23-May-06	WN1	15:00	15:30	Cloudy	1.7	65.1	67.5	63.0	Normal Operation
23-May-06	WN2	15:40	16:10	Cloudy	1.4	65.8	68.0	64.0	Normal Operation
23-May-06	WN6	9:20	9:50	Cloudy	1.5	64.7	67.5	62.5	Normal Operation
23-May-06	WN7	10:00	10:30	Cloudy	1.4	66.4	68.5	64.0	Normal Operation
23-May-06	WN8	10:35	11:05	Cloudy	1.4	67.2	69.0	64.5	Normal Operation
23-May-06	WN9	11:15	11:45	Cloudy	1.0	70.3	72.5	67.5	Normal Operation
23-May-06	WN10	13:00	13:30	Cloudy	1.7	68.0	71.0	65.5	Normal Operation
23-May-06	WN11	13:40	14:10	Cloudy	1.8	68.2	71.5	65.0	Normal Operation
23-May-06	WN12	10:35	11:05	Cloudy	1.2	67.3	69.5	65.5	Normal Operation
23-May-06	WN13	11:25	11:55	Cloudy	1.3	69.4	71.5	66.5	Normal Operation
23-May-06	WN14	15:40	16:10	Cloudy	1.0	67.3	69.5	64.0	Normal Operation
23-May-06	WN15	14:50	15:20	Cloudy	1.3	66.7	68.0	63.0	Normal Operation
23-May-06	WN16	14:00	14:30	Cloudy	1.4	68.8	70.5	66.0	Normal Operation
29-May-06	WN1	15:20	15:50	Cloudy	1.7	66.3	68.0	64.0	Normal Operation
29-May-06	WN2	16:05	16:35	Cloudy	1.9	66.6	68.5	63.5	Normal Operation
29-May-06	WN6	9:30	10:00	Cloudy	2.1	64.5	67.0	62.0	Normal Operation
29-May-06	WN7	10:15	10:45	Cloudy	2.4	67.5	69.5	65.0	Normal Operation
29-May-06	WN8	10:55	11:25	Cloudy	1.9	67.2	69.0	64.0	Normal Operation
29-May-06	WN9	13:00	13:30	Cloudy	1.4	69.7	72.0	66.0	Normal Operation
29-May-06	WN10	13:45	14:15	Cloudy	2.0	67.1	69.0	64.5	Normal Operation
29-May-06	WN11	14:30	15:00	Cloudy	2.5	68.0	70.5	65.5	Normal Operation
29-May-06	WN12	15:30	16:00	Cloudy	0.9	67.0	68.5	64.0	Normal Operation
29-May-06	WN13	13:15	13:45	Cloudy	1.3	68.1	70.5	65.0	Normal Operation
29-May-06	WN14	11:10	11:40	Cloudy	0.9	68.8	70.5	65.5	Normal Operation
29-May-06	WN15	10:15	10:45	Cloudy	1.3	67.6	69.5	65.5	Normal Operation
29-May-06	WN16	14:00	14:30	Cloudy	1.1	70.1	73.0	66.5	Normal Operation

APPENDIX K

Landscape and visual monitoring and audit report

Contract No. HY/99/18
Castle Peak Road Improvements between Sham Tseng and Ka Loon Tsuen

Landscape & Visual Audit and Monitoring

Monthly Inspection Report No. 51

(May 2006)

Prepared by

URBIS LIMITED

Prepared by : *Tran Tuan Huy* 1st June 2006

Approved by : *Alexander Diaggie* 1st June 2006

1.0 INTRODUCTION

This is a Landscape and Visual Audit conducted to fulfill the requirements of the EIA during the Construction and Operational Phases of the project, and is based on the procedures and requirements as set out in the Castle Peak Road Improvements between Area 2 and Ka Loon Tsuen, Tsuen Wan - Environmental Monitoring and Audit Manual – West Contract.

Under the EIA, the proposed mitigation measures include both the planting works and treatment to structures. As stated in 6.4.2 of the EM & A, all measures undertaken by both the Contractor and the Landscape Contractor during the construction phase and the first 12 months of the operational phase shall be audited on a bi-weekly and bi-monthly basis respectively to ensure compliance with the intended aims of the mitigation measures.

2.0 SCOPE OF AUDIT

The broad scope of the audit on mitigation measures is as detailed below:

2.1 Planting Proposals

- Regular inspection of the agreed works areas to ensure no unnecessary intrusion by the Contractor outside the limit of the works;
- Regular review of the progress of engineering works to identify the earliest practical opportunity for the landscape works;
- Monitoring of tree transplanting and planting operations;
- Monitoring of works around the area of existing trees to be retained and protected;
- Monitoring of protection works for existing trees;
- Ensure planting works are carried out in accordance with the Specification and within the right planting season;
- Monitoring of the maintenance operations during the Establishment Period to ensure all plants are well watered and nutrients applied.

2.2 Standard Treatment to Structures

- Monitoring and review to ensure the proposed architectural treatments to retaining walls, viaducts, bridges, and noise barriers are implemented in accordance with the approved design, and where appropriate, to soften the hard edges to structures with planting works.

3.0 INSPECTIONS

3.1 Summary of Inspection – 11th May 2006

3.1.1 Matters Arising from Previous Inspections

- Replacement of damaged LS tree at planter Bed 6.9 was outstanding. The Contractor was requested to replace the tree as soon as possible.
- Replacement planting of dead plants on Slopes 6 is still outstanding. The Contractor was reminded to also carry out the replacement as soon as possible.
- Clearance of scattered litter and garbage at the central divider near FB-03 area was still outstanding. The Contractor was reminded to clear it away as soon as possible.
- Clearance of the invasive *Leucaena leucocephala* plant species from Slopes 9 & 11 was outstanding. The Contractor was reminded to clear away the plant as soon as possible to prevent its spreading, which would affect the establishment of woodland planting works.

3.1.2 Construction and Planting Works

- Construction and garbage pile was found at FB-02 area. The Contractor was requested to clear it away as soon as possible.
- Scattered litter and construction waste was found within the planters Bed 7.20 & Bed 7.21 near NM-04. The Contractor was requested to clear it away as soon as possible.
- Construction waste piles were found at Slope 9, Dragon Garden and Junction A15 areas. The Contractor was requested to clear it away as soon as possible.

3.1.3 Recommendations

- The Contractor was reminded to clear away all construction waste, scattered litter, garbage, etc. as found on site, and keep the site in a tidy condition at all times.
- The Contractor was reminded to urgently replace all dead whip plants and defective tree(s), and to carry out regular watering of plants during the dry periods. Also, the Contractor was reminded to remove the *Leucaena leucocephala* plants as soon as possible.

3.2 Summary of Inspection – 25th May 2006

3.2.1 Matters Arising from Previous Inspections

- The Contractor had cleared away the construction and garbage pile found at FB-02 area.
- The Contractor had cleared away the construction waste piles found at Slope 9, Dragon Garden and Junction A15 areas.
- The Contractor had cleared it away the scattered litter and garbage at the central divider near FB-03 area.
- Clearance of construction waste and scattered litter from planters Bed 7.20 & Bed 7.21 was outstanding. The Contractor was reminded to clear it away as soon as possible.
- Replacement of damaged LS tree at planter Bed 6.9 was still outstanding. The Contractor was requested to replace the tree as soon as possible.
- Clearance of the invasive *Leucaena leucocephala* plant species from Slopes 9 & 11 was outstanding. The Contractor was reminded to clear away the plant as soon as possible to prevent its spreading, which would affect the establishment of woodland planting works.

3.2.2 Construction and Planting Works

- Untidy site condition was observed at Sham Tseng near existing tree T5. The Contractor was requested to tidy up the area as soon as possible.
- Planting works were observed to be in progress at various areas of the site.

3.2.3 Recommendations

- The Contractor was reminded to clear away all scattered litter, garbage, etc. as found on site, and keep the site in a tidy condition at all times.
- The Contractor was reminded to urgently replace all dead whip plants and defective tree(s), and to carry out regular watering of plants during the dry periods. Also, the Contractor was reminded to remove the *Leucaena leucocephala* plants as soon as possible.

4.0 TREE TRANSPLANTING SURVIVAL RATE

4.1 Tree Transplanting Survival Rate

The tree transplanting survival rate as reported by the Contractor for the period up to the end of May is 100%.

5.0 AUDIT SCHEULE

5.1 Audit Schedule for June 2006

The next audits are schedule to be conducted on 8th and 22nd June 2006.

APPENDIX L

Log records and details of environmental complaints

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
029	12-Aug-02	Complaint from Mr. Au regarding muddy water washing out from Kowloon Bound Lane from the construction site	Enlarge concrete paving at site entrance; further improvement to the existing temporary drainage system to minimise wash-off of waste water to the adjacent road; and make sure temporary water supply points are properly turned off during lunch break or other times when they are not in use.	16-Aug-02	
036	31-Aug-02	Complaint from Mrs. Chung regarding the generation of fugitive dust from the construction site in front of Tsing Lung Tau Village	Frequent watering of the related works area with the aid of water browser	31-Aug-02	
054	7-Dec-02	Complaint from Mr. Lo regarding the stagnant water ponding in front of the construction site at Sham Tseng	Explained to the complainant that the water ponding was a wheel washing bay	7-Dec-02	
067	3-Mar-03	Complaint from Hong Kong Garden Management Office regarding the noise from vehicular movement over the temporary road cover at Castle Peak Road provided by the Contractor	The Contractor has added extra welding to improve the rigidity of the temporary steel deck. The work was completed dring the off-peak hours in the period between 12-Mar-03 to 17-Mar-03.	17-Mar-03	The Contractor has taken noise readings and found that the noise level was within the baseline levels.
068	11-Mar-03	Complaint from Mr. Leung at Hong Kong Garden regarding the noise from evening road traffic, travelling over the steel decking plate on the adjacnt temporary road diversion.	The Contractor has added extra welding to improve the rigidity of the temporary steel deck. The work was completed dring the off-peak hours in the period between 12-Mar-03 to 17-Mar-03.	17-Mar-03	The Contractor has taken noise readings and found that the noise level was within the baseline levels.
070	6-Mar-03	Complaint from EPD regarding the reclamation works at Seawall B opposite to Hong Kong Garden on Sunday	The Contractor has previously informed the subcontractor of the statutory requirements as noise, dust emission, water discharge, and waste management. The Contractor agreed to keep vigilant in monitoring and surveillance of the site and continue to remind the subcontractors of the statutory requirements.	10-Mar-03	The Contractor has formally closed all site area for the Chinese New Year. Entrances of all site area were barricaded before the Contractor's staff vacnated the sites on 30 January 2003.
070	6-Mar-03	Complaint from EPD regarding dust emission from the reclamation works at Seawall B opposite to Hong Kong Garden.	The Contractor has previously informed the subcontractor of the statutory requirements as noise, dust emission, water discharge, and waste management. The Contractor agreed to keep vigilant in monitoring and surveillance of the site and continue to remind the subcontractors of the statutory requirements.	10-Mar-03	The Contractor has investigated and confirmed that the marine works towards the eastern end of Seawall B was wet and the concreting works at the west end of the Seawall B were not dusty and no dust was emitted. Ground surface was also covered with crushed rock. The Contractor was also further reminded to spray water before and during unloading and moving of rock boulders and onto the haul road.
070	24-Mar-03	Complaint from EPD regarding daytime construction noise at Seawall B opposite to Hong Kong Garden.	The Contractor agreed to continuously monitor and review the operation in the vicinity opposite to Lung tang Court, in order to minimize the noise impact caused to the public. In addition the Contractor will respond to the complaints received on the 24- hours Contract Complaint Hotline 2496 2555 in the first instant.	31-Mar-03	No exceedance was recorded at the noise monitoring station WN6, WN7 and WN8 from January 2003 to March 2003. It was suspected that the noise was due to traffic noise together with operational noise of plant equipment at Seawall B. The Contractor was also reminded if reorganzation of working arrangement is necessary, mitigation proposal should be submitted to IC(E) for review. Additioinal noise monitoring shall also be conducted at the noise monitoring station WN8 once the mitigation proposal is implemented.
076	15-Apr-03	Complaint from Mr. Wong of TL 60 Management Limited regarding the noise nuisance generated from the vehicle movement over the temporary steel decking in front of Hong Kong Garden at Castle Peak Road provided by the Contractor.	The Contractor has replaced the isolated decking plate by 17 April 2003 and agreed to frequently inspect the condition of the steel decking. Further improvement works were completed on 25 April 2003.	25-Apr-03	

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
078	15-Apr-03	Complaint from Mr. Chau of Hong Kong Garden regarding the noise nuisance generated from vehicle movement over the temporary steel plate in front of the premises.	The Contractor has explained to Mr. Chau that the improvement works were completed on 25 April 2003 and agreed to carry out daily inspection to check the condition of the steel plate.	29-Apr-03	The complainant agreed that the noise nuisance has abated.
080	5-May-03	Complaint from Mr. Tsao / Mr. Chan of Mui Yuen, opposite to Bayside Villas regarding water leakage from the rocky slope behind his house and the damage of water pipes by cleaning works.	The water pipe was repaired on 9 May 2003. The Contractor has explained that the rocky slope was ouside the site boundary.	9-May-03	
082	7-May-03	Complaint from Ms. Chan regarding water ponding on existing footpath along Castle Peak Road near the Contractor's site office.	The Contractor has formed holes at existing upstand wall to drain off water trapped in the adjacent footpath and to patch up local depression at the affected footway with plain concrete.	19-May-03	
084	21-May-03	Complaint from Ms. Lam of Sea Crest Villa Phase I regarding construction noise from the slope works outside Sea Crest Villa Phase I.	The Contractor has observed low-noise emission construction equipment were being used at the time of inspection and proposed to speed up the works to limit the duration of daytime construction noise impact. The Contractor has provided additional information in their letter ref. HY/99/18/M45/300/40/10229 dated 25 June 2003. Additional noise monitoring had been taken by the Contractor on 22 May 2003 at WN15 obtaining the result of 66.6dB(A), which was below the limit level of 75dB(A). After reviewing the findings and investigation details, the Contractor confirmed that no further remedial actions was required.	25-Jun-03	The Contractor was requested to submit mitigation proposal to IC(E) for review and to implement the mitigation proposal. Additioinal noise monitoring is required to be conducted at the noise monitoring station WN15 once the mitigation proposal is implemented. The IC(E) had no comment on the Contractor's findings. Since no mitigation measures were implemented, additional noise monitoring was not conducted.
086	23-May-03	Complaint from Mr. So regarding stagnant water in the drainage and wheel washing bay near the entrance of Sea Crest Villa Phase IV and the damage of road surface near L1 main gate and CLP electricity supply room.	Explained to the complainant that the stagnant water inside the wheel washing bay was for cleaning of vehicle. The leakage found the temporary water pipe was repaired. The water and silt trapped in the U-channel near the main entrance of the estate was removed and the kerb on west side of the run-in to Gate L1 was reinstated.	29-May-03	The Contractor will properly maintain the wheel washing facility, regularly inspect and clean the drainage channel and the gully pots near the main entrance of the estate. The damaged paving slab and cable pit near the power supply room will be restored to original condition after completion of the adjacent substructure works around mid August 2003.
088	3-Jun-03	Complaint from EPD regarding construction dust from Seawall B.	The Contractor proposed to place the concerned area under higher priority and endeavor to water the concerned haul road more frequently during dry days.	6-Jun-03	No rock breaking activity has been observed in site audits since 5 June 2003. The haul road at Seawall B was observed wetted in the site audits. The Contractor was reminded to provide water spraying if there is rock breaking activity in this vicinity.
088	3-Jun-03	Complaint from EPD regarding construction noise from Seawall B.	The Contractor reported that there may be occasional crashing noise for the piling works when rock level is reached. The Contractor has been providing mitigation measures, such as barrier and restriction of the rate of concerned works. The Contractor will also endeavor to expedite the works to reduce the duration of perceived daytime impact. The Contractor proposed to perform additional ad hoc inspections on Mondays, Wednesday and Fridays at the concerned area to confirm continual implementation of measures and to conduct additional noise monitoring where appropriate.	6-Jun-03	No rock breaking activity has been observed in site audits since 5 June 2003. Contractor has been reminded to submit mitigation proposal to IC(E) for review and to implement the mitigation proposal if provision of additional mitigation measures is required. The Contractor was also advised to provide portable noise barrier if there is rock breaking activity. Additioinal noise monitoring is also required to be conducted at the noise monitoring station WN8 once the mitigation proposal is implemented. The IC(E) had no comment on the Contractor's findings. Since no mitigation measures were implemented, additional noise monitoring was not conducted.
091	16-Jun-03	Complaint from Ms. Chan of Sea Crest Villa Phase 1 regarding noise from drilling works carried out at BPRW70 outside Sea Crest Villa Phase 1 before 07:00.	Upon investigation, the Contractor confirmed that there has been no construction work being conducted before 07:00. Nevertheless, the Contractor has scheduled the concerned work to be commenced at 08:00 as on 17 July 2003.	17-Jun-03	

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
092	16-Jun-03	Complaint from Mrs. Chung of Lido Garden regarding noise from drilling works carried out at BPRW70 opposite to Lido Garden before 07:00.	Upon investigation, the Contractor confirmed that there has been no construction work being conducted before 07:00. Nevertheless, the Contractor has scheduled the concerned work to be commenced at 08:00 as on 17 July 2003.	17-Jun-03	
097	27-Jun-03	Complaint from Mr Fok of Kai Shing Management Services regarding noise nuisance and the ponding of stagnant water arising from the construction activities outside Sea Crest Villa Phase III.	Upon investigation, the condition of water pumps installed separately at east end of the slope close to SCV Phase III and Pai Min Kok Stream Course has been checked. Noise generated from the ongoing construction works in these areas has been monitored. The rock breaking with jackhammer at PMK had been completed on 26 June 2003.	4-Jul-03	After further enquiry into the nature of the complaint, its appears that the complaint refers to the extended duration of construction works in the concerned area (i.e. inconvenienve caused due to lengthy works program). The Contrator's Mr Peter Ip has explained the nature of the works to the Management Office. There have been no further complaints from SCV Phase III since the briefing.
103	31-Jul-03	Complaint from Hong Kong Management Office regarding the noise generated by vehicles running over the steel decking plate on the Castle Peak Road close to Hong Kong Garden.	The existing steel decking plate had been repaired during off peak hours and regular inspection on the condition of steel plate and adjacent road surface was agreed to be conducted.	5-Aug-03	There had been no further complaints after the repair.
105	13-Aug-03	Complaint from Mr Chow of Sham Tseng regarding fell of all old trees along section of Castle Peak Road near Ma Wan Pier.	After investigation on the matter, it had been confirmed that the felling and the transplanting of group of trees along the Castle Peak Road near Ma Wan Pier had been carried out in compliance with approved plans and schedules. No follow up is required.	16-Aug-03	
108	11-Sep-03	Complaint from Mr Edith Lee of Sea Creat Villa Phase I complained that it was very dusty at her house and she found that there was no water spraying at the construction site of the slope near Ma Wan Pier.	After investigation on the matter, water browser was arranged for spraying through the haul road. Rock breaking location would be sprayed directly connected from water supply point. To follow up the case, water browser would be arranged every 2 to 3 hours depends on drying up condition. A worker would be arranged for spraying water through out the rock breaking process.	11-Sep-03	
112	10-Oct-03	Complaint from Mr Cheung of FEHD that egarding the general refuse being accumulating on the pedestrian walkway between Sea Crest Villa Phase III and Phase II and the drainage channel at Pai Min Kok Village.	Investigation was conducted immediately on 11 October 2003. It was observed that the pedestrian walkway and Outfall I had been tidied up except at the corner of Sea Crest Villa Phase III where a broken umbrella and some broken traffic light was lying on the ground. Immediate action was taken to remove the broken umbrella and signal lights. The site area would be maintained regularly. It was noted that wooden formwork and construction materials might possibly been mistaken to be rubbish.	13-Oct-03	
114	25-Nov-03	Complaint log no. 114 was received on 25 November 2003 regarding the muddy water found on the beach opposite to Sea Crest Villa Phase III.	An inspection for the concerned site area at the interface between the beach and the construction site revealed that there was no evidence of active construction works adjacent to the beach or the presence of muddy water. There was also no evidence of muddy water discharge from Outfall I. The work programme for the following days leading up to the complaint was inspection and found that the bored piling activity had been completed and removed since 15 November 2003. The contractor would regularly monitor the area for muddy water. If potential discharge sources were identified, the Contractor would take action to rectify the situation.	26-Nov-03	

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
115	30-Nov-03	Complaint from Miss Chan of Sham Tseng Latrine was received on 30 November 2003 regarding the pond of foul water at the footway in front of Sham Tseng Latrine.	An inspection for the concerned site area was carried out. The water ponding was confirmed to be overflow from the terminal manhole, which was a part of public latrine system. The maintenance of the public latrine and the associated systems were the responsibility of FEHD. The Contractor had contacted FEHD to follow up the issue.	1-Dec-03	
116	6-Dec-03	Complaint from Mr Paul Wong of Hong Kong Garden Management Office was received on 6 December 2003 regarding construction noise during early hours of 8:00am.	Inspection of concern area and no abnormal construction activities was found. The Contractor had explained to the Complainer that no statutory permit was required for construction work other than percussive piling at 8:00am and the nature of works conducted at the area was well within permitted limits. ET was reminded the Contractor to implement noise mitigation proposal in accordance with EM&A Manual.	8-Dec-03	Noise generated from the ongoing construction works in these areas was monitored and no exceedance was found. As the Contractor had responded to the complainant and no further complaint was recorded, the Contractor proposed that no further remedial/ preventative measures were necessary.
123	20-Feb-04	Complaint from Mr Ho of TL60 Management Ltd was received on 20 February 2004 regarding noise arising from the temporary steel plates on road pavement near Blocks 1 & 2 of Hong Kong Garden	Condition of the decking plat was checked on 23 February 2004 and was repaired on 24 February 2004 during off peak hours.	24-Feb-04	Regular inspection will be conducted and adjacent works was be expedited to allow early road diversion for permanent removal of the steel plates.
139	9-Jul-04	Complaint from EPD was received on 9 July 2004 regarding noise arising from prescribed construction works or works using power mechanical equipment at night near Seawall-B area opposite to Hong Kong Garden	After investigation on the matter, there was no evidence of carrying out the prescribed constuction works or using power mechanical equipment between 1900 and 2300 on 3 July 2004.	23-Jul-04	
140	10-Jul-04	Complaint from Highway Department was received on 10 July 2004 regarding noise arising from rock breaking near Sea Crest Villa Phase 3	After investigation on the matter, there was no evidence of rock breaking activities undertaken in the vicinity of Sea Crest Villa Phase 3.	23-Jul-04	
149	11-Aug-04	Complaint from EPD regarding the sandy wake of a marine vessel carrying sand to the beach reinstatement area of Seawall B	After investigation on the matter, the following action was proposed. The vessel and water depth should be thoroughly checked prior to sand placing. If shadow water need to be approached, another shallower vessel should be used. The land co-ordinator should cease the sand placing operation if muddy plumes were noticeable.	31-Aug-04	
154	25-Aug-04	Complaint from Ms Tang regarding littering on the slope close to the Sea Crest Villa Phase 2.	After investigation on the matter, there was no evidence that the problem was caused by any construction activities.	27-Aug-04	
156	18-Sep-04	Complaint from Mr Chu regarding excessive garbage trapped along the adjacent shore of Seawall B west end.	It was out of control over the accumulation of floating rubbish drifting toward the shore. However, the contractor would remove them as soon as possible.	20-Sep-04	
166	4-Nov-04	Complaint from Mr Wong regarding the accumulation of foul ground and sewage waters in the trench in front of the strip of restaurants at Sham Tseng.	Contractor placed a sludge separation plant to treat the accumulated water prior to discharge and pumped away the accumulated water as regularly as possible. An CNP has been attained for the pumping of concerned areas.	11-Nov-04	
172	5-Jan-05	Complaint from Mr Raymond Chan regarding the daytime construction noise started 7:30am over the past few days.	Contractor clarified with Mr Chan that construction work at 7:30am was within regulation guidelines. However, the contractor still agreed to arrange noisy activities be carried out after 8:00am.	5-Jan-05	

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
175	28-Jan-05	Complaint from Mr Kan regarding the rubbish discarded at the finished RERW slopes and Outfalls opposite to Sea Crest Villa Phase II and III.	Contractor inspected the concerned area, taken photographs and carry out maintenance works as requested.	31-Jan-05	
193	4-May-05	Complaint received from Highways Department regarding the daytime noise generated from the use of power mechanical equipment during the hours between 8am to 12am near Sea Crest Villa Phase II and III.	Contractor responded to the complainant that daytime construction noise generated from activities was well within the guidelines of prevailing standards and promise to look for opportunties to disperse noisy works more evenly throughout the day and make appropriate improements to works schedudling for the concerned works wherever practicable.	4-May-05	
194	10-Jun-05	One environmental complaint was received on 10 June 2005 regarding the obstructions and mosquitoes found in the footway near Sea Crest Villa Phase 4.	Thorough cleaning up around the precast footbridge deck;Realigning the existing mill barriers to widen the adjacent footbridge deck; and Spaying appropriate insecticide.	14-Jun-05	
216	7-Aug-05	One environmental complaint was received on 7 August 2005 regarding the bad smell generated from rubbish collected around the bus stop near Sea Crest Villa Phase 1 & Phase 2.	It was confirmed not from gas supply pipes or from the rubbish collection points on site, but may have been from the rubbish collected by the Food and Environmental Hygiene Department from the public barbeque area, which was placed next to the road for pick-up. The Contractor has put up banner at prominent locations to heed the public not to litter the adjacent roads and footpaths.	10-Aug-05	
221	3-Sep-05	Complaint from Ms Cheong regarding the generation of huge amount of black smoke from the construction activities along Sea Crest Villa Phase 3.	Contractor contacted Ms Cheong several times for more details but in vain. Contractor has carried out though checking on the conditions of machines deployed in the vicinity of the concerned location. Black smoke was not observed emitting from operating plant during inspection and daily safety patrols. The Contractor keeps regular maintenance on construction plant and maintains measures to suppress dust generated from rock excavation works.	6-Sep-05	
224	12-Sep-05	Complaint received from Mrs Wong that she could not stand the noise generated from construction activities at Sea Crest Villa Phase 3 and wanted to know the completion day of the works.	Contractor responded to the complainant that the works around the related area are expected to be completed by mid of November this year. The Contractor has explored ways to further improve the progress of the ongoing rock excavation works nearby.	12-Sep-05	
-	24-Oct-05	A letter complaint on construcion debris adjacent to Tsinfg Lung Tau Pier was received by the ER.	RSS advised the complainant that the Contractor removed the construction debris immediately.	24-Oct-05	ER complaint case no.: C0343
227	1-Nov-05	Complaint received from Mr Chan regarding the construction noise at Sea Crest Villa Phase 4 at 7:00am	Contractor responded to the complainant that the works carried out at 7:00am is within statutory regulations. However, noisy works at the concerned location will be scheduled at 8:00am as agreed betweeen Sea Crest Villas and the Contractor. The concerned work team was immediately notified to start at 8:00am	2-Nov-05	ER complaint case no.: C0346

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
228	2-Nov-05	Further to Complaint Log No. 224, Mrs Wong complainted that she could not stand the noise from the construction activities outside Sea Crest Villa Phase 2. She wanted to know when the works thereat would be completed.	The Contractor inspected the site to identify the possible cause of concern during the weekly site inspection on 3 November 2005. The source of the daytime noise was suspected to have originated from rock breaking activity for utility laying. The rock-breaking/excavation work should be completed within a few working days. The rock breaking/tunneling work which Mrs Wong referred to last time (Log no. 224) has been completed and the area has been backfilled.	3-Nov-05	ER complaint case no.: C0347
229	9-Nov-05	Further to Complaint Log No. 224, Mrs Wong complainted that she, resting after giving birth, could not stand the noise from the construction activities outside Sea Crest Villa Phase 2 and the work has taken a lonf period.	The Contractor inspected the site during the morning of 10 November 2005 with the ET's Auditor. The daytime noise was identified to come from road breaking activity in front of the public toilet opposite to Ma Wan Pier. The previous source in front of Sea Crest Villa Phase 3 has been removed, as observed during the inspection, but occasional rock breaking work is envisaged. The complainant was advised that the current work in front of the public toilet will likely continue to the end of this year or beyond, depending on the ground conditions.	10-Nov-05	ER complaint case no.: C0348
-	1-Nov-05	A telephone complaint on construction noise in early morning was received by ER.	RSS explained to the complainant that the formal working hour of the Contractor is from 7am to 7pm. The Contractor had been advised not to commerce those noisy works until 8am in the morning. The complaint generally accepted the apology made to him.	2-Nov-05	ER complaint case no.: C0344; ICC Case Ref.: 1-68239422
-	1-Nov-05	A telephone complaint on (i) the blockage of access to the pedestrian button of the traffic signal in Sham Tseng and (ii) flooding at the crossing in front of Lido Garden was received by the ER.	RSS explained to the complainant that the blockage was caused by CLP's works and CLP had been informed to promptly rectify the situation and the concerned low point at which flooding would be induced during raining, would be rectified in 2 weeks. The complainant generally accepted the apology made to him.	2-Nov-05	ER complaint case no.: C0345; ICC Case Ref.: 1-68239458
-	10-Nov-05	A telephone complaint on construction noise nuisance at Sea Crest Villa Phase 3 was received by the ER.	RSS explained to the complainant that the noise was generated by rock breaking for the works in the vicinity which would be completed this week whilst all work would be completed early next year.	2-Nov-05	ER complaint case no.: C0349; ICC Case Ref.: 1-68770450
-	15-Nov-05	A telephone complaint on noise nuisance caused by uneven manhole cover near to Ma Wan Pier was received the ER.	RSS advised the complainant that the uneven manhole cover was rectified by the Contractor on the same day.	15-Nov-05	ER complaint case no.: C0350; ICC Case Ref.: 1-68926480
236	5-Jan-06	Compaint received from Mr Cheung on noise generated from a steel laid temporarily near the entrance of Lido Garden Carpark.	The Contractor remove the aforesaid steel plate and reinstate the road surface underneath	6-Jan-06	ICC Case Ref.: 1-71756093