

BARBICAN CONSTRUCTION CO., LTD

**Contract No. HY/2001/18
Sai Sha Road Widening between Kam Ying
Road and Future Trunk Road T7 Junction**

**MONTHLY ENVIRONMENTAL MONITORING
& AUDIT REPORT**

Report 22

Document No. R/2563/030 Issue 1

August 2004

Babtie Asia

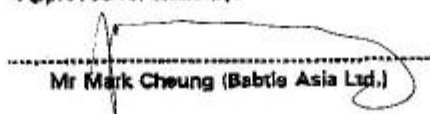
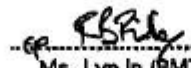


Babtie Asia

R/2583/029
Issue 1
July 2004

Contract No. HY/2001/18
Sai Sha Road Widening between Kam Ying Road and
Proposed Road T7 Junction

Monthly Environmental Monitoring & Audit Report
Report No. 21

Approved for Issue by:  ----- Mr Mark Cheung (Babtie Asia Ltd.) Position: Environmental Team Leader Date: July 2004
Verified by:  ----- Ms. Lyn Ip (BMT Asia Pacific Limited) Position: Independent Environmental Checker Date: 7 JUL 2004

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CONTRACT NO. HY/2001/18
SAI SHA ROAD WIDENING BETWEEN KAM YING ROAD
AND FUTURE TRUNK ROAD T7 JUNCTION
MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT
REPORT NO. 22

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EXECUTIVE SUMMARY

This is the twenty-second EM & A Report for the project of Sai Sha Road Widening between Kam Ying Road and Future Trunk Road T7 Junction.

This report mainly presents the EM & A works undertaken for the above project from 1 July 2004 to 31 July 2004 in accordance with the EM & A Manual under Appendix H.3 of the Particular Specification.

Noise Level

Leq (30min) noise level measurement was performed at CNM 1 and CNM 2. CNM 1 is for noise sensitive receivers (NSRs 1 & 2) Wu Kwai Sha New Village. CNM 2 is for (NSRs 3 & 4) Kam Lung Court/ Lee On Estate. The limit level for all the noise sensitive receivers is 75 dB(A).

Construction noise monitoring was carried out on the 2nd, 8th, 15th, 22nd and 30th of July 2004. All the measured noise levels recorded at the two monitoring stations were generally below the noise limit level.

Complaint log

No written or verbal complaints were received during the reporting period.

Others

No notifications of summons, no successful prosecutions were received during the reporting period.

Future Key Issues

Adverse influence on both air quality and noise level is anticipated from future construction activities, such as footbridge construction work near Residential Development at Wu Kwai Sha DD206, drainage construction works near Lee Wing House, footbridge construction works near the Wu Kwai Sha New Village and the machine operation on the unpaved haul road near Lee Wing House. The Contractor should carry out good site practice to minimise the potential air pollution and noise pollution.

The Contractor should provide an effective water spraying system for watering the site area in purpose of dust suppression especially where excavation works and other earthworks are being undertaken on the unpaved haul road near Lee Wing House.

Construction vehicles should be washed out before leaving the site area. Site runoff including those from wheel washing should be properly treated through sedimentation tank before being discharged to the stormwater drainage system.

The Contractor should exert himself to prevent the accumulation of stagnant water to avoid the breeding of mosquitoes and the spread of dengue fever.

To improve the hygiene condition of the site, the Contractor should regularly remove the rubbish within the site area and provide rubbish bins as far as possible.

1.0 ENVIRONMENTAL STATUS**1.1 Background**

Babtie Asia Ltd was employed by the Contractor to act as the Environmental Team for this project. The Independent Environmental Checker is BMT Asia Pacific Limited.

The purpose of this document is to report the Environmental Monitoring & Audit (EM & A) works in the period between 1 July 2004 and 31 July 2004.

1.2 Contact Details of Key Personnel

Titles, names and contact telephone numbers of the key personnel of the captioned project are tabulated below:

Title	Name	Contact Number
Engineer's Representative (Highways Department)	Mr. Greg Leung	2716 1043
EPD	Mr. Simon Hui	2835 1105
Project Director (Contractor)	Mr. David Kong	2137 5522
Project Manager (Contractor)	Mr. Alan Tam	9161 2991
Site Agent (Contractor)	Mr. K I Mok	9813 9599
Environmental Team Leader (Babtie Asia Limited)	Mr. Mark Cheung	2738 3803
Independent Environmental Checker (BMT Asia Pacific Limited)	Ms. Lyn Ip	2241 9812

1.3 Construction Programme

The latest construction programme is attached in Appendix A. This construction programme is subject to continuous refinement.

1.4 Site Management Structure

The site organization chart is shown as Appendix B.

1.5 Works undertaken during the reporting period with illustrations

The works for this project are divided into three sections: Section 1, Section 2 and Section 3.

Section 1 comprises all the works for the completion of the subway system connecting the existing vacant subway barrel across Sai Sha Road adjacent to Kam Ying Road and the local widening of northern Kam Ying Road and all associated landscaping works.

Section 2 comprises all construction works including the new carriageways, two footbridges and all footpath, cycle tracks, subways, village access road, noise barriers, roundabout and associated works comprising drainage works, E&M works, traffic signs and aids, slope works, embankments, retaining walls, subway wing walls, cycle parks, fencing, street lighting and all associated landscaping works, except Section 1 and Section 3.

Section 3 comprises all the works for the new access road to Whitehead and all the works except Section 1 and 2.

The works undertaken during the reporting period were as follows:

- Drainage – Manhole 8 Construction, 1500 diameter pipe laying;
- Construction of Footbridge No.1 (FB1) – E&M Works and Glazing System;
- Construction of Footbridge No.2 (FB2) – Staircase Construction; and
- Construction of Retaining Wall – Retaining Wall 3 Bay 1 and Retaining Wall 4 Bay 5 Construction
- Roadwork – Laying subbase for permanent road in Sai Sha Road and Wu Kwai Sha New Village.

The photos showing the construction works in the reporting period are shown in Appendix C.

1.6 Project Area, Sensitive Receivers & Monitoring Locations

The drawings showing the project area, noise sensitive receivers (NSRs) and the locations of the monitoring stations are shown in Appendix D.

The construction noise monitoring stations are CNM 1 and CNM 2.

CNM 1 is for noise sensitive receivers (NSRs 1 & 2) Wu Kwai Sha New Village. CNM 2 is for (NSRs 3 & 4) Kam Lung Court/ Lee On Estate.

It is noted that the locations of the monitoring stations are the same as those adopted in the Noise Baseline Monitoring.

1.0 IMPLEMENTATION STATUS

According to the EIA report, the following should be implemented for the eighth construction phase quarter.

Location	Reference Section	Environmental Measures	Protection	Agent
<i>Construction Noise Mitigation</i>				
Wu Kwai Sha New Village (1)	EIA 3.5.25	Mitigation Option 2		Contractor
Wu Kwai Sha New Village (2)	EIA 3.5.23	Mitigation Option 1		Contractor
Lok Wo Sha (1)	EIA 3.5.23	Mitigation Option 1		Contractor
Lok Wo Sha (2)	EIA 3.5.23	Mitigation Option 1		Contractor
Kam Lung Court (1)	EIA 3.5.25	Mitigation Option 2		Contractor
Kam Lung Court (2)	EIA 3.5.25	Mitigation Option 2		Contractor
Lee On Estate (1)	EIA 3.5.25	Mitigation Option 2		Contractor
Lee On Estate (2)	EIA 3.5.25	Mitigation Option 2		Contractor
Residential Development STTL446	EIA 3.5.23	Mitigation Option 1		Contractor

- Note: The locations of the noise assessment points are shown in the Figure 7 of the EIA Report.

Location	Reference Section	Environmental Protection Measures	Agent
<i>Landscape and Visual Mitigation Measures for the Construction Phase</i>			
All Scheme Roads	EIA 4.5.1	<ul style="list-style-type: none"> • Conservation of topsoil; • Screening of site construction works by use of hoardings; • Surface treatment of site hoardings to enhance visual interest and harmony with surrounding landscape / townscape; • Locating site offices and other temporary buildings in least visually prominent locations; • Efficient programming of construction works to reduce duration of construction works; • Staging of construction works to minimise areas requiring site hoardings which creates visual intrusion; • Re-routing of pedestrian routes away from the work site where possible; • Retaining existing trees and minimising damage to vegetation where possible. Care shall be taken not to damage those trees identified in the Tree Survey Report to be retained during the construction phase; and • Careful and efficient transplanting of existing vegetation carried out under the supervision of a professional landscape architect 	Contractor

2.1 Advice on the Implementation Status of Environmental Protection & Pollution Control / Mitigation Measures

2.1.1 Construction Noise Mitigation Measures

The Contractor should use silencers or mufflers on construction equipment such as pneumatic breaker and have noisy air compressor completely enclosed to avoid exceeding the noise limit level and nuisance to the nearby sensitive receivers.

Regular maintenance of the construction plant is strongly encouraged to avoid black smoke and excessive noise production. The machines and plant should be shut down or throttled down to a minimum when they are in intermittent use.

The plant known to emit noise strongly in one direction should be orientated to direct noise away from nearby noise sensitive receivers. The mobile plants should be sited as far away from the noise sensitive receivers as possible.

Care should be taken that different mitigation plans (option 1 & option 2) will be applied to different noise sensitive receivers. For mitigation option 2, more stringent environmental control will be required and implemented. The Contractor should pay particular attention to follow and carry out the mitigation measures mentioned in the EIA Report for those sensitive receivers to whom mitigation option 2 should be applied.

It is noted that for different construction phase quarters, the mitigation option will be different. The detailed environmental mitigation implementation schedule is shown in the EIA Report Annex A for different construction phases.

2.1.2 Landscape and Visual Mitigation Measures

Care should be taken not to damage those trees identified in the Tree Survey Report to be retained during the construction phase.

In case of conflict between the construction machine and the trees during the construction activities, the Contractor should consider adopting an alternative construction approach to protect the trees from being damaged. As the last resort, the tree transplanting method may be considered. However, prior to such action, approval from the Engineer, the Environmental Team Leader and the Independent Environmental Checker should be obtained.

Whenever tree transplanting is required, the Contractor should notify the ET in advance and should carry out the works under the supervision of a professional landscape architect as stipulated in the EM & A Manual.

1.0 MONITORING RESULTS

1.1 Graphical plots of the monitored parameters

The graphical presentations of the monitored parameters during the reporting period are shown in Appendix G.

1.2 Major Activities During the Reporting Period

Major activities during July 2004 include the followings:

- Drainage – Manhole 8 Construction, 1500 diameter pipe laying;
- Construction of Footbridge No.1 (FB1) – E&M Works and Glazing System;
- Construction of Footbridge No.2 (FB2) – Staircase Construction; and
- Construction of Retaining Wall – Retaining Wall 3 Bay 1 and Retaining Wall 4 Bay 5 Construction
- Roadwork – Laying subbase for permanent road in Sai Sha Road and Wu Kwai Sha New Village.

1.3 Noise Monitoring Methodology

Construction noise monitoring was carried out by using a Sound Level Meter to ensure that exceedance in noise levels could be readily identified and timely action taken to reduce the noise levels to within allowable limits.

1.4 Noise Monitoring Equipment

The approved integrating Sound Level Meter, Model No. CESVA SC20-e, in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specification as referred to in the Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO), was used for construction noise measurement.

1.5 Calibration Details

A sound level calibrator, Model No. CESVA CB-5, was used to calibrate the Sound Level Meter before and after the measurement on site.

The sound level meter and calibrator have been recently taken to a laboratory for full calibration processes. A copy of calibration certificates conducted by Calibration and Testing Laboratory of Sun Creation Engineering Limited for the Sound Level Meter and the Sound Calibrator is attached in Appendix E.

1.6 Noise Parameters

The construction noise levels were measured in terms of equivalent A-weighted sound pressure level (L_{eq}) measured in decibels (dB).

$L_{eq(30min)}$ was used as the monitoring parameter for the time period between (0700 to 1900) hours on normal weekdays.

$L_{eq(5min)}$ was used as the monitoring parameter for all other time period, if applicable.

The two statistical sound levels L_{A10} and L_{A90} , the level exceeded for 10 and 90 percent of the measurement time respectively, were also recorded as supplementary information for reference.

The construction noise monitoring limit and action level is shown in Appendix I.

1.7 Monitoring Locations

The construction noise monitoring was conducted at two noise sensitive receivers, namely, CNM 1 (Wu Kwai Sha New Village) and CNM 2 (Kam Lung Court/ Lee On Estate).

Both the measurement points for CNM 1 and CNM 2 are at façade.

Locations of construction noise monitoring stations and photos are shown in Appendix D.

1.8 Monitoring Date, Time, Frequency and Duration

The monitoring frequency will depend on the scale of the construction activities. The following was adopted as an initial arrangement of measurement on the regular monitoring frequency for each station on a per week

basis when noise generating activities are underway:

- (a) one set of measurements between 0700 – 1900 hours on normal weekdays;
- (b) one set of measurements between 1900 – 2300 hours;
- (c) one set of measurements between 2300 – 0700 hours; and
- (d) one set of measurements between 0700 – 1900 hours on holidays

The time and duration of measurement are shown in the Appendix F. The construction noise monitoring schedule for June 2004 and July 2004 is shown in Appendix K.

1.9 Noise Monitoring Results

The data for noise monitoring is presented in Appendix F. Graphical representation of construction noise monitoring data is presented in Appendix G.

For CNM 1, the results show that during the reporting period, the noise level is on average 61.8 dB(A) which is below the noise limit level 75 dB(A).

For CNM 2, the results show that during the reporting period, the noise level is on average 65.7 dB(A) which is below the noise limit level 75 dB(A).

Construction noise monitoring was carried out on the 2nd, 8th, 15th, 22nd and 30th of July 2004. All the measured noise levels recorded at the two monitoring stations were generally below the noise limit level.

The major noise sources during the reporting period include the machines operation in Contractor's construction activities such as drainage works and road works near Lee Wing House, footbridge staircase construction near Residential Development at Wu Kai Sha DD 206.

Moreover, traffic of the heavy vehicles like trucks and buses along the Sai Sha Road and residential noise are included in the measured noise level.

1.10 Weather Conditions

The weather conditions were mainly sunny and did not affect the environmental monitoring works during the reporting period. The weather conditions during the period are shown in the Appendix H.

1.11 Influencing Factors

The traffic noise from Sai Sha Road significantly contributed to the recorded noise level.

1.12 QA/QC Results and Detection Limits

The QC result is shown in Appendix E. The lower limit of the sound level meter for L_{eq} is 0 dB(A). The upper limit for L_{eq} is 137 dB(A).

I.0 RECORD OF NON-COMPLIANCE OF THE ACTION AND LIMIT LEVELS, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS**I.1 Non-compliance of the Action and Limit Levels***4.1.1 Noise*

During the reporting period, the noise levels for two monitoring stations (CNM 1 and CNM 2) were within the noise limit level.

No non-compliance of noise level was recorded.

I.2 Written Complaints and Verbal Complaints

No written and verbal complaints were received during the reporting period.

The following table shows the summary for all the complaints received since the commencement of the Contract.

TOTAL NO. OF COMPLAINT	NO. OF COMPLAINT RECEIVED WITHIN REPORTING PERIOD	NO. OF COMPLAINT THAT IS STILL UNDER INVESTIGATION	NO. OF CLOSED COMPLAINT
1	0	0	1

The statistics for environmental complaint on the reporting period is shown in Appendix L.

I.3 Notifications of Summons and Successful Prosecutions

No notifications of summons or successful prosecutions were received by the Contractor regarding the non-compliance of the environmental performance of the construction site during the reporting period.

i.0 OTHERS

i.1 Future Key Issue

In the coming month, the following activities will be undertaken.

- Retaining Wall Construction
- Noise Barrier Construction
- Footbridge Construction
- Drainage Work and Roadwork

Potential environmental impacts due to the above construction works are associated with construction dust, noise and site runoff.

The Contractor should clean away the sediments which block the stormwater U-channels within the site area. The Contractor should also remove any rubbish within the site area. In addition, the Contractor should exert himself to prevent the presence of accumulation of stagnant water to avoid the breeding of mosquitoes and the spread of dengue fever.

Nonetheless, with the implementation of the following mitigation measures, potential impacts to the surrounding sensitive receivers could be minimised.

Construction Dust

- Provide adequate water supply for the whole site area.
- Regular watering of unpaved areas and the dry topsoil
- Regular watering during the demolition works such as the breaking of rigid pavement
- Cover the stockpiles with tarpaulin
- Investigate other dust sources
- Maintain onsite machinery and vehicles regularly
- Limit the speed of construction vehicles
- Regularly maintain the water spraying system.

Construction Noise

- Carry out good site practice
- Use quieter plant
- Adopt quiet working methods
- Enclose certain type of power mechanical equipment such as generators and compressors.
- Shut down the machines and plant that may be in intermittent use between work periods or throttled them down to a minimum.
- Provide temporary movable vertical barrier

Construction Site Runoff

- Direct the site runoff to the desilting facilities
- Desilt the site runoff before discharging it into the stormwater system.

i.2 Advice on the solid and liquid waste management status

5.2.1 General Refuse

General refuse may be generated by site workers. Bins shall be provided for containment prior to disposal of such waste. The Contractor should avoid the accumulation of waste materials or rubbish on site and regular waste disposal is required.

If there is any chemical waste or oil generated by the site, they should be properly treated and disposed of as chemical waste. If applicable, the Contractor should register as a chemical waste producer under the registration of the Department of Environmental Protection.

Environmental awareness shall be encouraged in the office so as to reduce volume of office waste.

5.2.2 Liquid Waste Management

The accumulation of stagnant water within the construction site should be avoided to eliminate the breeding of mosquitoes. To achieve this, the Contractor should identify potential stagnant areas on the Site, provide personnel to inspect the Site and take necessary rectifying action to ensure no mosquitoes can breed.

Sprinkling Larvicidal Oil is regarded as the short term measure before the stagnant water is discharged. However, discharging the stagnant water should be the long term solution.

To properly treat the silty water, the Contractor should provide sandbags/ bunds to direct site surface runoff to the desilting facilities such as sedimentation tanks. The desilting facilities should be properly operated and maintained. To avoid the breeding of mosquitoes and other insects, the sedimentation tank should not become a pool of stagnant water. Care should also be taken to ensure the capacity of the desilting facilities is sufficient to handle the discharge and to avoid overflow of the silty water.

The desilting facilities should be maintained properly. Regular removal of the accumulated debris with proper disposal is recommended.

For the wastewater generated from the site area, the Contractor should identify the sources and wastewater should be collected and treated prior to disposal.

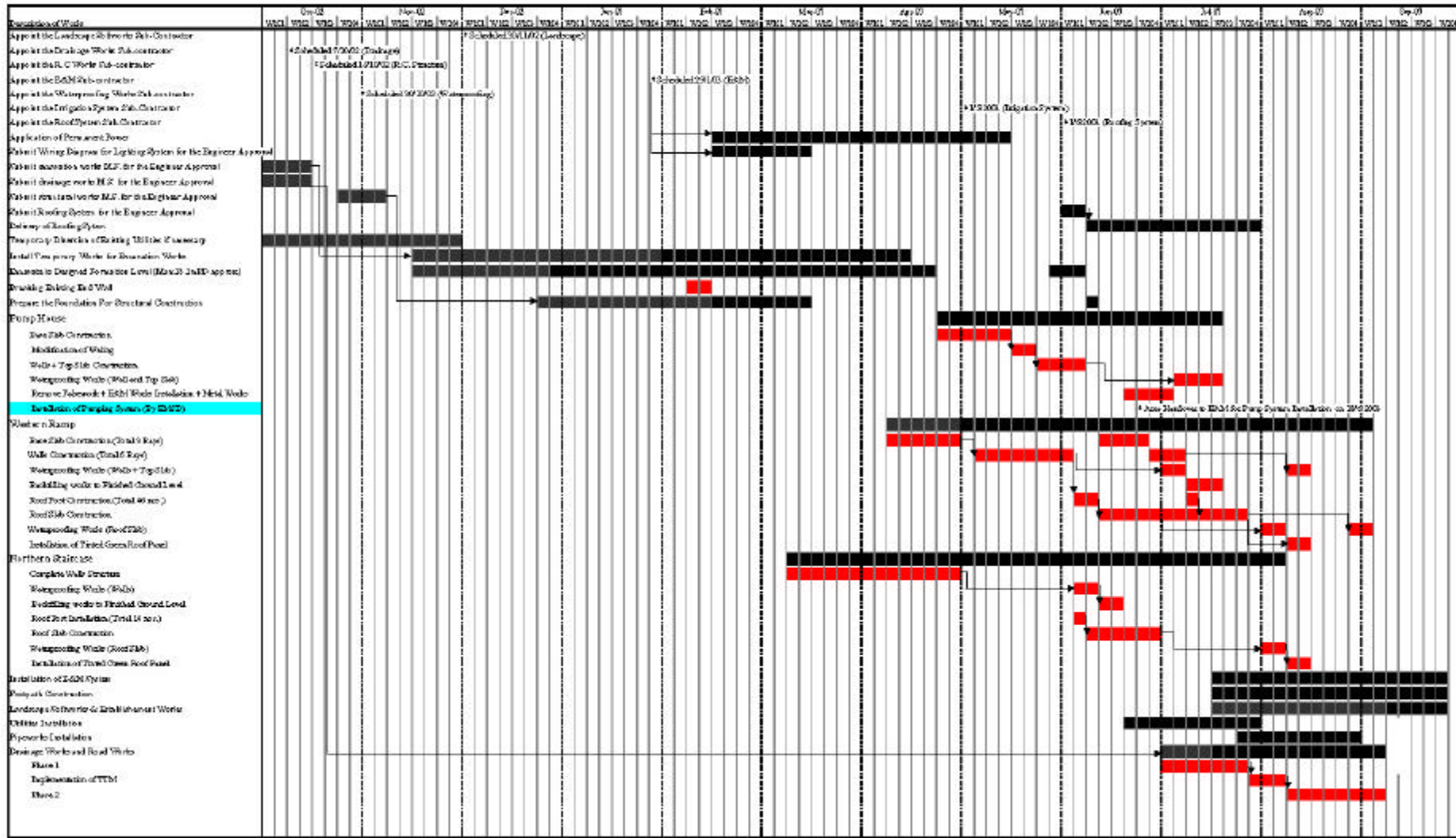


APPENDIX A
CONSTRUCTION PROGRAMME

Barbican Construction Limited
Contract No. B20M1018
Sai Sha Road Widening Between Kam Tin Road and Futan Tong Road T7 Junction

Detailed Working Programme for Completion of 'Sublot 1' Works

Date: 20 May 2003 Page: 3



Activity ID	Description of Work	Oct-02	Nov-02	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	
PO2A100	Reversion of Area 'B' to C1'																									
PO2A100A	Reversion of Area 'B' to C2'																									
W20000	Impose closure of Traffic Diversion for Site Road Existing TMS Scheme																									
W20000	Stage 1 - Open Temporary Cartageway																									
W20000	Stage 2 - Invert Existing SS1 West (Towards Sha Tin) to Permanent Road																									
W20000A	Stage 2A - Close Part of Temporary Road and Direct Traffic to Permanent Road																									
W20000	Stage 3 - Stally Close Temporary Road																									
W20000	Stage 4 - TMS for Proposed Roadwork Construction																									
W20000	Site Closure																									
W20000	Stage 1 - Closure of Southbound																									
W20000	Stage 2 - Closure of Northbound																									
W20000	Close Part of Existing Roadwork																									
W20000	Stage 1 - Closure of Flow Lane at Sai Sha Road																									
W20000	Stage 2 - Closure of Middle Lane at Sai Sha Road																									
W20000	Stage 2 - Closure of Part Lane at Sai Sha Road																									
W21100	Site Closure																									
W21007	Technical Submission + Fabrication of Clearing and Movement of Site																									
W21007	Final Works																									
W21000	Overall Investigation for Misting Walls																									
W21000	Design of Forming Level of Misting Walls Approved by the Engineer																									
W21000	Construction of Misting Wall (South End) at F81																									
W21000	Construction of Misting Wall (North End) at F81																									
W21000	Utility Diversion for Misting Wall at F82																									
W21000	Construction of Misting Wall at F82																									
W21000	Construction of F81 at F81																									
W21002	Technical Submission (EAM Works) for the Engineer Approval																									
W21002	Application of Permanent Power																									
W21002	Technical Submissions for Structural Steel Fabrication (F81 and F82)																									
W21002	Fabrication of Steel Fabrication (Main Span)																									
W21002	Construction of Southern Structure + Lift Tower																									
W21002	Construction of Northern Structure + Lift Tower																									
W21002	Installation of Beams																									
W21002	Concrete Slab Development of Structure (Achieve 28 days strength)																									
W21002	Temp. Diversion at Sai Sha Rd for Launching of Pre-fabricated Main Span																									
W21002	Completion of Remaining Works (EAM, Finishing, M.T. Installation etc.)																									
W21002	Also Available for Lift Installation by EAMSD																									
W21000	Construction of F81 at F82																									
W21002	Technical Submission of EAM Works for the Engineer Approval																									
W21002	Application of Permanent Power																									
W21002	Fabrication of Steel Fabrication (Main Span)																									
W21002	Construction of Structure + Lift Tower																									
W21002	Installation of Beams																									
W21002	Concrete Slab Development of Structure (Achieve 28 days strength)																									
W21002	Temp. Diversion at Sai Sha Rd for Launching of Pre-fabricated Main Span																									
W21002	Completion of Remaining Works (Lift Tower, Finishing, M.T. Installation etc.)																									
W21002	Also Available for Lift Installation by EAMSD																									
W21002	Area Available for Lift Installation by EAMSD at M6 of April 2004																									
W21000	Construction of Subway 'S1'																									
W21002	Technical Submission of EAM Works for the Engineer Approval																									
W21002	Application of Permanent Power																									
W21002	Temp. Provision Diversion to Existing Utility (Water Pipes/Overhead Cables)																									
W21002	Wing Wall Construction																									
W21002	Substructure End																									
W21002	Main Span																									
W21002	Substructure Portion																									
W21002	Main Span																									
W21002	Substructure Portion																									
W21002	Temp.																									
W21002	Remaining Works (EAM Works + Finishing Works etc.)																									
W21000	Construction of Subway 'S2'																									
W21002	Technical Submission of EAM Works for the Engineer Approval																									
W21002	Application of Permanent Power																									
W21002	Wing Wall Construction																									
W21002	Substructure End																									
W21002	Main Span																									
W21002	Substructure Portion																									
W21002	Temp.																									
W21002	Remaining Works (EAM Works + Finishing Works etc.)																									
W21002	Establishing Walls																									
W21002	Removal of Existing Over Area																									
W21002	Finishing Wall AT																									
W21002	Finishing Wall AT (Partially) AT																									



APPENDIX B
SITE ORGANIZATION CHART

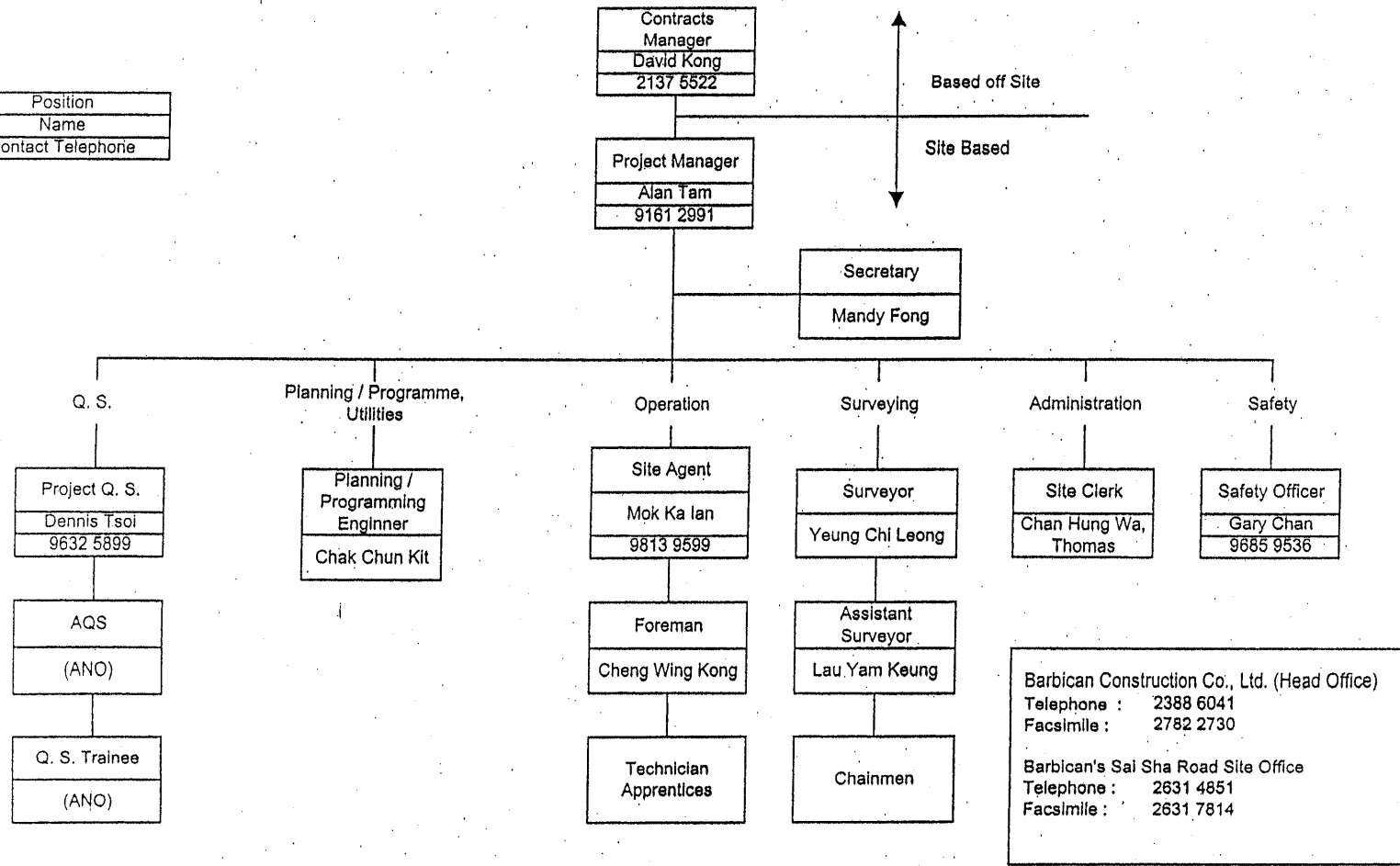
Barbican Construction Co., Ltd.

Contract No. : HY/2001/18
 Sai Sha Road Widening between
 Kam Ying Road and Future Trunk Road T7 Junction

Date : 23 September 2002
 Rev : C

Site Organization Chart

Position
Name
Contact Telephone





APPENDIX C
RECORD PHOTOS FOR CONSTRUCTION ACTIVITIES
IN JULY 2004



Date: 2 July 2004 Works: Drainage Works
Location: Near Wu Kwai Sha KCRC Station



Date: 2 July 2004 Works: Footbridge Construction
Location: Near Lee Wing House



Date: 8 July 04 Works: Noise Barrier Work
Location: Near Lee Wing House



Date: 2 July 2004 Works: Road Work
Location: Near Kam Lung Court



Date: 8 July 2004 Works: Staircase Construction
Location: Near Residential Development at Wu Kai Sha DD 206

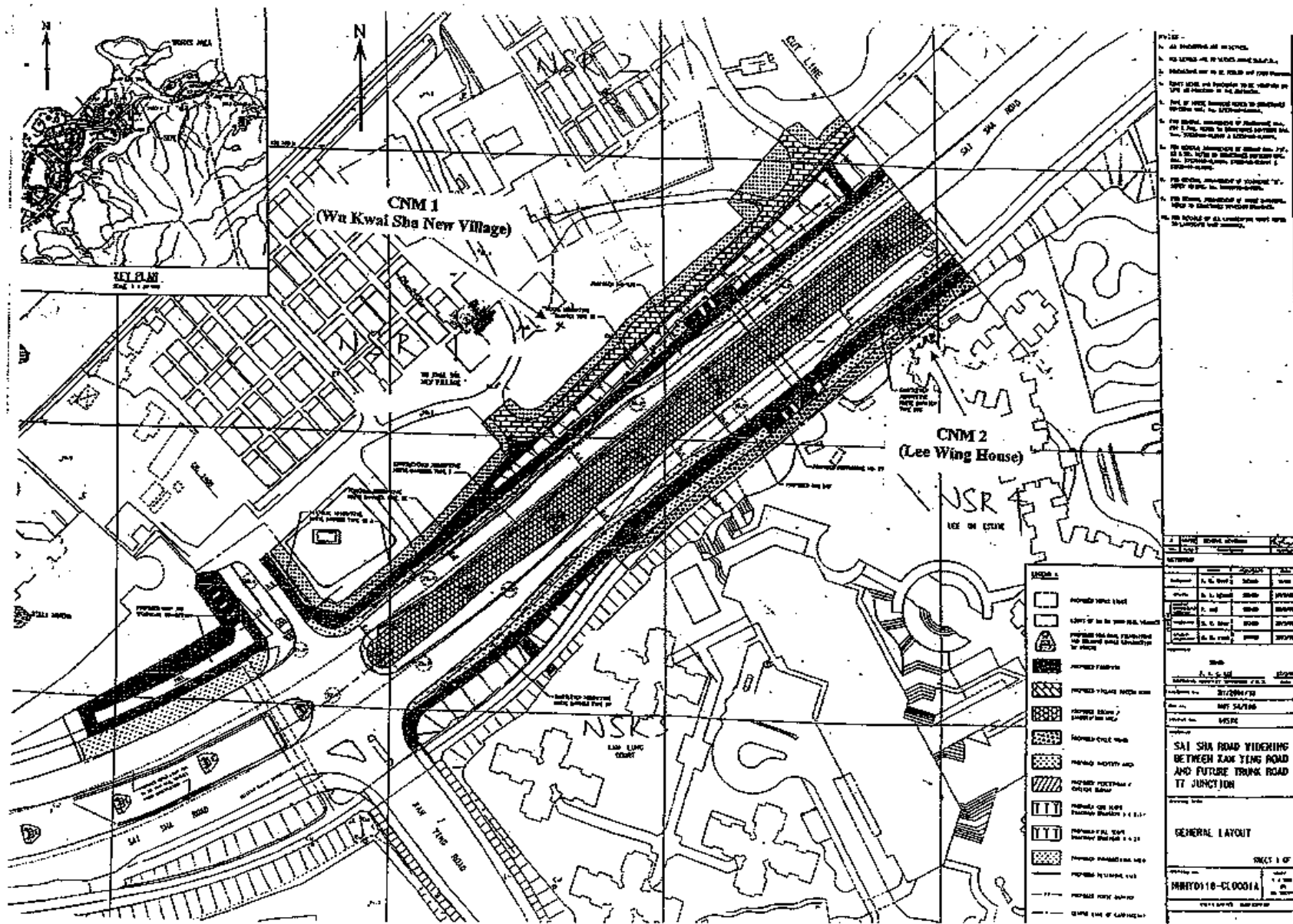


Date: 8 July 2004 Works: Drainage Work
Location: Near Wu Kwai Sha KCRC Station



APPENDIX D

**PROJECT AREA, ENVIRONMENTAL SENSITIVE RECEIVERS
) THE LOCATIONS OF THE MONITORING STATIONS**





Monitoring Point CNM 1 – Wu Kwai Sha New Village



Monitoring Point CNM 2 – Lee Wing House of Lee On Estate



APPENDIX E
CALIBRATION CERTIFICATES FOR SOUND LEVEL METER



輝創工程有限公司
Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C033460

Certificate of Calibration

This is to certify that the equipment

Description : Sound Level Meter (E01-010)

Manufacturer : Cesva

Model No. : SC-20e

Serial No. : T214258

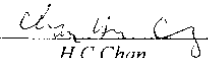
*has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C033460.*

The equipment is supplied by

Co. Name : HONKEI TECHNOLOGY

Address : Rm. 2501, 25/F., Ho King Comm. Centre, 2-16 Fa Yuen St.,
Mongkok, Kowloon

Date of Issue : 27 August 2003

Certified by : 
H.C. Chan

The test equipment used for calibration are traceable to the National Standards as specified in the calibration report.
This certificate may not be reproduced except in full and with prior written approval of the issuing laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited
c/o G.E.L.C.K. Telephone Exchange Building, 2 Yuet Lam Street, Lai Chi Kok, Kowloon, Hong Kong
Tel: 2927 2096 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com



輝創工程有限公司
Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C033459

Certificate of Calibration

This is to certify that the equipment

Description : Sound Level Calibrator (E01-011)

Manufacturer : Cesva

Model No. : CB-5

Serial No. : 031198

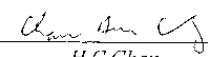
*has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C033459.*

The equipment is supplied by

Co. Name : HONKEI TECHNOLOGY

Address : Rm. 2501, 25/F., Ho King Comm. Centre, 2-16 Fa Yuen St.,
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Tel: 2927 2096 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com



APPENDIX F
DATA OF NOISE MONITORING

Contract No. HY/2001/18
 Sai Sha Road Widening between Kam Ying Road
 and Future Trunk Road T7 Junction
 Monitoring Location: Wu Kwai Sha New Village (CNM 1)
 Time Period 7:00-19:00

Date	Start Time	Duration (min)	Measurement Results								
			L ₉₀ (dB(A))	L ₁₀ (dB(A))	L _{eq} (dB(A)) (5 mins)						L _{eq} (dB(A)) (30 mins)
07/02/04	10:23	30	61.7	69.4	69.1	66.1	65.7	65.5	67.1	66.4	66.7
07/08/04	10:46	30	57.7	63.9	60.9	60.6	60.6	63.9	60.7	62.3	61.5
07/15/04	10:19	30	54.6	62.4	57.6	59.2	60.3	60.9	60.9	58.2	59.5
07/22/04	10:29	30	57.1	62.8	60.1	59.0	62.0	60.8	61.3	61.8	60.8
07/30/04	10:26	30	57.3	63.3	59.2	61.4	60.6	60.0	60.3	60.6	60.4

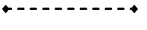
Contract No. HY/2001/18
 Sai Sha Road Widening between Kam Ying Road
 and Future Trunk Road T7 Junction
 Monitoring Location: Kam Lung Court (CNM 2)
 Time Period 7:00-19:00

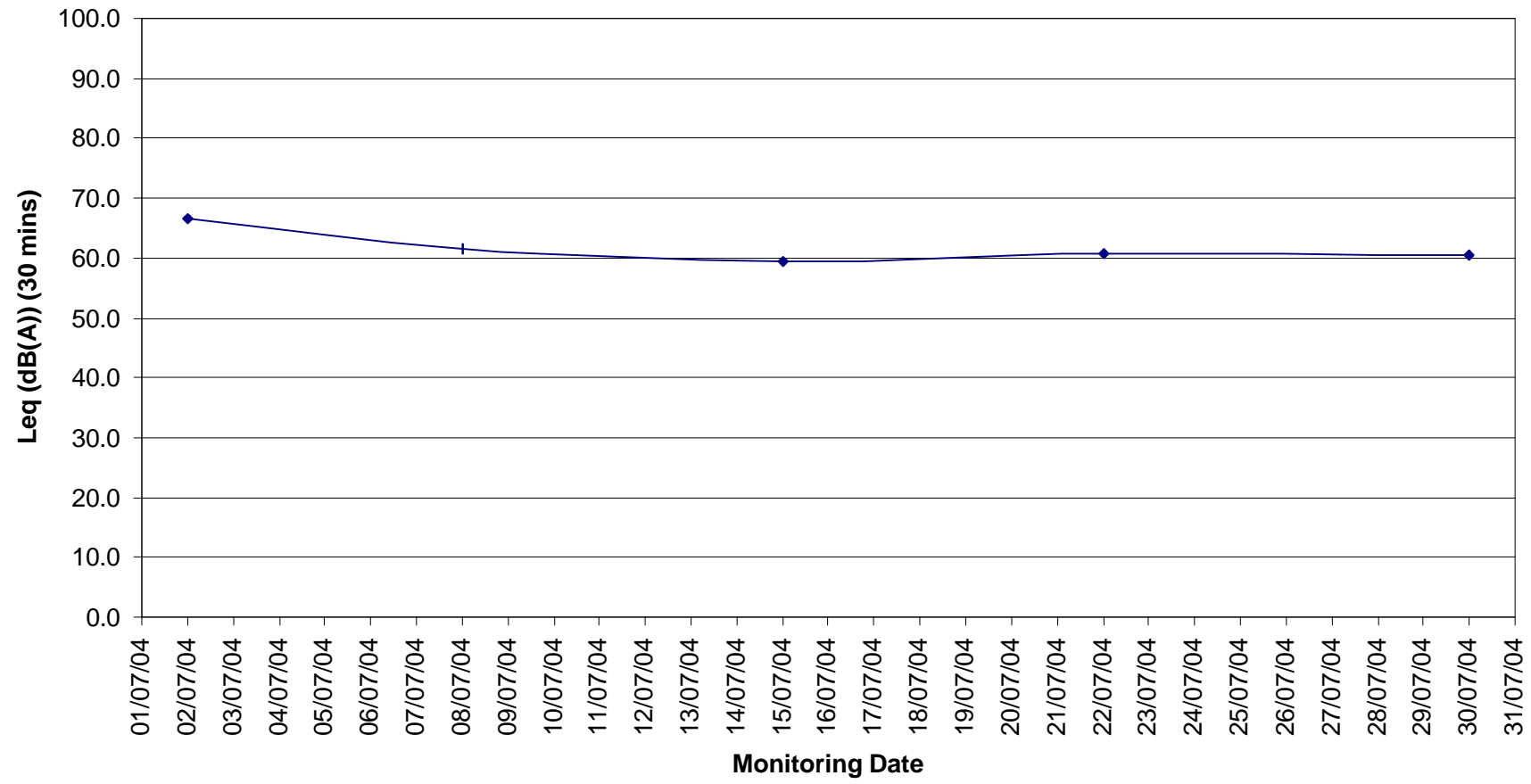
Date	Start Time	Duration (min)	Measurement Results								
			L ₉₀ (dB(A))	L ₁₀ (dB(A))	L _{eq} (dB(A)) (5 mins)						L _{eq} (dB(A)) (30 mins)
07/02/04	11:01	30	63.1	64.5	65.7	65.9	65.3	62.5	65.5	65.0	65.0
07/08/04	11:24	30	59.5	68.0	67.6	67.7	68.6	66.6	61.0	61.5	65.5
07/15/04	10:57	30	59.0	67.9	62.1	64.0	63.1	63.2	66.6	66.7	64.3
07/22/04	11:07	30	63.7	71.0	67.8	68.9	68.9	69.5	67.0	68.6	68.5
07/30/04	11:07	30	60.6	68.3	65.7	66.6	64.1	65.2	65.6	65.6	65.5



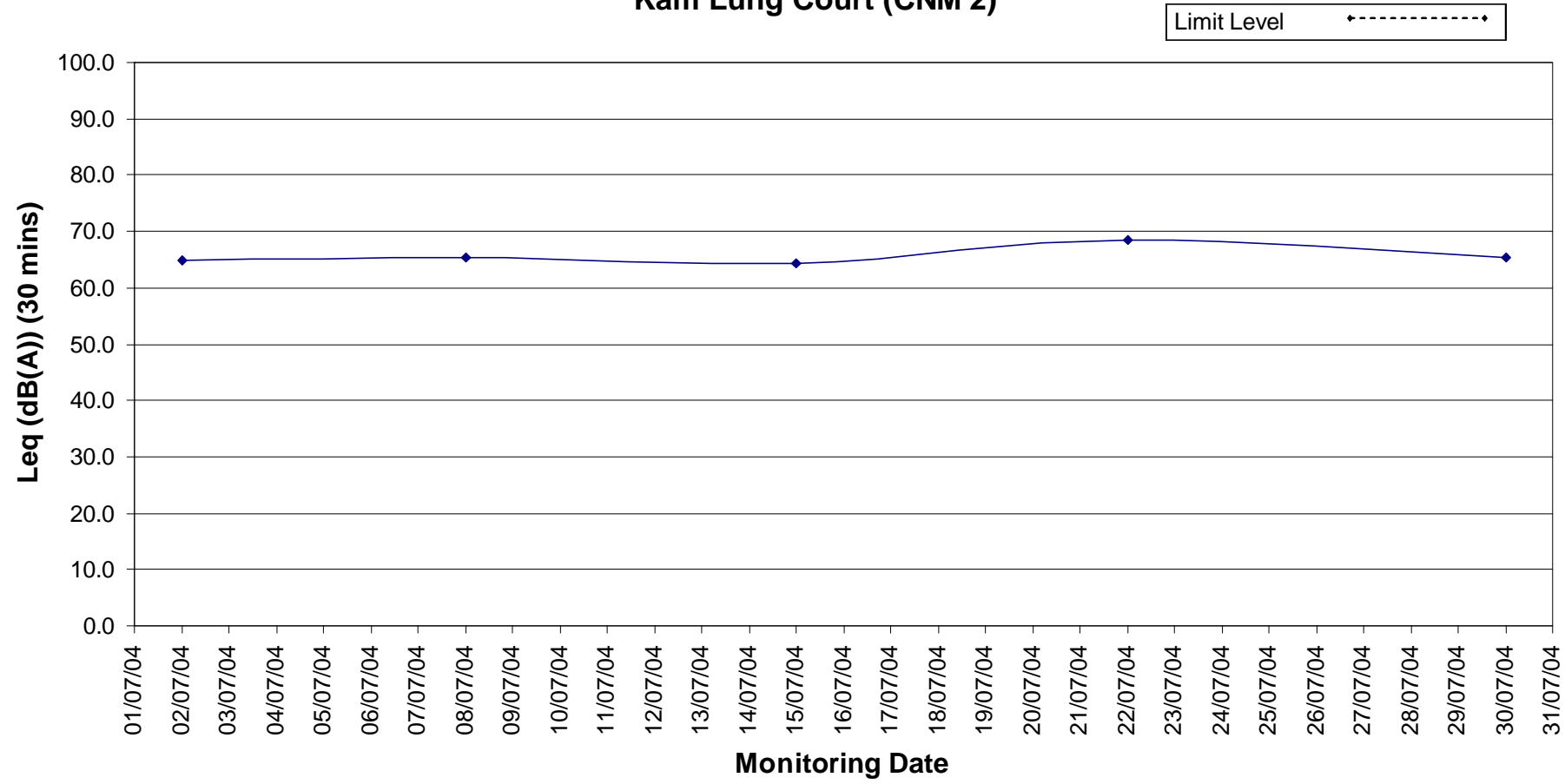
APPENDIX G
GRAPHICAL REPRESENTATION OF
CONSTRUCTION NOISE MONITORING DATA

Construction Noise Monitoring Results Wu Kwai Sha New Village (CNM 1)

Limit Level 



Construction Noise Monitoring Results Kam Lung Court (CNM 2)





APPENDIX H
WEATHER CONDITIONS
DURING THE MONITORING PERIOD

Contract No. HY/2001/18
Sai Sha Road Widening between Kam Ying Road
and Future Trunk Road T7 Junction
Major Activity and Weather Condition During Baseline Monitoring
Monitoring Location: Wu Kwai Sha New Village (CNM 1)

Date	Start Time	Weather Condition	Major Activities	Other Activities
02/07/04	10:23	Sunny	Nil	Traffic , Pedestrian
08/07/04	10:46	Sunny	Nil	Traffic , Pedestrian
15/07/04	10:19	Sunny	Nil	Traffic , Pedestrian

Contract No. HY/2001/18
Sai Sha Road Widening between Kam Ying Road
and Future Trunk Road T7 Junction
Major Activity and Weather Condition During Baseline Monitoring
Monitoring Location: Kam Lung Court (CNM 2)

Date	Start Time	Weather Condition	Major Activities	Other Activities
02/07/04	11:01	Sunny	Slope excavation , truck	Traffic , Pedestrian
08/07/04	11:24	Sunny	Nil	Traffic , Pedestrian
15/07/04	10:57	Sunny	Nil	Traffic , Pedestrian



APPENDIX I
CONSTRUCTION NOISE MONITORING LIMIT ACTION LEVEL

According to Section 2.7 of the *EM & A Manual*, the Action and Limit Noise Levels are summarised in the following table:

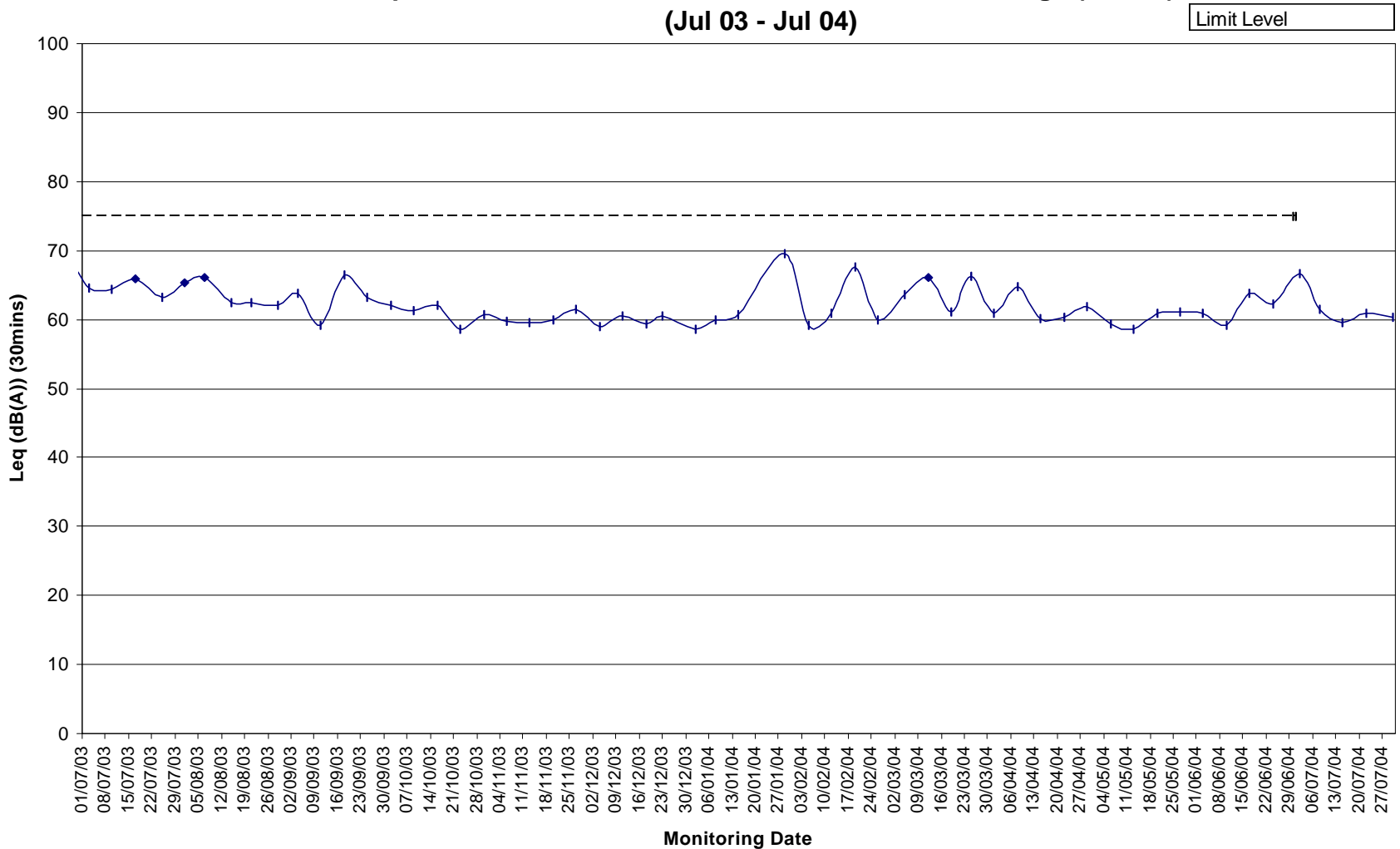
Time Period	Action	Limit Level
0700-1900 hours on normal weekdays	When one documented complaint is received	75 dB(A)
0700-2300 hours on holidays; and 1900-2300 hours on all other days		70 dB(A)
2300-0700 hours of next day		55 dB(A)

Note: The noise limit level for all the NSRs within this contract is 75dB(A).

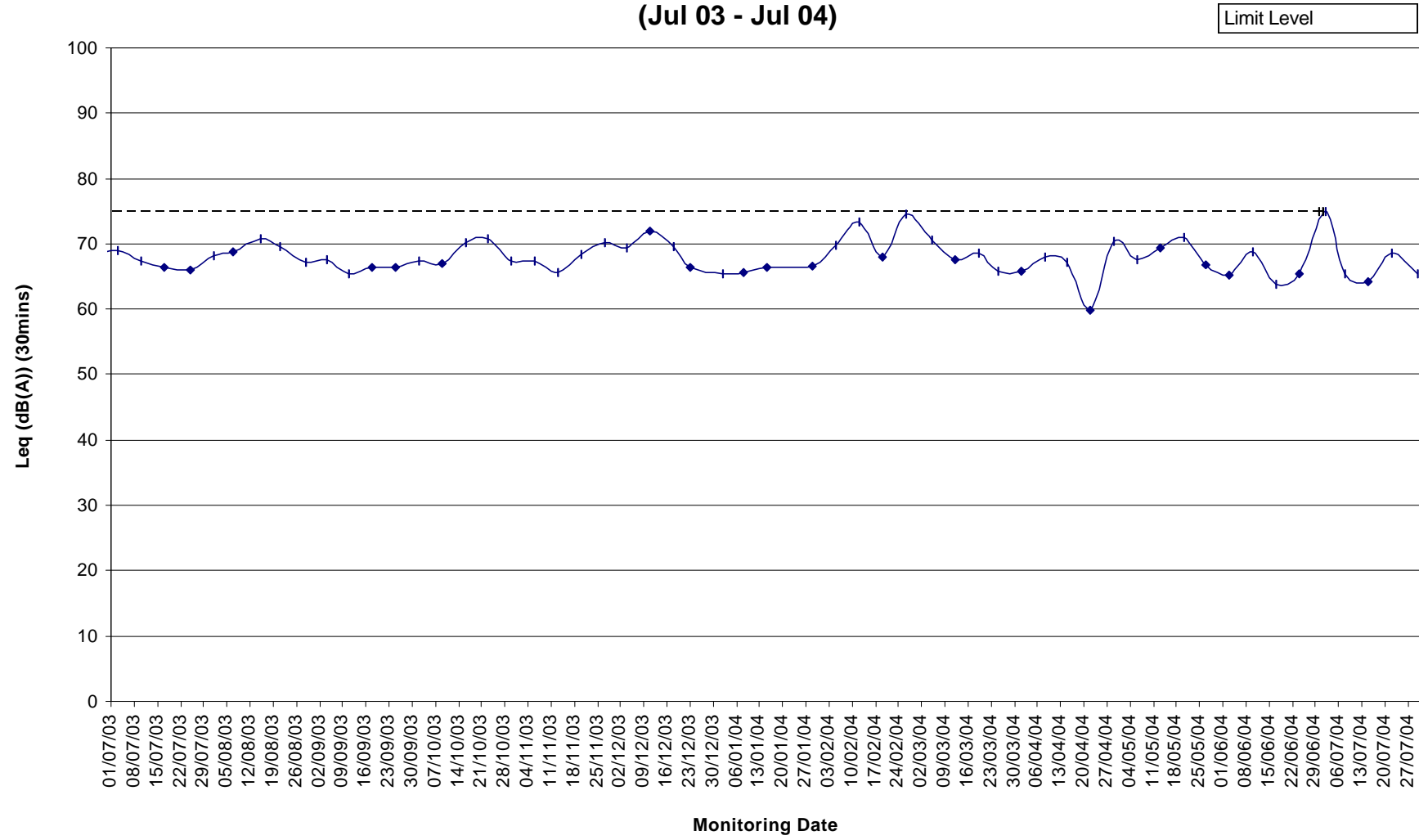


APPENDIX J
GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

Graphical Noise Parameters for Wu Kwai Sha New Village (CNM 1) (Jul 03 - Jul 04)



Graphical Noise Parameters for Kam Lung Court (CNM 2) (Jul 03 - Jul 04)





APPENDIX K
CONSTRUCTION NOISE MONITORING SCHEDULES
JULY 2004 AND AUGUST 2004

Construction Noise Monitoring Schedule

June - July 2004

Location Point	Monitoring Parameter	Measurement Start Time				
		02/07/2004 (Thursday)	08/07/2004 (Thursday)	15/07/2004 (Thursday)	22/07/2004 (Thursday)	29/07/2004 (Friday)
CNM 1	L _{eq} (30 min)	10:37	10:26	10:50	10:43	10:00
CNM 2	L _{eq} (30 min)	11:15	11:05	11:28	11:20	10:40

Location Point	Monitoring Parameter	Measurement Start Time			
		05/08/2004 (Thursday)	12/08/2004 (Thursday)	19/08/2004 (Thursday)	26/08/2004 (Thursday)
CNM 1	L _{eq} (30 min)	10:00	10:00	10:00	10:00
CNM 2	L _{eq} (30 min)	10:40	10:40	10:40	10:40

* Note: In case of poor weather condition on the monitoring date, we will inform the Contractor to arrange another construction noise impact monitoring in a day in the same week.

Job No. : G/2563.01
 Contract No. HY/2001/18
 Sai Sha Road Widening between Kam Ying Road and Future Trunk Road T7 Junction

Schedule for Site Environmental Audit

July - Sept 2004

Audit Start Time						
02/07/2004 (Friday)	08/07/2004 (Thursday)	15/07/2004 (Thursday)	22/07/2004 (Thursday)	29/07/2004 (Thursday)	05/08/2004 (Thursday)	12/08/2004 (Thursday)
10:00	10:00	10:00	10:00	10:00	10:00	10:00

Audit Start Time

19/08/2004 (Thursday)	26/08/2004 (Thursday)	02/09/2004 (Thursday)	09/09/2004 (Thursday)	16/09/2004 (Thursday)	23/09/2004 (Thursday)	30/09/2004 (Thursday)
10:00	10:00	10:00	10:00	10:00	10:00	10:00

Note: In case of poor weather condition that the audit is found inappropriate, we will inform the Contractor to arrange another day for continuous poor weather, the ET will liaise with the Contractor for proper arrangement

site environmental audit within the same week if feasible. In case of



APPENDIX L
STATISTICS FOR ENVIRONMENTAL COMPLAINTS

Contract No. HY/2001/18
Sai Sha Road Widening between Kam Ying Road
and Future Trunk Road T7 Junction

Statistic for Environmental Complaint
July 2004

