



THE GOVERNMENT OF THE HONG KONG  
SPECIAL ADMINISTRATIVE REGION  
TERRITORY DEVELOPMENT DEPARTMENT  
HK ISLAND & ISLANDS DEVELOPMENT OFFICE

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**Agreement No. CE 7/99**

**Northern Access Road for Cyberport Development  
Design and Construction**

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## **QUARTERLY ENVIRONMENTAL MONITORING AND AUDIT SUMMARY REPORT NO. 12**

April 2004

Document No. R/2146/211/1 Issue 1



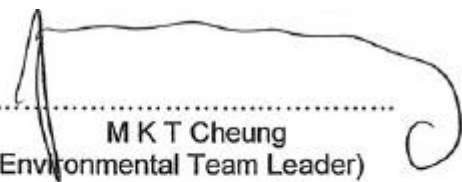

**Babtie Asia**

with sub-consultants

**Urbis Ltd  
Wilbur Smith Associates Ltd  
BMT Reliability Consultants Ltd**

Agreement No. CE 7/99  
Northern Access Road for Cyberport Development  
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QUARTERLY ENVIRONMENTAL MONITORING AND AUDIT SUMMARY REPORT NO. 12

Certified by: .....	
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Verified by: .....	
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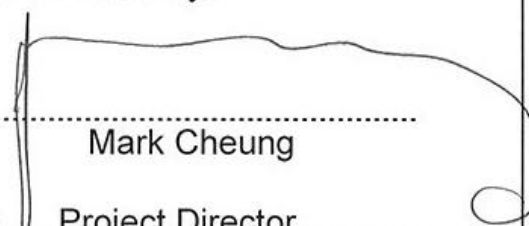
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Approved for Issue by:



.....  
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# Agreement No. CE 7/99

## Northern Access Road for Cyberport Development

### Design and Construction

## Quarterly Environmental Monitoring and Audit Summary Report No. 12

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## EXECUTIVE SUMMARY

This is the twelfth Quarterly Environmental Monitoring and Audit (EM&A) Summary Report for the project of Northern Access Road for Cyberport Development. The contract entitled 'Contract No. HK10/2000, Northern Access Road for Cyberport Development at Telegraph Bay' was awarded to China Harbour Engineering Company (Group) on 31 October 2000 and the commencement date of construction was on 27 March 2001.

This report summarizes the EM&A activities for the project from 27 December 2003 to 26 March 2004.

### Noise Level

24-hour continuous noise monitoring was operated during the reporting period.

No noise level exceedance was recorded at both stations. As a mitigation measure, a semi-enclosure was erected along the demolished section of the existing bridge at Sha Wan Drive to mitigate the noise.

### Air Quality

One 24-hour TSP and three 1-hour TSP were taken in every six-days for monitoring. The monitoring stations are Pine Court and Magnolia Villa.

Almost all measurement results show compliance with action and limit level at both stations. Only one 1-hour TSP action level non-compliance was recorded on 2<sup>nd</sup> January 2004 at Magnolia Villa. The Contractor has rectified the problem by enclosing the drilling location with tarpaulin and spraying water during the rock drilling operation.

The Contractor has installed the sprinkler system and increased spraying water and added tarpaulin shelter for minor slope stabilization works near the crest slope to depress dust from arising.

## 1.0 ENVIRONMENTAL STATUS

### 1.1 Construction Programme

The contract consists of the construction of bridge foundations, bridge substructure, bridge deck, electric substation, retaining walls and cascade, demolition works, earthworks, roadwork, drainage works, watermains laying works and landscaping works. The Contract was awarded on 31 October 2000 and construction commenced on 27 March 2001. The construction duration was extended due to the unforeseeable site condition and the programme completion date for construction works shall be few months into year 2004. A detailed programme is included in the monthly reports.

### 1.2 Project Organization and Management Structure

An environmental team (ET) was established to carry out monitoring, audit and environmental management. In addition, an Independent Environmental Checker (IC(E)) was employed to verify the overall environmental performance of the Project, including the implementation of environmental mitigation measures, submissions relating to environmental monitoring and auditing, and any other submissions required under the Environmental Permit. A detailed organization chart with contact details is included in the monthly reports.

### 1.3 Summary of Work Progress from 27 December 2003 to 26 March 2004

- Utilities laying
- Watermains and drains laying
- Bridge No. 2 construction
- Geotechnical works
- Reinforced earth wall (RW2) construction
- Slope surface drainage channel construction
- Demolition works for old Bridge No. 1
- Road construction works at Sha Wan Drive
- Construction of Cascades

The general layout and location of Northern Access Road is shown on figure 1.1 and drawings T/2146/1003 and 1004.

Two monitoring stations, both for noise and air quality, are located in Pine Court & Magnolia Villa. Locations are shown on figure 1.2 and 1.3.

## 2.0 SUMMARY OF EM&A REQUIREMENT

### 2.1 Monitoring Parameter

#### 2.1.1 Noise

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

$L_{eq(30 \text{ min})}$  was measured to determine the noise impact for the time period between 0700 – 1900 hours on normal weekdays and  $L_{eq(5 \text{ min})}$  was taken at times other than normal weekdays.

#### 2.1.2 Air Quality

Monitoring and audit of the Total Suspended Particulates (TSP) levels is carried out by the ER & ET to ensure that any deteriorating air quality can be readily detected and timely action can be taken to rectify the situation.

Three 1-hour and one 24-hour TSP monitoring in every six-days is carried out to indicate the impacts of construction dust on air quality. The 24-hour TSP levels are conducted by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.

### 2.2 Action and Limit Level

#### 2.2.1 Noise

The action and limit level for construction noise in EM&A Manual is outlined in Table 2.1.

**Table 2.1 Action and Limit Levels for Construction Noise**

Time Period	Action Level	Limit Level
0700 – 1900 hrs on normal weekday	When one documented complaint is received	75* dB(A)
0700 – 2300 hrs on holidays; and 1900 – 2300 hrs on all other days		60/65/70** dB(A)
2300 – 0700 hrs of next day		45/50/55** dB(A)

\* reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods

\*\* to be selected based on Area Sensitivity Rating.

### 2.2.2 Air Quality

The action and limit level for air quality are outlined in Table 2.2 & 2.3.

**Table 2.2 Action and Limit Levels for 1-hour TSP**

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level
Pine Court	427	500
Magnolia Villa	423	

**Table 2.3 Action and Limit Levels for 24-hour TSP**

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
Pine Court	160	260
Magnolia Villa	153	

## 3.0 MONITORING RESULTS

### 3.1 Noise

Noise Monitoring Results for Pine Court and Magnolia Villa during the reporting period are summarized in Figure 3.1 & 3.2 respectively.

### 3.2 Air Quality

Air Quality Monitoring Results (Both 1-hour and 24-hour sampling results) for Pine Court and Magnolia Villa, during the reporting period are summarized in Figure 3.3 & 3.4 respectively.

One non-compliance was recorded on 2<sup>nd</sup> January 2004.

## 4.0 RECORD OF NON-COMPLIANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION

### 4.1 Noncompliance and Deficiency

#### 4.1.1 Noise

No noise level exceedance was recorded at both stations. Despite this, the Contractor had erected a large noise barrier to shield the rock breaking activity. In addition, a semi-enclosure was erected along the demolished section of the existing bridge at Sha Wan Drive to mitigate the noise.



#### 4.1.2 Air Quality

Almost all measurement results show compliance with action and limit level at both stations.

One measurement exceeded the action level from the station at Magnolia Villa on 2<sup>nd</sup> January 2004. The Contractor has rectified the problem by enclosing the drilling location with tarpaulin and spraying water during the rock drilling operation.

During the reporting period, the high volume sampler was broken down from 27 December 2003 to 29 December 2003 at Magnolia Villa monitoring station while another high volume sampler was broken down from 30 December 2003 to 28 January 2004 at Pine Court monitoring station. It is understandable that there will be some equipment problem since the monitoring machines have been serving this project for more than 3 years.

Nevertheless, the Contractor has tried the best to repair the monitoring apparatus immediately and minimize the amount of data loss.

#### 4.2 Complaint

No complaint was received. As a mitigation measure, the Contractor used the pre-split method to break up the rock.

#### 4.3 Notification of Summons and Successful Prosecutions

No notification of summons or successful prosecution was received by the Contractor in the reporting period.

#### 5.0 ADVICE ON THE SOLID AND LIQUID WASTE MANAGEMENT STATUS

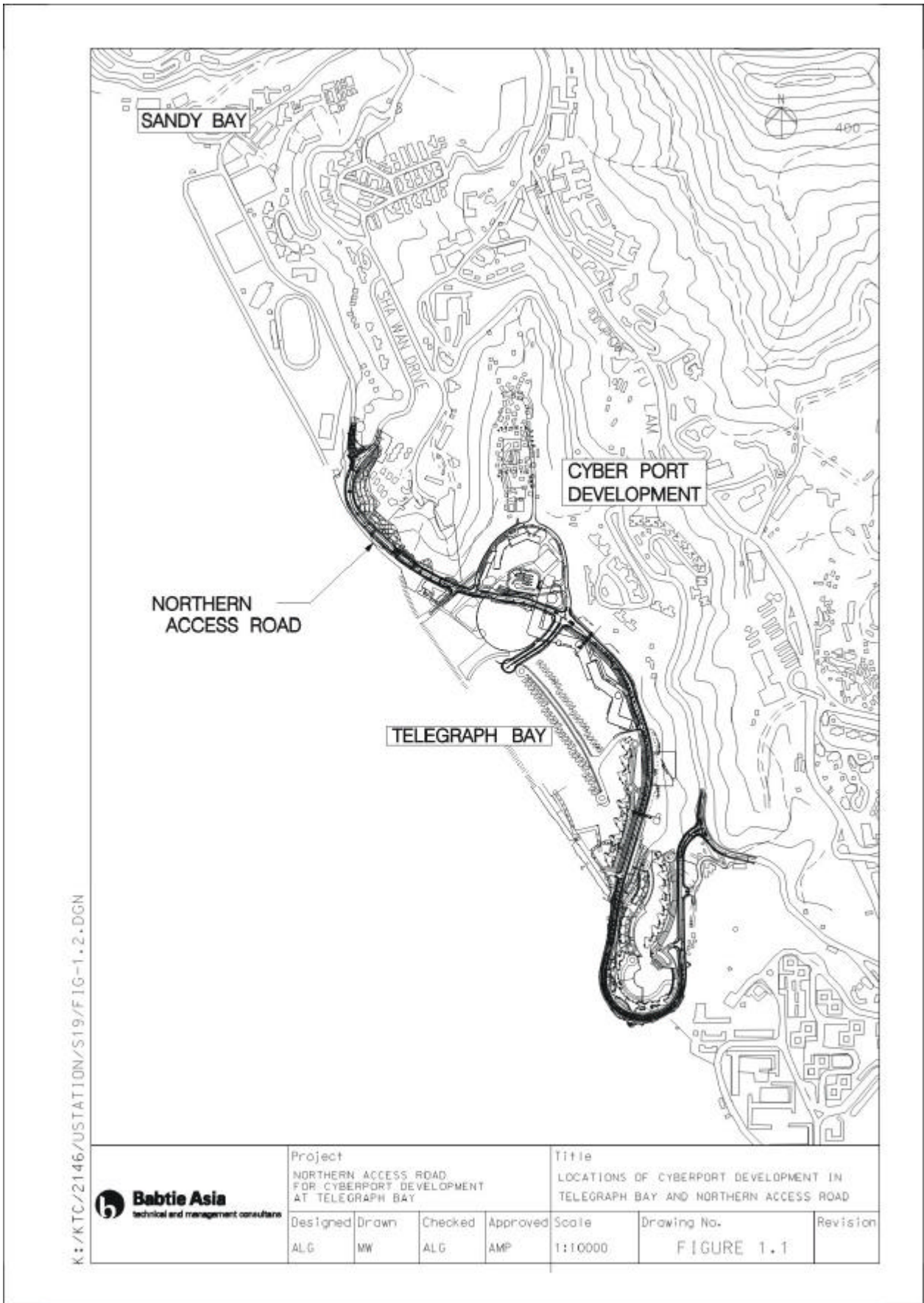
The waste management plan was approved by EPD.

The 'trip and ticket' system has been implemented for the disposal of construction and demolition waste.


#### 6.0 CONCLUSION

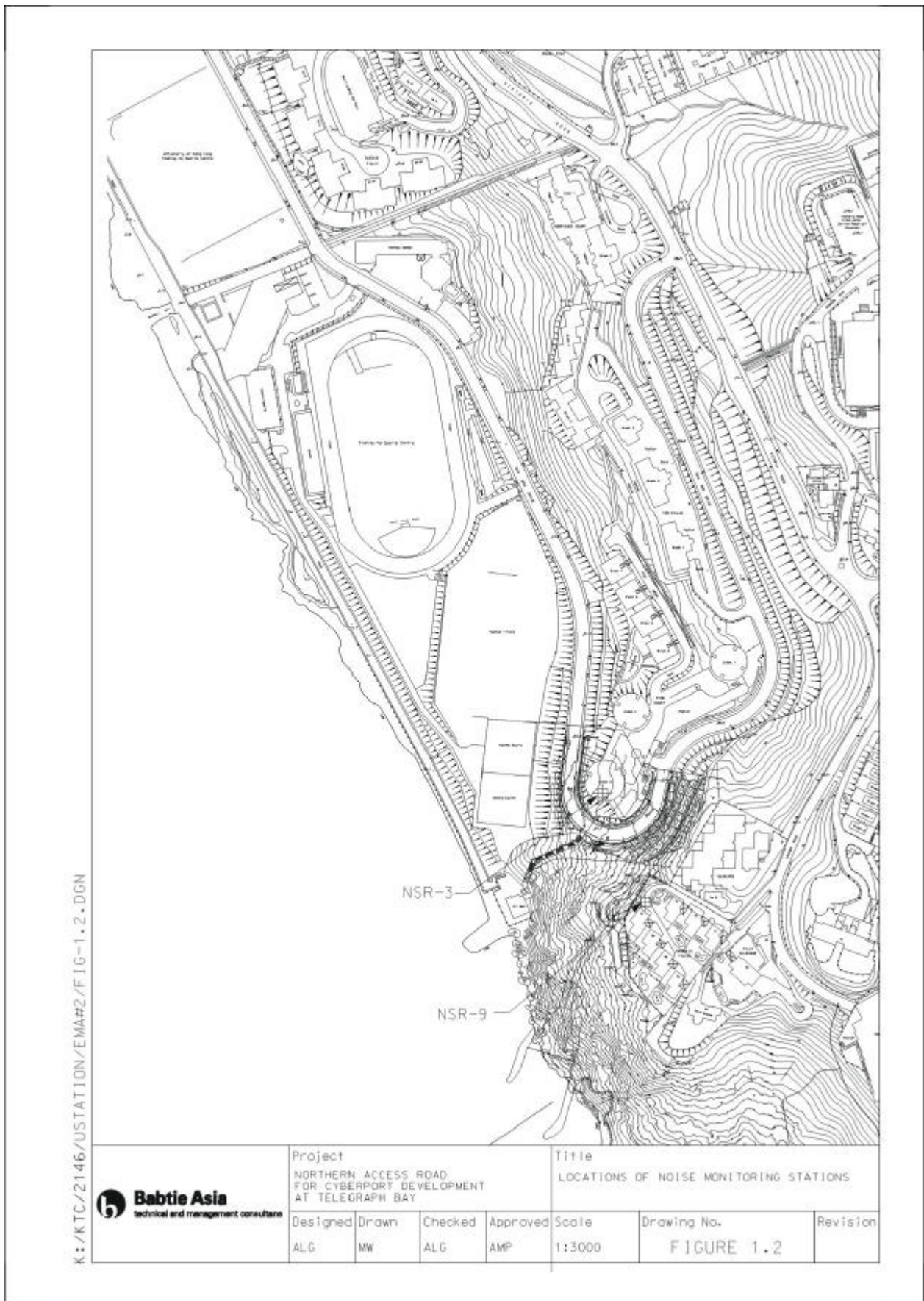
The monitoring work is proving effective and is generating data with the necessary statistical power to categorically identify, or confirm the absence of, impact attributable to the works.

## Figures

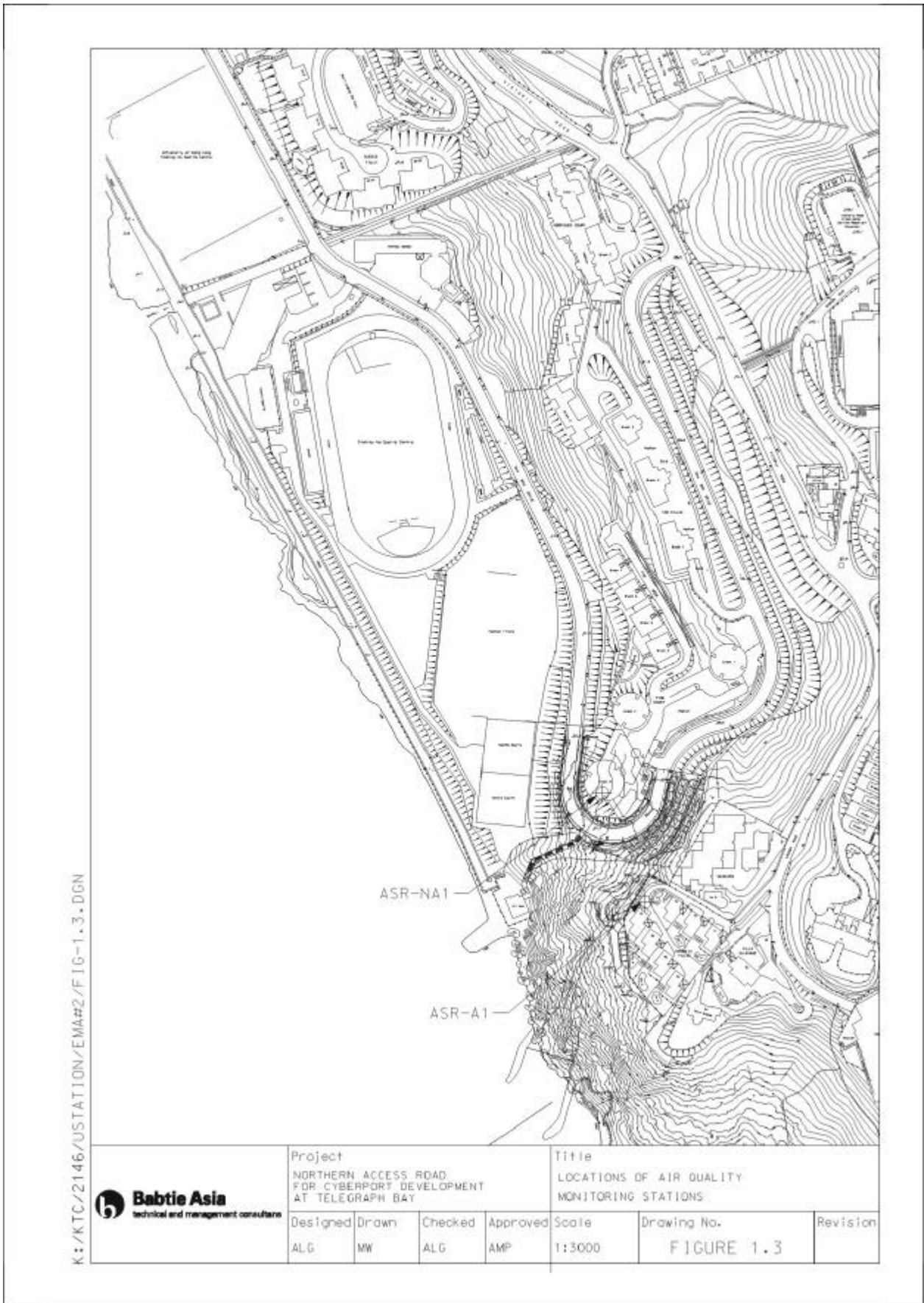


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 <b>Babtie Asia</b> <small>technical and management consultants</small>	Project				Title		
	NORTHERN ACCESS ROAD FOR CYBERPORT DEVELOPMENT AT TELEGRAPH BAY				LOCATIONS OF CYBERPORT DEVELOPMENT IN TELEGRAPH BAY AND NORTHERN ACCESS ROAD		
	Designed	Drawn	Checked	Approved	Scale	Drawing No.	Revision
ALG	MW	ALG	AMP	1:10000	FIGURE 1.1		







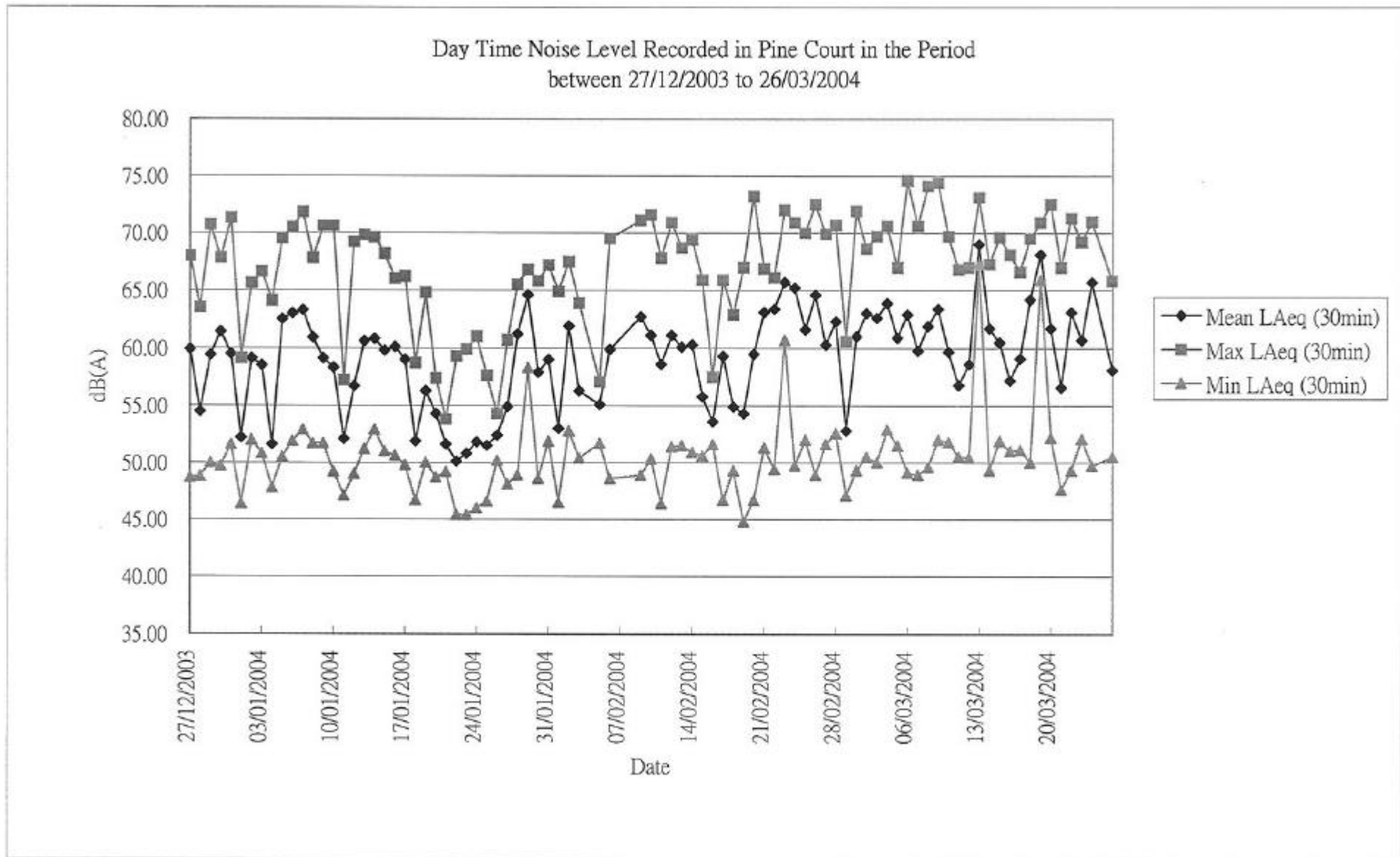


Figure 3.1

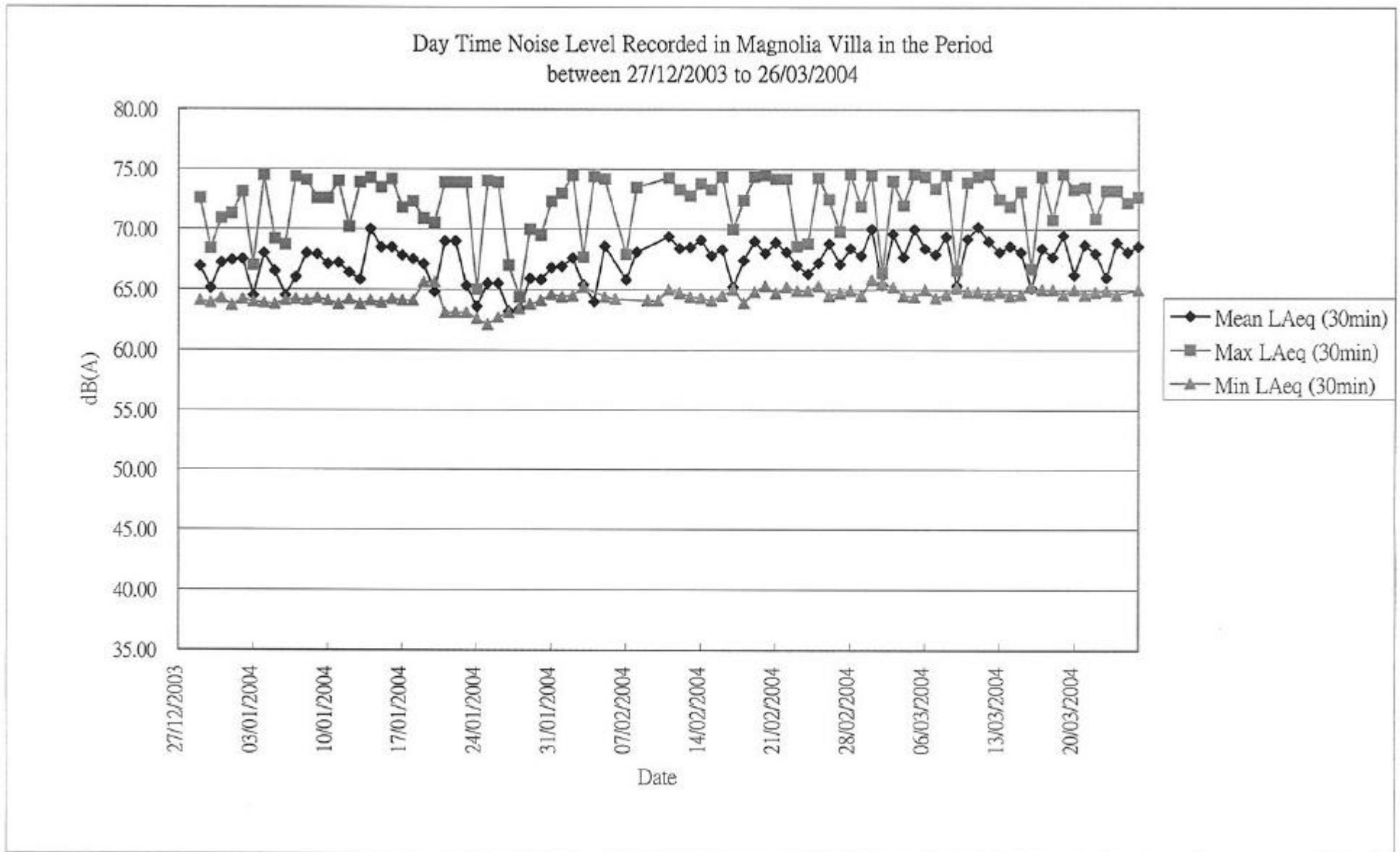


Figure 3.2

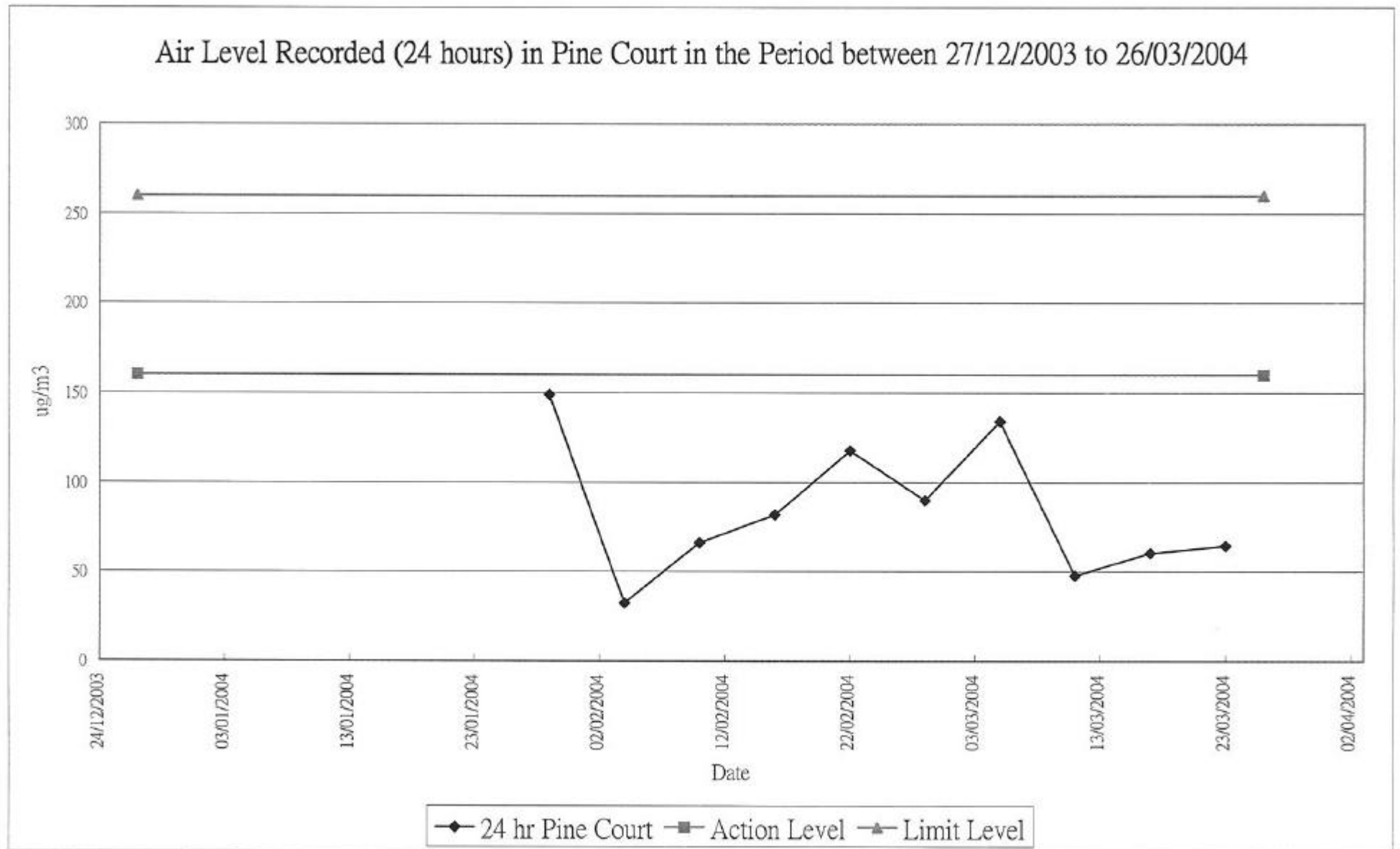


Figure 3.3



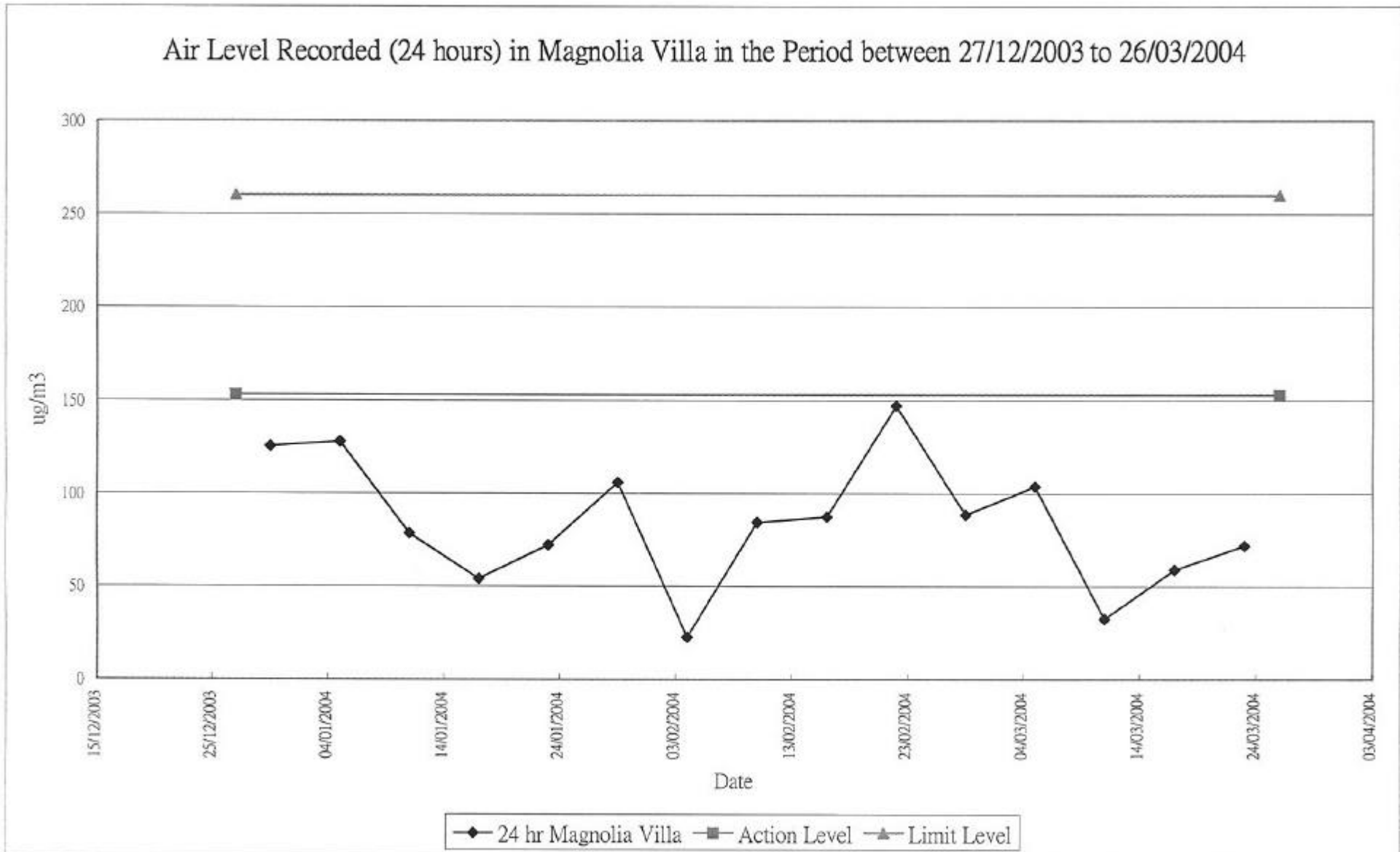


Figure 3.4

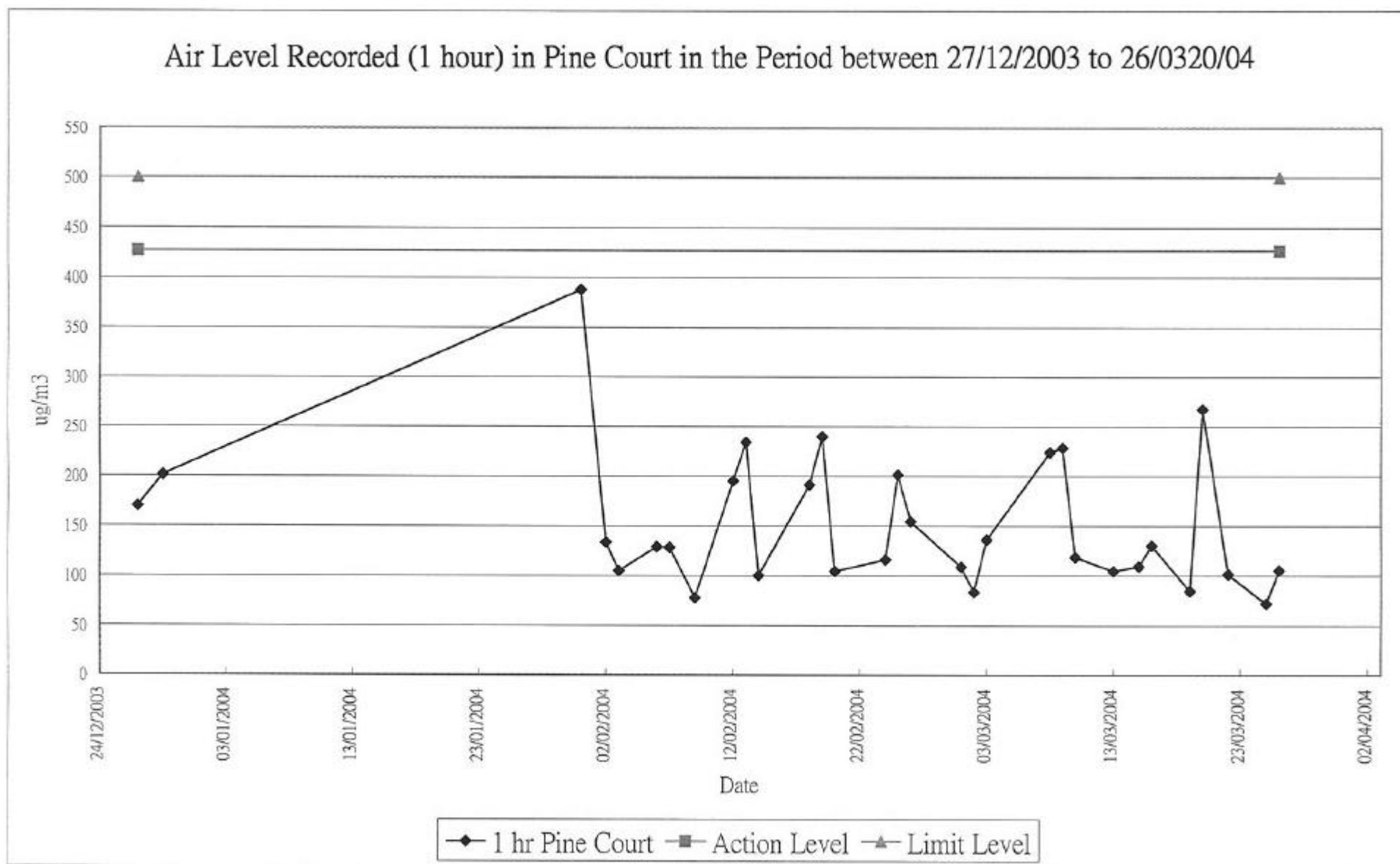


Figure 3.5

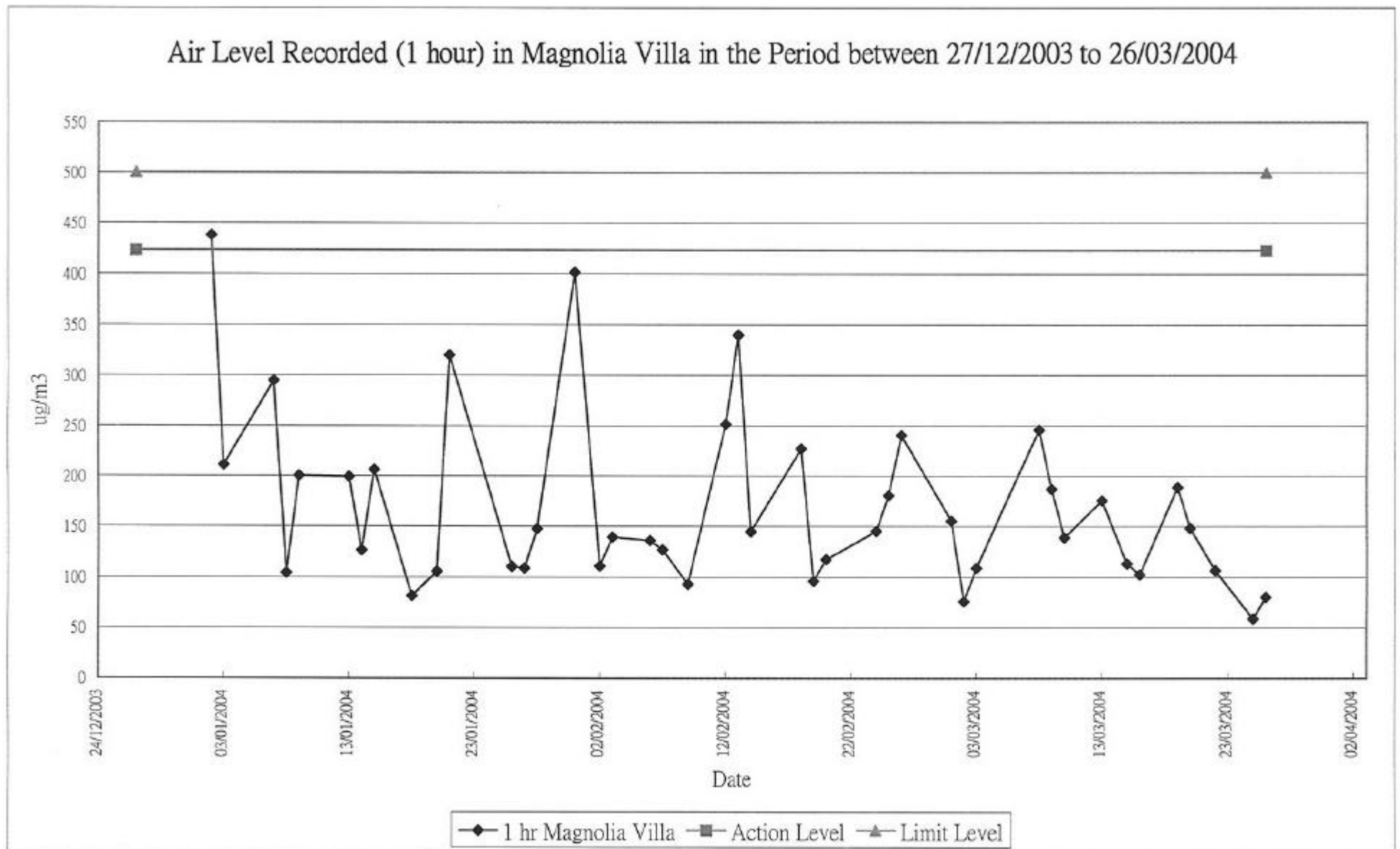
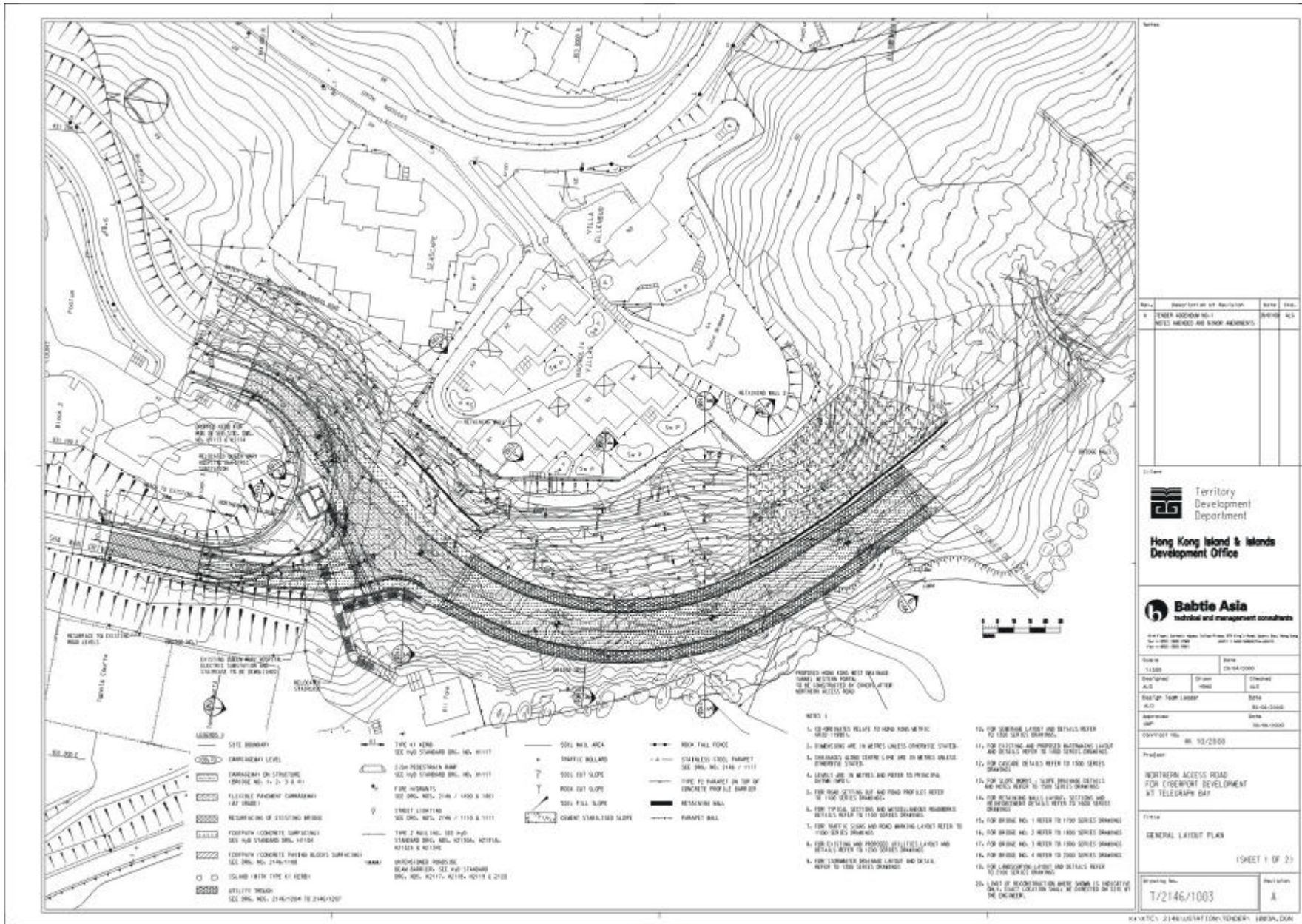


Figure 3.6

# Drawings



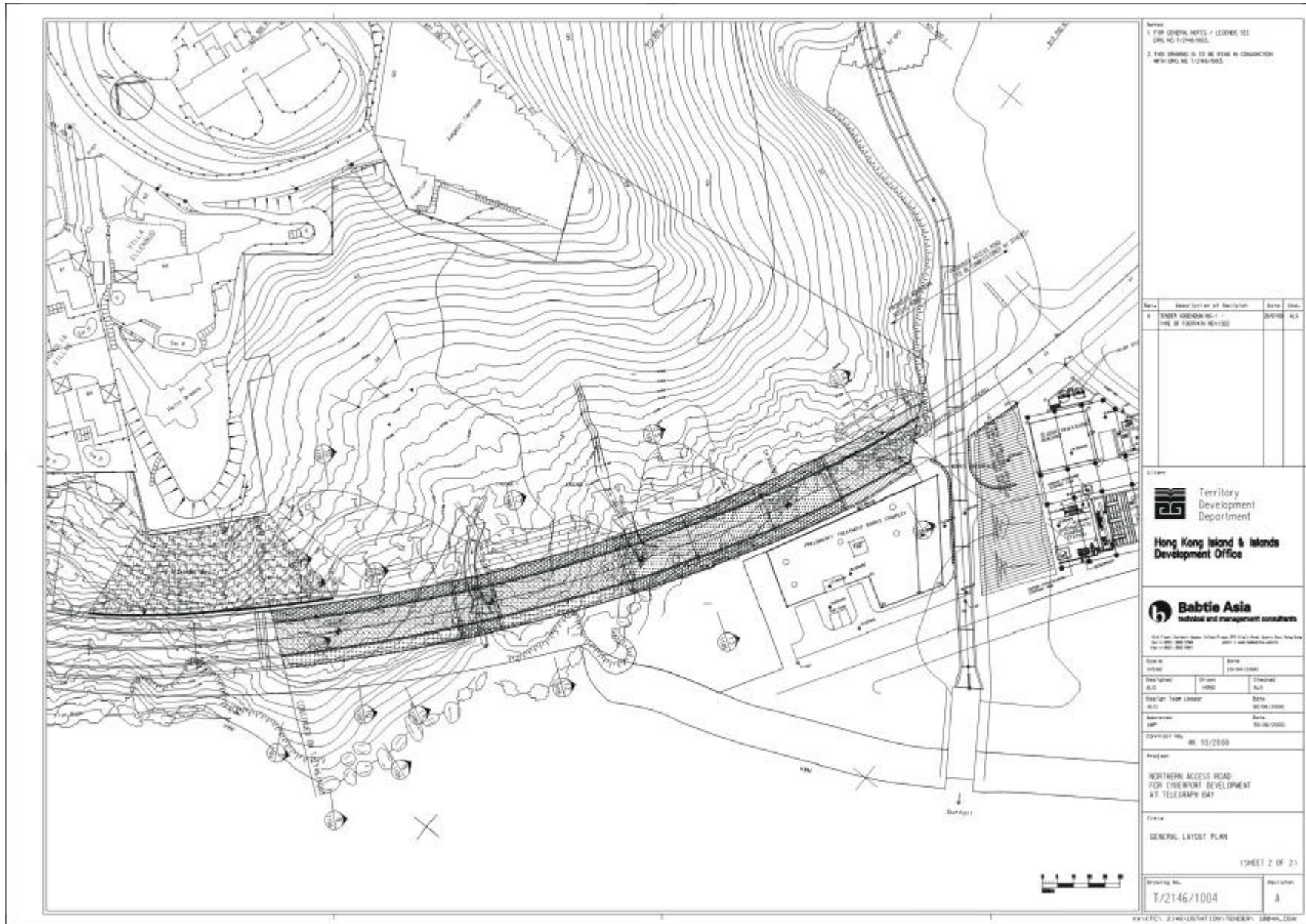
Rev.	Description of Revision	Date	Drawn
1	ENTER ADDENDUM NO. 1 NOTES NEEDED AS WORK AGREEMENTS	20/04/03	ALC

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Drawn	Date
ALC	20/04/2000
Checked	Checked
ALC	ALC
Scale/Type/Issue	Date
ALC	20/04/2000
Approved	Date
ALC	20/04/2000
Contract No.	No. 93/2000
Project	NORTHERN ACCESS ROAD FOR CYBERPORT DEVELOPMENT AT TELEGRAPH BAY
Title	GENERAL LAYOUT PLAN
	(SHEET 1 OF 2)
Drawing No.	T/2146/1003
Sheet	A

SCALE: 1:1000





Notes  
1. FOR GENERAL NOTES / LEGEND SEE  
CDR NO. T/2146/1004.  
2. THIS DRAWING IS TO BE VIEWED IN CONJUNCTION  
WITH CDR NO. T/2146/1004.

No.	Description of Revision	Date	By
1	TENDER ADDENDUM NO. 1 - (TYPE OF 1000mm x 600mm)	20/07/00	ALS

Territory  
Development  
Department  
  
Hong Kong Island & Islands  
Development Office

**Babtie Asia**  
technical and management consultants

Date	By
1/7/00	TS/04/0000
Design/Drawn	Checked
ALS	ALS
Design/Team Leader	Date
ALS	20/04/2000
Approver	Date
ALS	20/04/2000

Contract No. 00/13/2000  
Project  
NORTHERN ACCESS ROAD  
FOR CYBERPORT DEVELOPMENT  
AT TELEGRAPH BAY

Title  
GENERAL LAYOUT PLAN  
  
SHEET 2 OF 23

Drawing No. T/2146/1004	Sheet No. A
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