

**CONTRACT NO: CV/2004/01  
WORK ORDER NO. N1/113/04**

**CONSTRUCTION OF PENG CHAU HELIPAD  
ENVIRONMENTAL MONITORING & AUDIT  
QUARTERLY REPORT**

**- APR – JUN 2007 -**

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Country \_\_\_\_\_

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Subject Contract No. CV/2004/01 – Works Order No. N1/113/04  
Construction of Peng Chau Helipad –  
Quarterly Environmental Monitoring & Audit Report for April to June 2007

We refer to the revised 1<sup>st</sup> Quarterly EM&A Report for April to June 2007 that we received through email on 3 October 2007 and are pleased to confirm we have no further comment on the report.

Should you require further information, please feel free to contact us.

Best regards,



Joseph Poon  
Independent Environmental Checker

JP/ry/hc

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**EXECUTIVE SUMMARY**

This is the Environmental Monitoring and Audit (EM&A) Quarterly Report – Apr-Jun 2007 for Contract No. CV/2004/01, Work Order No. N1/113/04 – Construction of Peng Chau Helipad. This report presents the environmental monitoring findings and information recorded during the period 16<sup>th</sup> Apr 2007 to 30<sup>th</sup> Jun 2007 upon the commencement of construction works from 16<sup>th</sup> Apr 2007 onwards.

Construction Activities for the Reported Period

During this reporting period, the principal work activities at Peng Chau Helipad are summarized as follows:

Apr 2007	May 2007	Jun 2007
<ul style="list-style-type: none"> <li>• Installation of silt curtain</li> <li>• Erecting of hoarding</li> <li>• Removal of site vegetation and disposal</li> <li>• Delivery of 700 ton grade 200 rock fill from Tuen Mun</li> <li>• Dredging works for Area A (CH-15 to CH+30. offset from 65m to 20m and level to -5mCD)</li> <li>• Towing of hopper barge to Cheung Chau South dumping ground</li> </ul>	<ul style="list-style-type: none"> <li>• Repair of silt curtain</li> <li>• Dredging works for Area A (CH-30 to CH+60. offset from 65m to 0m and level to -8mCD) and Area B (CH+60 to CH+140. offset from 5m to 25m and level to -2mCD)</li> <li>• Towing of hopper barge to Cheung Chau South dumping ground</li> <li>• Delivery of 700 ton grade 200 rock fill from Tuen Mun</li> </ul>	<ul style="list-style-type: none"> <li>• Repairing of the silt curtain</li> <li>• Delivery of grade 200 rockfill from Tuen Mun Area and underlayer from Tsueng Kwan O area</li> <li>• Backfilling of grade 200 gravels to +4.4 mPD</li> <li>• Backfilling of the underlayer</li> </ul>

Noise Monitoring

Monitoring of construction noise was carried out at the monitoring station M1 on 11 occasions. There was no exceedance reported during the reported period.

Waste Management

Sediment disposal was completed at South Cheung Chau Spoil Disposal Area since May so that no further marine disposal was necessary from this month onwards. No inert C&D material was disposed nor non-inert C&D material was disposed of at Peng Chau Outlying Island Transfer Facilities. No chemical waste was transported off-site in this reported period.

Complaints, Notifications of Summons and Successful Prosecutions

There was one complaint received from EPD regarding the silt and muddy deposit spreading outside the silt curtain of the dredging area in this reporting period. Notice of intended prosecution was received. No notification of prosecutions or summons was received in this reporting period.

## 1 INTRODUCTION

### 1.1 SCOPE OF THE REPORT

Lam Laboratories Limited (LAM) has been appointed to work as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme for CEDD Contract No. CV/2004/01, Work Order No. N1/113/04 – Construction of Peng Chau Helipad.

This report presents the environmental monitoring and auditing work carried out in accordance to the “*Environmental Mitigation, Monitoring and Audit Requirements*” under Particular Specification Section 29 during the period 16<sup>th</sup> Apr 2007 to 30<sup>th</sup> Jun 2007.

### 1.2 STRUCTURE OF THE REPORT

- Section 1**      **Introduction** – details the scope and structure of the report.
- Section 2**      **Project Background** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.
- Section 3**      **Implementation Status** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.
- Section 4**      **Monitoring Requirements** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.
- Section 5**      **Quarterly Review of Monitoring Results** – summarizes the status and review of monitoring results and compliance, graphical plots of trends and waste management status in the reporting period.
- Section 6**      **Complaints, Notification of Summons and Prosecution** – summarizes the complaints, notification of summons and successful prosecution for breaches of environmental legislation and the actions taken within the reporting period.
- Section 7**      **Conclusion**

**2 PROJECT BACKGROUND****2.1 SCOPE OF THE PROJECT AND SITE DESCRIPTION**

The works mainly comprise of construction of a helipad and a vehicular access for serving the helipad at Peng Chau and the associated installations, lighting and drainage. The construction period is around 9 months for the entire works.

The site location plan is shown in [Figure 2.1](#).

**2.2 PROJECT ORGANIZATION AND CONTACT PERSONNEL**

Civil Engineering Office of Civil Engineering and Development Department is the overall project controller. For the construction phase of CV/2004/01, Project Engineer, Independent Environmental Checker, Contractor, Environmental Team are appointed to manage and control environmental issues.

Key personnel and contact particulars are summarized in **Table 2.2**:

**Table 2.2 Contact Details of Key Personnel**

Post	Name	Contact No.	Contact Fax
Resident Engineer	P L Fung	2762 5068	2714 2054
Project Manager	KW Li	2347 8223	2347 8229
Site Agent	Simon Pan	2347 8223	2347 8229
Independent Environmental Checker (IEC)	Joseph T L Poon	2452 7140	2450 6138
Environmental Team Leader (ETL)	Raymond Dai	2975 3300	2897 5509

**2.3**
**CONSTRUCTION PROGRAMME AND WORKS**

Construction works carried out at Peng Chau Helipad during this reporting period are summarized as follows:

Apr 2007	May 2007	Jun 2007
<ul style="list-style-type: none"> <li>• Installation of silt curtain</li> <li>• Erecting of hoarding</li> <li>• Removal of site vegetation and disposal</li> <li>• Delivery of 700 ton grade 200 rock fill from Tuen Mun</li> <li>• Dredging works for Area A (CH-15 to CH+30. offset from 65m to 20m and level to -5mCD)</li> <li>• Towing of hopper barge to Cheung Chau South dumping ground</li> </ul>	<ul style="list-style-type: none"> <li>• Repair of silt curtain</li> <li>• Dredging works for Area A (CH-30 to CH+60. offset from 65m to 0m and level to -8mCD) and Area B (CH+60 to CH+140. offset from 5m to 25m and level to -2mCD)</li> <li>• Towing of hopper barge to Cheung Chau South dumping ground</li> <li>• Delivery of 700 ton grade 200 rock fill from Tuen Mun</li> </ul>	<ul style="list-style-type: none"> <li>• Repairing of the silt curtain</li> <li>• Delivery of grade 200 rockfill from Tuen Mun Area and underlayer from Tsueng Kwan O area</li> <li>• Backfilling of grade 200 gravels to +4.4 mPD</li> <li>• Backfilling of the underlayer</li> </ul>



**3 IMPLEMENTATION REQUIREMENTS**

**3.1 STATUS OF REGULATORY COMPLIANCE**

A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in **Table 3.1**.

**Table 3.1 Cumulative Summary of Valid Licences and Permits**

Permits and/or Licences	Reference No.	Issued Date	Valid Period	Status
Dumping Permit under DASO	EP/MD/07-082	3 April 2007	10 April 2007 - 31 July 2007	Surrendered on 15 June 2007
Notification of Works Under APCO	001020509	16 Jun 2007	Throughout the project period	Notified
Construction Noise Permit	-	-	-	No work was conducted during restricted hours.



**4 MONITORING REQUIREMENTS**

Location of environmental monitoring station is referred in [Figure 4.1](#).

**4.1 NOISE MONITORING**

The project has 1 noise monitoring station, namely M1. Details of the noise monitoring station are summarized in **Table 4.1**.

**Table 4.1 Noise Monitoring Station**

Station	HK Metric Grid (Easting / Northing)	Description
M1	821 682.865E / 816 689.353N	Ground Level outside Block D of Sea Crest Villa

Monitoring Methodology

Monitoring was carried out in accordance to procedures recommended in the contractual EM&A requirement Manual for the monitoring of construction noise. Measurements shall be recorded to the nearest 0.1dB. Weather conditions, including a measurement of wind speed, should be recorded for the measurement. Where the steady wind speed exceeds 5 m/s, or gusts are above 10 m/s, or in the presence of fog or rain, measurements should be treated as invalid, and repeated in more appropriate conditions.

This noise meter was programmed to measure A-weighted equivalent continuous sound pressure level at 30-minute intervals. Acoustic information measured by the noise meter over 30-minute period were recorded. Additional supplementary acoustical data in terms of L<sub>10</sub> and L<sub>90</sub> were also recorded for reference and auditing.



Monitoring Equipment

The noise levels were determined using ONO SOKKI sound level meter model LA-5110. The meter complies with the International Electrotechnical Commission Publication (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications as referred to in the Technical Memorandum issued under the Noise Control Ordinance (NCO).

ONO SOKKI sound level calibrator model SC-2110 was used for the on-site calibration of the meter. This calibrator complies with the IEC Publication 942 (1988) Class1 and ANSI S1.40 – 1984. Noise measurements were only accepted to be valid if the calibration levels from before and after the measurement agree to within 1.0dB. The sound level meter and calibrator are calibrated annually by a HOKLAS laboratory.

Wind speeds were measured by a portable digital anemometer, Dwyer PWM1 with direction being determined with a compass.

**4.2 MONITORING PARAMETERS AND FREQUENCY**

Noise monitoring programme has been scheduled according to the requirements stipulated in the EM&A Manual produced for the Project summarized in **Table 4.2**.

**Table 4.2 Environmental Monitoring Parameters and Frequencies**

Station(s)	Parameter	Frequency
M1 <sup>Note 1</sup>	L <sub>Aeq</sub> (30 min), L <sub>90</sub> & L <sub>10</sub>	Once per week between 0700-1900 hours on normal weekdays
	L <sub>Aeq</sub> (5 min), L <sub>90</sub> & L <sub>10</sub>	3 time slot whenever works is conducted during the time outside 0700-1900 hours of normal weekdays or anytime on any public holiday or Sunday

Note 1: Façade measurement

**4.3 NOISE CRITERIA**

Noise criteria were determined during the baseline monitoring prior to the commencement of the construction of the project for the purpose of impact monitoring. Action and limit levels for noise impact monitoring upon the commencement of work are summarized in **Table 4.3**.

**Table 4.3 Action and Limit Levels for Noise**

Time Period	Action Level	Limit Level
07:00 – 19:00 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A) <sup>Note 1</sup>
0700 – 2300 hours on public holidays including Sundays and 1900 – 2300 hours on all days		70 dB(A) <sup>Note 2</sup>
2300 – 0700 hours on all days		55 dB(A) <sup>Note 2</sup>

Note:

1. No school is presence in the vicinity of M1 and thus no examination noise level is applied.
2. Area Sensitivity Rating of C is selected due to the presence of non-construction noise due to traffic recorded during the baseline measurements.

Should non-compliance of the noise quality criteria occurs, Event and Action Plans recommended in the EM&A Manual shall be followed accordingly.

**5 QUARTERLY REVIEW OF MONITORING RESULTS**

**5.1 REVIEW OF NOISE MONITORING RESULTS**

Noise monitoring was conducted for 11 occasions in this reporting period and results are summarized in **Table 5.1**. Graphical trend is presented in [Figure 5.1](#). No exceedance was recorded in this reporting period.

**Table 5.1 Noise Monitoring Results at M1 – Apr-Jun 07**

Date	Time	L <sub>Aeq</sub> , dB(A)	Limit Level dB(A)	No. of Exceedance
17/04/2007	8:52	59.2	75	0 (AL); 0 (LL)
24/04/2007	9:40	65.5	75	0 (AL); 0 (LL)
2/05/2007	10:44	59.9	75	0 (AL); 0 (LL)
10/05/2007	15:28	61.6	75	0 (AL); 0 (LL)
17/05/2007	15:30	69.4	75	0 (AL); 0 (LL)
26/05/2007	10:55	71.8	75	0 (AL); 0 (LL)
31/05/2007	9:17	64.5	75	0 (AL); 0 (LL)
7/06/2007	10:08	64.0	75	0 (AL); 0 (LL)
15/06/2007	9:27	68.4	75	0 (AL); 0 (LL)
21/06/2007	9:20	64.0	75	0 (AL); 0 (LL)
29/06/2007	8:55	62.3	75	0 (AL); 0 (LL)

**5.2 WASTE MONITORING RESULTS**

236,000m<sup>3</sup> sediment was disposed at South Cheung Chau Spoil Disposal Area during Apr to May 07. No inert C&D materials was disposed and 4 ton vegetation waste was disposed of at Peng Chau Outlying Island Transfer Facilities. No chemical waste was transported off site in this reported period.

6

**COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION**

In this reporting period, one complaint received from EPD. No inspection notice, notification of summons or prosecution was received. Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Tables 6.1, 6.2** and **6.3** respectively.

**Table 6.1 Environmental Complaints Log**

Complaint Log No.	Date of Receipt	Received From and Received By	Nature of Complaint	Date Investigated	Outcome	Date of Reply
PC001	28-04-2007	EPD	Silt curtain was not properly secured to enclose the dredging area and muddy water was observed escaping into the open sea.	02-05-2007	Conduct full investigation and report the mitigation plan to EPD	03-05-2007
PC001 (same complaint)	23-05-2007	EPD	Silt curtain was not properly implemented to comply with EP condition to secure and enclose the dredging area.	Same as PC001	Formal letter of contractor respond on the mitigation measures conducted	30-05-2007

**Table 6.2 Cumulative Statistics on Complaints**

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Quarter	Cumulative No. Project-to-Date
Air	-	-	-
Noise	-	-	-
Water	1	-	1
Waste	-	-	-
<b>Total</b>	<b>1</b>	<b>-</b>	<b>1</b>

**Table 6.3 Cumulative Statistics on Successful Prosecutions**

Environmental Parameters	Cumulative No. Brought Forward	No. of Successful Prosecutions this quarter (Offence Date)	Cumulative No. Project-to-Date
Air	-	-	-
Noise	-	-	-
Water	-	-	-
Waste	-	-	-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>



**7**

***CONCLUSION***

The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed in the previous EM&A Report were made in response to changing circumstances.

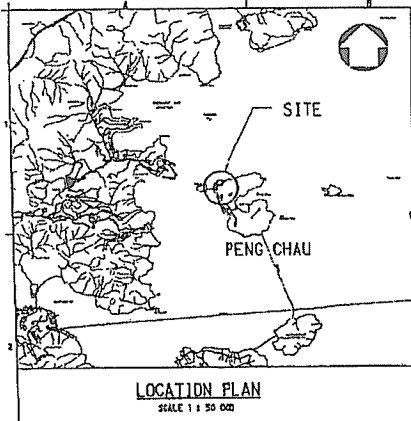
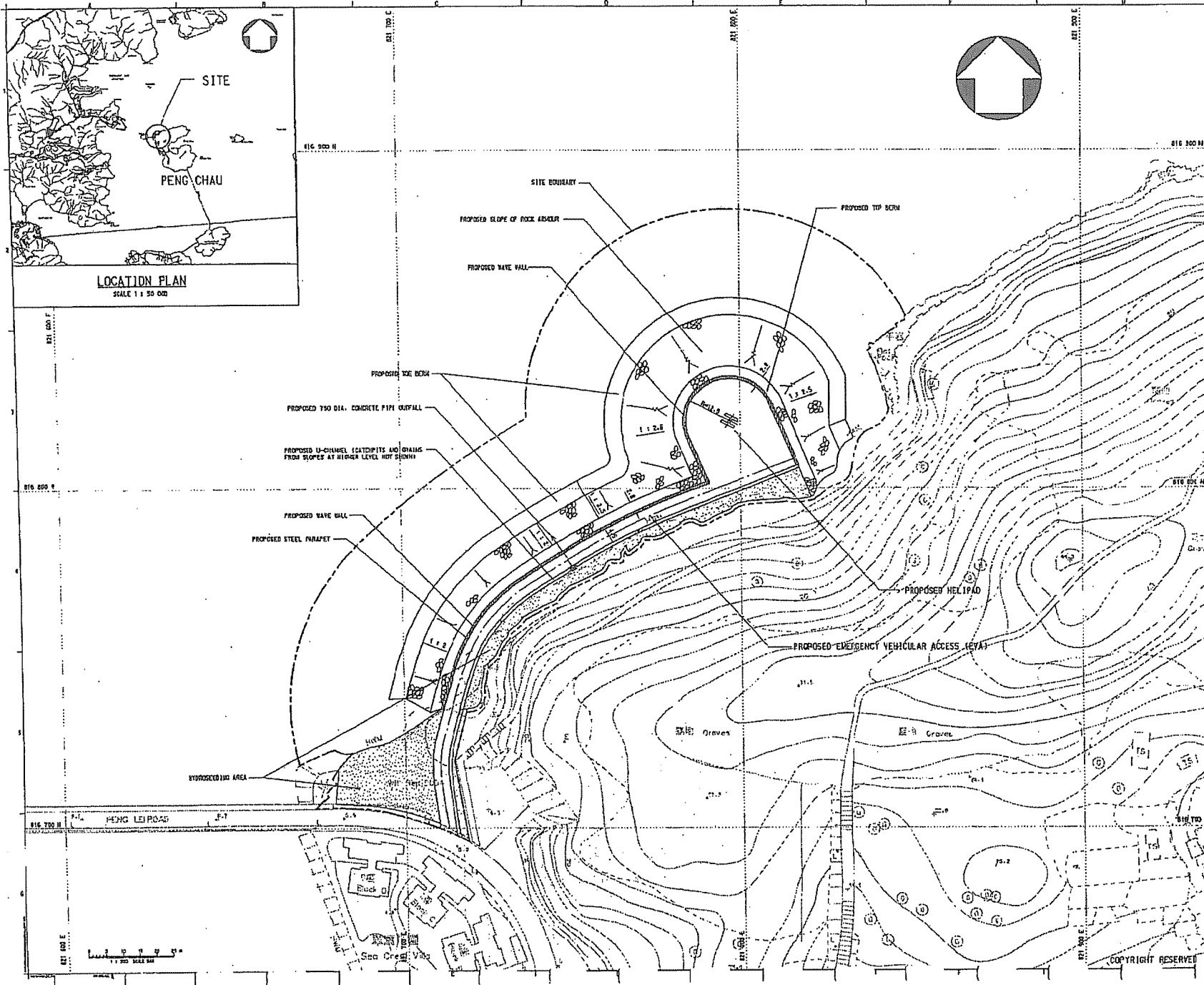
No exceedance was reported in routine environmental monitoring due to the construction operation of CV/2004/01. Such results indicate that the construction operation of CV/2004/01 was performed acceptable against the noise limits.

1 complaint was received and investigation was followed accordingly and intended prosecution was received. Contactor is recommended to paid full attention on prompt implementation of the rectification measures recommended by ET and IEC.



***Figure 2.1***

***Location Plan***



- NOTES:
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
  2. ALL LEVELS REFER TO PRINCIPAL DATUM (P.D.) AND ARE IN METRES.
  3. ALL CO-ORDINATES REFER TO HONG KONG GEODETIC DATUM 1950 AND ARE IN METRES.
  4. HYDROSEEDING TO THE HYDROSEEDING AREA SHALL BE CARRIED OUT IN ACCORDANCE WITH FS SECTION 7.

- LEGEND:
- PROPOSED SITE BOUNDARY
  - [Stippled Area] HYDROSEEDING AREA

REV. NO.	DATE	DESCRIPTION	BY	CHECKED
1				

NO.	DATE	BY	CHKD.	REVISION
1				

DESIGNED BY: [Signature]  
 CHECKED BY: [Signature]  
 DATE: 5.6.2006

CONTRACT NO. CY/205/14

FILE NO.

PROJECT NO.

CLIENT

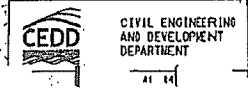
**CONSTRUCTION OF PENG CHAU AND YUNG SHUE WAN HELIPADS**

**PENG CHAU HELIPAD - GENERAL LAYOUT**

DRAWING NO. PW-0514-001

SCALE: 1 : 500

OFFICE: PORT WORKS DIVISION  
 CIVIL ENGINEERING OFFICE



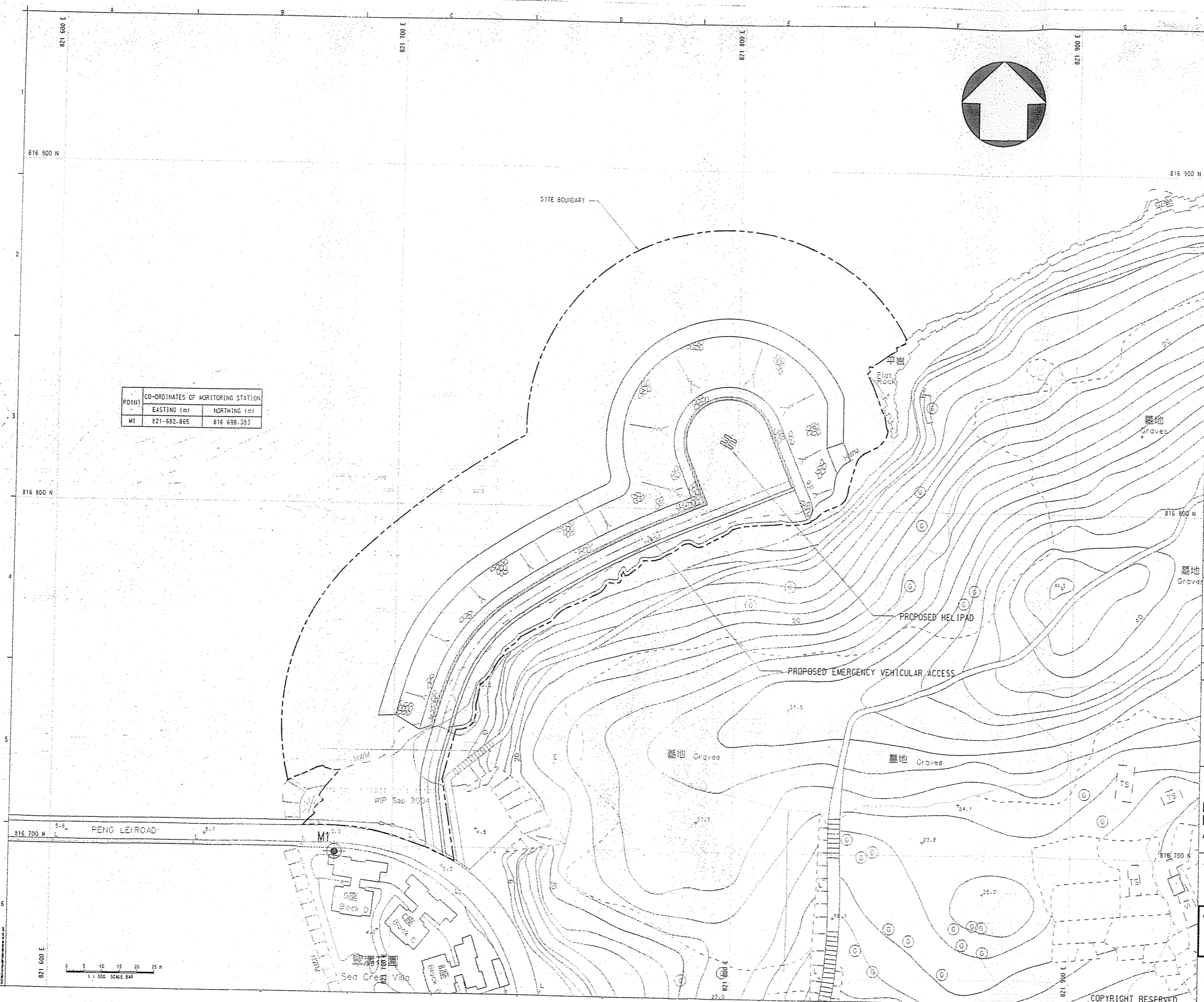
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**Figure 4.1**

***Layout of Environmental Monitoring Stations***



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
  2. ALL CO-ORDINATES REFER TO HONG KONG GEODETIC DATUM 1980 AND ARE IN METRES.
  3. ALL LEVELS REFER TO PRINCIPAL DATUM (P.D.) AND ARE IN METRES.
  4. MONITORING METHODOLOGY AND PROCEDURE SHALL BE AS OUTLINED IN PS SECTION 26 AND AS REQUIRED BY ENVIRONMENTAL PERMIT ISSUED BY EPD.
  5. ENVIRONMENTAL MITIGATION MEASURES SHALL BE CARRIED OUT AS OUTLINED IN PS SECTION 26 AND AS REQUIRED BY ENVIRONMENTAL PERMIT ISSUED BY EPD.
  6. ENVIRONMENTAL MITIGATION MEASURES TO MITIGATE WATER QUALITY IMPACTS DURING DREDGING AND RECALMATION ARE ALSO SHOWN ON DRAWING NO. SK-006.

- LEGEND:**
- SITE BOUNDARY
  - ⊙ PROPOSED NOISE MONITORING LOCATION

POINT	CO-ORDINATES OF MONITORING STATION	
	EASTING (m)	NORTHING (m)
M1	821-582.865	816-688.353

no.	date	description	checked	approved
<b>REVISION</b>				
designed		P. L. FUNG		
drawn		C. K. LI		
traced		C. K. LI		
checked		S. K. TONG		
approved				
T.S. LI Chief Engineer date: _____				

contract no. \_\_\_\_\_

file no. \_\_\_\_\_

project no. \_\_\_\_\_

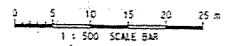
contract \_\_\_\_\_

drawing title  
**PENG CHAU HELIPAD - ENVIRONMENTAL MITIGATION AND MONITORING MEASURES**

drawing no. ~~SK-044~~ scale: 1:500 OR AS SHOWN

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 PORT WORKS DIVISION  
 CIVIL ENGINEERING OFFICE

**CEDD** CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT





*Figure 5.1*

*Graphical Plot of Noise Levels*

Figure 5.1 - Graphical Plot of Noise Levels at M1

