

The Jockey Club CPS Limited

Central Police Station Conservation
and Revitalisation Project:
Twenty-third Monthly EM&A Report
(1 September to 30 September 2013)

Issue Date: October 2013

Environmental Resources Management

16/F

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and Revitalisation Project:
Twenty-third Monthly EM&A Report
(From 1 September to 30 September
2013)

Issue Date: October 2013

Reference 0095646

For and on behalf of	
ERM-Hong Kong, Limited	
Approved by:	Frank Wan
Signed:	
Position:	Partner
Certified by:	
	(Environmental Team Leader – Winnie Ko)
Date:	11 October 2013

This report has been prepared by ERM-Hong Kong, Limited with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

Your ref. 0095646_let_Atkins_20131015 Monthly EM&A Report No.23.doc
Our ref. 4690/OC051/SO

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Date: 16 October 2013

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By Email and Post

ERM-Hong Kong Limited,
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Quarry Bay,
Hong Kong

Attn: Ms Winnie Ko

Dear Winnie,

Central Police Station Conservation and Revitalization Project Verification of Monthly EM&A Report No.23

We refer to your letter dated 15 October 2013 regarding the Monthly EM&A Report No.23. Atkins China Ltd. verifies, in the capacity of Independent Environmental Checker, that the report, in principle, conforms the requirements provided in Condition 3.4 of the Environmental Permit (EP-408/2011/B).

Yours sincerely,
For Atkins China Ltd.



Sharifah Or
Independent Environmental Checker

c.c. HKJC – Mr. Kenneth Lee,
Rocco Design Architect – Mr. Charles Kung,

By Email
By Email

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EXECUTIVE SUMMARY

The construction works of **Central Police Station Conservation and Revitalisation Project** commenced on 24 October 2011. This is the twenty-third monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 September to 30 September 2013 in accordance with the EM&A Manual.

Summary of Construction Works undertaken during Reporting Period

The major construction works undertaken during the reporting period include:

- General strip out works at Block 4, Block 15 and Block 19;
- Structural addition and alteration works at Block 1;
- Roof tiling replacement works at Block 1 and Block 6;
- Demolition works at Block 2, Block 3, Block 11, Block 12 and Block 14;
- New structure construction at Block 11;
- External and lateral support for cost plus at Block 10 and Block 13;
- Underpinning works at Block 1, Block 3 and Block 14;
- Demolition of slab at Block 10 and Block 13;
- Second masonry load test at Block 4;
- Basement construction at Parade Ground;
- Timber doors and windows repair works at Block 1, Block 3, Block 4, Block 6 and Block 7;
- E&M installation at Block 1;
- External scaffolding erection at Block 2, Block 4 and Block 9; and
- Old Bailey Wing (Block 50) piling works and Arbutnot Wing (Block 51) loading test preparation.

Environmental Monitoring and Audit Progress

A summary of the monitoring activities in this reporting period is listed below:

- | | |
|---|-----------|
| • Construction noise monitoring during normal weekdays at each monitoring station | 5 times |
| • Joint environmental site inspection | 1 time |
| • Heritage site inspections | 17 times |
| • Landscape & visual monitoring | 1 time |
| • Tree inspection | 1 time |
| • Vibration monitoring for piling works | 120 times |
| • Vibration monitoring for other construction works | 72 times |

Noise

5 sets of 30-minute construction noise measurements were carried out at each of the monitoring stations (NM2 and NM6) during normal weekdays of the reporting period. No exceedance of Action or Limit Level of construction noise was recorded during the reporting period.

Cultural Heritage

Vibration monitoring carried out for the trial piling and piling works during the reporting period are listed below:

- 24 vibration monitoring measurements for the construction of the pipe pile walls at Parade Ground;
- 24 vibration monitoring measurements at Block 8;
- 24 vibration monitoring measurements for the construction of pipe pile walls at Old Bailey Wing (Block 50);
- 24 vibration monitoring measurements for the shaft grouted pre-bored H-piles at Block 51; and
- 24 vibration monitoring measurements at Block 17.

Vibration monitoring carried out for other construction works during the reporting period are listed below:

- 24 vibration monitoring measurements for the structural addition and alteration works at Block 1;
- 24 vibration monitoring measurements for the structural addition and alteration works at Block 14.
- 24 vibration monitoring measurements for the structural addition and alteration works at Block 11.

No exceedance of the Alert, Alarm and Action Levels was recorded during the reporting period.

Heritage site audits were conducted on 2, 3, 5, 6, 10, 11, 12, 13, 17, 18, 19, 23, 24, 25, 26, 27 and 30 September 2013 by the Heritage Checker during the reporting period. Major observations and recommendations during the site inspections were listed below:

3 September 2013

- It was observed that the door frame to 01/DG/78 and picture rail were not protected before demolition of masonry for E&M openings carried out to the wall between room 01/G/18 and 01/G/20.

6 September 2013

- It was noticed that window 01/WLG2/30 timber frame has been damaged.

10 September 2013

- Door frame 01/DG/57 was observed lack of protection when demolition was being carried out to the wall above.

12 September 2013

- It was observed that the protection to the Character Defining Elements (CDEs) were not sufficient in general.

13 September 2013

- The timber door frames on LG2 of Block 1 were observed damaged due to lack of protection.

18 September 2013

- The timber frames of 03/DG/04/05/06 were observed unprotected with scaffold components stored nearby.

24 September 2013

- It was noticed that the CDEs in Ground Floor of Block 1 was still lack of protection.
- The replacement of timber threshold in First Floor of Block 3 was in a wrong profile with design instruction. The Contractor was informed to re-do the work.

25 September 2013

- It was observed that three core drill holes in the central staircase area of Block 1 were created in locations that are not in accordance with the photo signing of record.

26 September 2013

- Moulded skirting was observed unprotected while external opening was formed to Room 01/LG1/51 in Block 1.

The contractor was urged to follow-up the necessary rectification based on the inspection findings.

The follow-up actions recommended in the heritage site audits from the last reporting period (August 2013) have generally been implemented.

Landscape & Visual

Landscape and visual monitoring has commenced since October 2011 on a monthly basis. Tree inspection was conducted on 2 September 2013 by the arborist during the reporting period. Recommendations from the Arborist are listed below.

Tree-5:

- The planter of Tree-5 should be cleaned regularly; and
- To complete the nearby renovation work as soon as possible so as to minimise disturbance to the tree.

Tree-11:

- To complete the nearby renovation work as soon as possible so as to minimise disturbance to the tree.

Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. A total of 979.49 tonnes of inert C&D materials were generated during the reporting period. 103.73 tonnes of non-inert C&D materials comprising general refuse were generated and disposed of at the SENT Landfill. 4,030 kg of metal was produced and sent to recyclers for recycling. No plastics waste or paper/cardboard packaging was generated during the reporting period. 40 kg of solid chemical waste was produced and collected by licensed chemical waste collector during the reporting period.

Environmental Site Inspection

A joint environmental site inspection was carried out by the representatives of the Contractor, the IEC and the ET on 12 September 2013. There is no major observation or recommendation during the site audit.

Environmental Exceedance/Non-conformance/Compliant/Summons and Prosecution

No exceedance of Action or Limit Level of construction noise was recorded at designated monitoring stations during the reporting period.

No exceedance of the Alert, Alarm and Action Levels of vibration was recorded during the reporting period.

No enquiry was received during the reporting period.

No non-compliance event was recorded during the reporting period.

No complaint was received during the reporting period.

No summons/prosecution was received during the reporting period.

Future Key Issues

Works to be undertaken in the next month include:

- General strip out works at Block 19;
- Structural addition and alteration works at Block 1;
- Roof tiles replacement works at Block 1 and Block 6;
- Demolition works to Block 2, Block 3, Block 11, Block 12, Block 14, Block 15 and Block 19;
- New structure construction at Block 11 and Block 15;
- Excavation and lateral support for cost plus at Block 10 and Block 13;
- Underpinning works of Block 1, Block 3 and Block 14;
- Demolition of slab at Block 10 and Block 13;
- E&M opening at Block 6 and Block 7;
- Revetment wall strengthening of R175 and R806;
- Basement construction at Parade Ground;
- Timber doors and windows repair works at Block 1, Block 3, Block 4, Block 6 and Block 7;
- E&M installation at Block 1;
- External scaffolding erection at Block 2, Block 4 and Block 9;
- Old Bailey Wing piling works and Arbuthnot Wing loading test preparation;
- Removal of non-structural infill wall at Block 17; and
- Old Bailey Wing pump well installation and test.

Potential environmental impacts arising from the above construction activities are mainly associated with dust, construction noise, site runoff and waste management.

ERM-Hong Kong, Limited (ERM) was appointed by the Jockey Club CPS Limited (the CPS Ltd) as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme for the **Central Police Station Conservation and Revitalisation Project** (the Project).

1.1 PURPOSE OF THE REPORT

This is the twenty-third EM&A report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from **1 September to 30 September 2013**.

1.2 STRUCTURE OF THE REPORT

The structure of the report is as follows:

Section 1 : **Introduction**

details the scope and structure of the report.

Section 2 : **Project Information**

summarises background and scope of the Project, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permit(s)/License(s) during the reporting period.

Section 3 : **Environmental Monitoring Requirements**

summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, Event/ Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

Section 4 : **Implementation Status on Environmental Protection Requirements**

summarises the implementation of environmental protection measures during the reporting period.

Section 5 : **Monitoring Results**

summarises the monitoring results obtained in the reporting period.

Section 6 : **Environmental Site Inspection**

summarises the audit findings of the weekly site inspections undertaken within the reporting period.

Section 7: **Environmental Non-conformance**

summarises any monitoring exceedance, environmental complaints and environmental summons within the reporting period.

Section 8: **Future Key Issues**

summarises the impact forecast and monitoring schedule for the next reporting month.

Section 9: **Conclusions**

2 PROJECT INFORMATION

2.1 BACKGROUND

The Chief Executive (CE)'s 2007-2008 Policy Address highlighted revitalisation as the guiding principle of heritage conservation and the Project was one of the specific proposals put forward by the CE in the same Policy Address. At the meeting of the Executive Council (ExCo) on 15 July 2008, the ExCo advised and the CE ordered that Government should enter into a partnership with the Hong Kong Jockey Club (HKJC) in the form of an agreement (or agreements) to take forward the conservation and revitalisation of the CPS project based on various guiding parameters. The Project is now being undertaken in partnership with the Development Bureau of the HKSAR Government. The HKJC has taken on board the decision at the ExCo meeting and further investigated the design and implementation of the Project. The Project is now implemented by the Jockey Club CPS Limited.

2.2 SITE DESCRIPTION

The location of the Project Site is shown in *Annex A1*. The Site is bounded by Hollywood Road to the north, Arbuthnot Road to the east, Chancery Lane to the south and Old Bailey Street to the west.

The Site comprises three Declared Monuments designated under the *Antiquities and Monuments Ordinance* in 1995. They are:

- Central Police Station;
- Former Central Magistracy; and
- Victoria Prison Compound.

They are collectively named the Central Police Station (CPS). *Annex A2* shows the location of the Declared Monuments within CPS and the buildings within the CPS.

2.3 CONSTRUCTION ACTIVITIES

A summary of the major construction activities undertaken in this reporting period is shown in *Table 2.1* and illustrated in *Annex A3*.

Table 2.1 Summary of Construction Activities Undertaken from 1 September to 30 September 2013

Construction Activities Undertaken
<ul style="list-style-type: none"> • General strip out works at Block 4, Block 15 and Block 19; • Structural addition and alteration works at Block 1; • Roof tiling replacement works at Block 1 and Block 6; • Demolition works at Block 2, Block 3, Block 11, Block 12 and Block 14; • New structure construction at Block 11; • External and lateral support for cost plus at Block 10 and Block 13; • Underpinning works at Block 1, Block 3 and Block 14; • Demolition of slab at Block 10 and Block 13; • Second masonry load test at Block 4; • Basement construction at Parade Ground; • Timber doors and windows repair works at Block 1, Block 3, Block 4, Block 6 and Block 7; • E&M installation at Block 1; • External scaffolding erection at Block 2, Block 4 and Block 9; and • Old Bailey Wing piling works (Block 50) and Arbuthnot Wing (Block 51) loading test preparation.

2.4 PROJECT ORGANISATION

The Project organisation chart and contact details are shown in *Annex B*.

2.5 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since the granting of the EP in April 2011 is presented in *Table 2.2*.

Table 2.2 Summary of Environmental Licensing, Notification and Permit Status

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Environmental Permit (EP)	EP-408/2011	-	Superseded on 10 January 2012
	EP-408/2011/A	-	Superseded on 22 March 2012
	EP-408/2011/B	Throughout the Contract	Permit granted on 22 March 2012
Notification of Construction Works as required under <i>Air Pollution Control (Construction Dust) Regulation</i>	Ref. No. 332920	Throughout the Contract	-
Registration of Waste Producer under <i>Waste Disposal Ordinance</i>	Waste Producer No.: 5213-122-G2347-25	Throughout the Contract	-

Effluent Discharge License under <i>Water Pollution Control Ordinance</i>	License No. WT00010633-2011	21 Oct 2011 – 31 Oct 2016	-
Notification of Commencement of Asbestos Abatement Work under <i>Air Pollution Control Ordinance</i>	-	Throughout the Contract	EPD's letter (EPD's ref.: (5) in EPAC/A/4/000/23 3 II) dated 2 December 2011 satisfied that the content of the asbestos abatement plan (Report No.: 0210/11/ED/0078A) is in accordance with the APCO
Approval of Asbestos Abatement Work (Phase 2)	-	Earliest commencement date on 26 January 2012	EPD's letter (EPD's ref.:() in EPAC/A/4/000/23 3) dated 18 January 2012.
Construction Noise Permit (CNP)	GW-RS0734-12	11 July 2012 at 0200 hours to 2 August 2012 at 0400 hours	Expired.
	GW-RS0839-12	13 August 2012 at 1900 hours to 31 December 2012 at 0700 hours	Expired.
	GW-RS1162-12	1 December 2012 at 0000 hours to 28 March 2013 at 0600 hours	Expired.
	GW-RS0113-13	1 February 2013 at 0200 hours to 31 May 2013 at 0400 hours	Expired.
	GW-RS1301-12	2 January 2013 at 1900 hours to 29 June 2013 at 2300 hours	Expired.
	GW-RS0084-13	24 January 2013 at 1900 hours to 29 June 2013 at 0700 hours	Expired.
	GW-RS0638-13	16 June 2013 at 0700 hours to 15 September 2013 at 1900 hours	Expired.
	GW-RS0714-13	29 June 2013 at 1900 hours to 28 December 2013 at 2400 hours	-
	GW-RS0745-13	5 July 2013 at 1900 hours to 30 December 2013 at 2300 hours	-

GW-RS0901-13

14 August 2013 at -
0000 hours to 31
October 2013 at
0600 hours

3.1 NOISE MONITORING

3.1.1 Monitoring Location

The construction noise monitoring locations are listed in *Table 3.1* and are shown in *Annex C*.

Table 3.1 Construction Phase Noise Monitoring Station

Monitoring Location	Proposed Construction Noise Monitoring Station			
	ID in EM&A Manual	ID	Type of Measurement	Remark
Rooftop of Ho Fook Building	N2	NM2	Façade	-
Rooftop of Chancery Mansion	---	NM6	Façade	Accesses to the original proposed monitoring location in the EM&A Manual, Chancery House (N5), were denied; alternative location of Chancery Mansion (N6), were therefore proposed and approved by the Authorised Person (AP), the Independent Environmental Checker (IEC) and EPD.

The noise sensitive receivers are also shown in *Annex C*.

3.1.2 Monitoring Parameters, Frequency and Programme

Weekly construction noise monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual. The monitoring programme for this reporting period is shown in *Annex D*.

The construction noise levels were measured in terms of A-weighted equivalent continuous sound pressure level (L_{eq}) in decibels dB(A). $L_{eq(30min)}$ were used as the monitoring parameter for the time period in between 0700 – 1900 hours on normal weekdays. Supplementary information for data auditing, two statistical sound levels L_{10} and L_{90} - the levels exceeded for 10 and 90 percent of the time respectively, were also recorded during the monitoring for reference. The measured noise levels were logged in every 5 minutes throughout the impact monitoring period.

3.1.3 Monitoring Equipment and Methodology

Construction noise measurements were conducted in accordance with the calibration and measurement procedures as stated in *Annex – General Calibration and Measurement Procedures of Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM)* issued under the *Noise Control Ordinance (NCO)* (Cap 400).

The sound level meters and calibrator used for the noise measurement, as listed in *Table 3.2*, complies with the IEC 651: 1979 and 804:1985 (Type 1) specifications. The calibration certificates of the sound level meters are appended in *Annex E*.

Table 3.2 *Noise Monitoring Equipment*

Monitoring Stations	Monitoring Equipment (Sound Level Meter and Calibrator)
NM2, NM6	<u>Calibrator</u> Rion NC-73 (S/N 10786708) <u>Sound Level Meter</u> Rion NL-31 (S/N 00410224)

Immediately prior to and following the noise measurements, the accuracy of the measurement equipment was checked using an acoustic calibrator generating a known sound pressure level at a known frequency.

Measurements were accepted as the calibration level from before and after the noise measurement agree to within 1.0 dB(A).

3.1.4 *Event / Action Plan*

Table 3.3 *Action and Limit Levels for Construction Noise Monitoring*

Noise Monitoring Location	Action Level	Limit Level, $L_{eq}(30mins), dB(A)$	Remark
NM2, NM6	When one documented complaint is received from any one of the sensitive receivers	75 (note)	Applicable during 0700 – 1900 hours on normal weekdays.

Notes:

- Acceptable Noise Levels for Area Sensitivity Rating of A/B/C. Limit Level is reduced to 70dB(A) for schools and 65dB(A) during school examination periods.
- If works are to be carried out during restricted hours, the conditions stipulated in the CNP issued by the NCA have to be followed.

The Event / Action Plan (EAP) for noise monitoring is presented in *Annex F*.

3.1.5 *Mitigation Measures*

The mitigation measures in accordance with the EP, EIA and EM&A Manual and their implementation status are presented in *Annex G*.

3.2 *CULTURAL HERITAGE*

3.2.1 *Vibration Monitoring*

In accordance with the EM&A Manual, vibration monitoring is required and the vibration control limits and vibration monitoring proposal are defined by a specialist for AMO's approval.

Baseline Monitoring

A set of initial readings should be recorded prior to commencement of each stage of demolition works or trial piling works. The baseline vibration monitoring should be conducted for duration of 5 minutes on the measurement day(s) at each vibration monitoring location.

Vibration Monitoring for Demolition Works

There are five phases/stages of vibration monitoring to be carried out for demolition works, namely Initial Reading Phase, Monitoring Stage 1, Monitoring Stage 2, Monitoring Stage 3 and Monitoring Stage 4. The monitoring location is shown in *Annex L*. The vibration monitoring should be conducted for duration of 5 minutes on the days with demolition works at each vibration monitoring location.

Vibration Monitoring for Trial Piling and Pipe/Bored Piling Works

Vibration monitoring for trial piling works and pipe/bored piling works is required. The monitoring location is shown in *Annex L*. The vibration monitoring should be conducted for duration of 5 minutes on the days with trial piling works or pipe/bored piling works at each vibration monitoring location.

Vibration Monitoring for Other Construction Works

Vibration monitoring for specific construction works other than demolition works, trial piling works and pipe/bored piling works is also required in accordance with Building Department's requirement. The monitoring location is shown in *Annex M*. The number and location of monitoring location will depend on the location of the specific construction works. The vibration monitoring should be conducted for duration of 5 minutes on a daily basis (working day) at each vibration monitoring location.

Alert, Alarm and Action Levels

The Alert, Alarm and Action (AAA) Levels are to be implemented during the vibration monitoring and shown in *Table 3.4*.

Table 3.4 *Alert, Alarm and Action (AAA) Levels for Vibration Monitoring*

Instrument Type	Item Monitored	Alert Level	Alarm Level	Action Level
Vibration Monitoring	Horizontal Movement	2.0 mm/s	2.5 mm/s	3.0 mm/s

The Event / Action Plan (EAP) for vibration monitoring is shown in *Table 3.5*.

Table 3.5 *Event and Action Plan for Vibration Monitoring*

Events	Action
Exceedance of Alert Level	Notify Management Contractor
Exceedance of Alarm Level	Notify Authorised Person/ Resident Engineer

Events	Action
Exceedance of Action Level	Cease Works and submit mitigation

3.2.2 *Mitigation Measures*

Cultural heritage mitigation measures (including those for archaeology) in accordance with the EP, EIA and EM&A Manual were implemented by the Contractor and the implementation status is given in *Annex G*.

3.3 *LANDSCAPE AND VISUAL MONITORING*

In accordance with the EM&A Manual, inspections of affected trees were conducted by an experienced and appropriately trained arborist. All irregularities that deviate from the recommended tree protection measures or could impose deleterious impacts on the protected trees were reported. Besides, implementation of mitigation measures for landscape and visual resources recommended in the EIA Report were also monitored during the site inspection.

3.3.1 *Mitigation Measures*

Landscape and visual mitigation measures in accordance with the EP, EIA and EM&A Manual were implemented by the Contractor and the implementation status is given in *Annex G*.

3.4 *ENVIRONMENTAL REQUIREMENTS IN CONTRACT DOCUMENTS*

The environmental requirements as specified in the contract documents were reviewed and were covered in the EIA's requirements.

IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has generally implemented the environmental mitigation measures (including those for archaeology) and requirements as stated in the EIA Report, the EP and EM&A Manual and the contract documents. The implementation status during the reporting period is summarized in *Annex G*.

Status of required submissions under the EP during the reporting period is presented in *Table 4.1*.

Table 4.1 *Status of Required Submissions*

Submission	Submission Date
<i>EP Condition</i>	
Condition 3.4	Twenty-second Monthly EM&A Report 13 September 2013

5 *MONITORING RESULTS*

5.1 *NOISE*

A total of 5 sets of 30-minute construction noise measurements were carried out at the monitoring stations (NM2 and NM6) during normal weekdays of the reporting period. The monitoring results together with graphical presentations are presented in *Annex H*. The local impacts observed near the monitoring stations of NM2 and NM6 were summarised below:

- NM2: construction noise from activities in the Project Site and traffic noise from Old Bailey Street.
- NM6: construction noise from activities in the Project Site and traffic noise from Chancery Lane.

No exceedance of Action or Limit Level of construction noise was recorded during the reporting period.

5.2 *CULTURAL HERITAGE*

5.2.1 *Vibration Monitoring*

Trial Piling and Piling works

Vibration monitoring carried out for the trial piling and piling works during the reporting period are listed below:

- 24 vibration monitoring measurements for the construction of the pipe pile walls at Parade Ground;
- 24 vibration monitoring measurements at Block 8;
- 24 vibration monitoring measurements for the construction of pipe pile walls at Old Bailey Wing (Block 50);
- 24 vibration monitoring measurements for the shaft grouted pre-bored H-piles at Block 51; and
- 24 vibration monitoring measurements at Block 17.

The monitoring results are presented in *Annex L*.

Other Construction Works

Vibration monitoring carried out for other construction works during the reporting period are listed below:

- 24 vibration monitoring measurements for the structural addition and alteration works at Block 1;
- 24 vibration monitoring measurements for the structural addition and alteration works at Block 14;
- 24 vibration monitoring measurements for the structural addition and alteration works at Block 11.

The monitoring results are presented in *Annex M*.

All monitoring results were below the Alert/Alarm/Action Levels.

5.2.2 *Heritage Site Audit*

Heritage site audits were conducted on 2, 3, 5, 6, 10, 11, 12, 13, 17, 18, 19, 23, 24, 25, 26, 27 and 30 September 2013 by the Heritage Checker during the reporting period. Major observations and recommendations during the site inspections were listed below:

3 September 2013

- It was observed that the door frame to 01/DG/78 and picture rail were not protected before demolition of masonry for E&M openings carried out to the wall between room 01/G/18 and 01/G/20.

6 September 2013

- It was noticed that window 01/WLG2/30 timber frame has been damaged.

10 September 2013

- Door frame 01/DG/57 was observed lack of protection when demolition was being carried out to the wall above. Site memo 106 was subsequently issued on 24 September 2013 to the Contractor for follow-up rectification.

12 September 2013

- It was observed that the protection to the Character Defining Elements (CDEs) were not sufficient in general. This information was included in the site memo 106 issued on 24 September 2013 to the Contractor for follow-up rectification.

13 September 2013

- The timber door frames on LG2 of Block 1 were observed damaged due to lack of protection.

18 September 2013

- The timber frames of 03/DG/04/05/06 were observed unprotected with scaffold components stored nearby.

24 September 2013

- It was noticed that the CDEs in Ground Floor of Block 1 was still lack of protection. Site memo 106 was issued on the same day to the Contractor for follow-up rectification.
- The replacement of timber threshold in First Floor of Block 3 was in a wrong profile with design instruction. The Contractor was informed to re-do the work.

25 September 2013

- It was observed that three core drill holes in the central staircase area of Block 1 were created in locations that are not in accordance with the photo signing of record.

26 September 2013

- Moulded skirting was observed unprotected while external opening was formed to Room 01/LG1/51 in Block 1.

The Contractor was urged to follow-up the necessary rectification based on the inspection findings.

The follow-up actions recommended in the heritage site audits from the last reporting period (August 2013) have generally been implemented.

5.3

LANDSCAPE AND VISUAL

The tree inspection was conducted by the arborist on 2 September 2013 and major observations and recommendations in the reporting period are summarised in *Table 5.1*. The tree inspection report is contained in *Annex J*.

Table 5.1 Findings of Monthly Tree Inspection in the Reporting Period

Tree No.	Botanical Name	Overall Health Condition	Arborist's Observations / Recommendations
Tree -5	<i>Mangifera indica</i>	Good	<ul style="list-style-type: none"> Planter should be cleaned regularly; To complete the nearby renovation work as soon as possible so as to minimise disturbance to the tree.
Tree -6	<i>Aleurites moluccana</i>	Fair	<ul style="list-style-type: none"> No further action required.
Tree-7	<i>Aleurites moluccana</i>	Fair	<ul style="list-style-type: none"> No further action required.
Tree-8	<i>Plumeria rubra</i>	Fair	<ul style="list-style-type: none"> No further action required.
Tree-9	<i>Araucaria cunninghamia</i>	Fair	<ul style="list-style-type: none"> No further action required.
Tree-11	<i>Dracaena marginata</i>	Fair	<ul style="list-style-type: none"> To complete the nearby renovation work as soon as possible so as to minimise the disturbance to the tree.

5.4

WASTE MANAGEMENT

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. Non-inert C&D materials were made up of wastes such as general refuse. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting period are summarised in *Table 5.2*. The non-inert C&D materials and general refuse generated from the Project were disposed of at the SENT Landfill. 4,030 kg of metal was generated and sent to recyclers for recycling. No plastics waste or paper/cardboard packaging was generated during the reporting period. 40 kg of solid chemical waste was produced and collected by licensed chemical waste collector during the reporting period.

Table 5.2 Quantities of Waste Generated from the Project

Month / Year	Quantity						
	C&D Materials (inert) ^(a)	C&D Materials (non-inert) ^(b)	Chemical Waste		Recycled materials		
			Solid	Liquid	Paper / cardboard	Plastics	Metals
September 2013	979.49 tonnes	103.73 tonnes	40 kg	0 L	0 kg	0 kg	4,030 kg

Notes:

(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil.

(b) The figure presented under non-inert C&D materials represents quantities of non-recyclable materials such as general refuse which were disposed of at SENT Landfill. Recycled materials are reported separately.

Joint environmental site inspection was conducted by the representatives of the Contractor, IEC and the ET in the reporting period on 12 September 2013. There was no non-compliance recorded during the site inspection.

Follow-up Actions for the Last Site Audit

- It was observed during the site inspection that washing of concrete was performed on tarpaulin and the wash water was well contained.

Observations and Recommendations of this Reporting Month

Nil.

7 ENVIRONMENTAL NON-CONFORMANCE

7.1 SUMMARY OF MONITORING EXCEEDANCE

No exceedance of Action or Limit Level of construction noise or Alert, Alarm and Action Levels of vibration was recorded during the reporting period.

7.2 SUMMARY OF ENQUIRY

No enquiry was recorded during the reporting period.

7.3 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE

No non-compliance event was recorded during the reporting period.

7.4 SUMMARY OF ENVIRONMENTAL COMPLAINT

No complaint was received during the reporting period. Cumulative number of complaints is presented in *Annex K*.

7.5 SUMMARY OF ENVIRONMENTAL SUMMONS AND SUCCESSFUL PROSECUTION

No summons was received during the reporting period.

8.1 KEY ISSUES FOR THE COMING MONTH

Works to be undertaken for the coming monitoring period are summarised in *Table 8.1*.

Table 8.1 Construction Works to be Undertaken in the Coming Month

Work to be Undertaken
<ul style="list-style-type: none"> • General strip out works at Block 19; • Structural addition and alteration works at Block 1; • Roof tiles replacement works at Block 1 and Block 6; • Demolition works to Block 2, Block 3, Block 11, Block 12, Block 14, Block 15 and Block 19; • New structure construction at Block 11 and Block 15; • Excavation and lateral support for cost plus at Block 10 and Block 13; • Underpinning works of Block 1, Block 3 and Block 14; • Demolition of slab at Block 10 and Block 13; • E&M opening at Block 6 and Block 7; • Revetment wall strengthening of R175 and R806; • Basement construction at Parade Ground; • Timber doors and windows repair works at Block 1, Block 3, Block 4, Block 6 and Block 7; • E&M installation at Block 1; • External scaffolding erection at Block 2, Block 4 and Block 9; • Old Bailey Wing piling works and Arbuthnot Wing loading test preparation; • Removal of non-structural infill wall at Block 17; and • Old Bailey Wing pump well installation and test.

Potential environmental impacts arising from the above construction activities are mainly associated with dust, construction noise, site runoff and waste management.

8.2 MONITORING SCHEDULE FOR THE NEXT MONTH

The tentative schedule of noise monitoring for the next reporting period is presented in *Annex D*.

8.3 CONSTRUCTION PROGRAMME FOR THE NEXT MONTH

The most updated construction programme for the Project is presented in *Annex I*.

CONCLUSIONS

The *Environmental Monitoring and Audit (EM&A) Report* presents the EM&A works undertaken during the period from 1 September to 30 September 2013 in accordance with EM&A Manual and the requirement under EP-408/2011/B.

No exceedance of Action or Limit Level of construction noise was recorded at designated monitoring stations during the reporting period.

No exceedance of the Alert, Alarm and Action Levels of vibration was recorded during the reporting period.

No enquiry was received during the reporting period.

No non-compliance event was recorded during the reporting period.

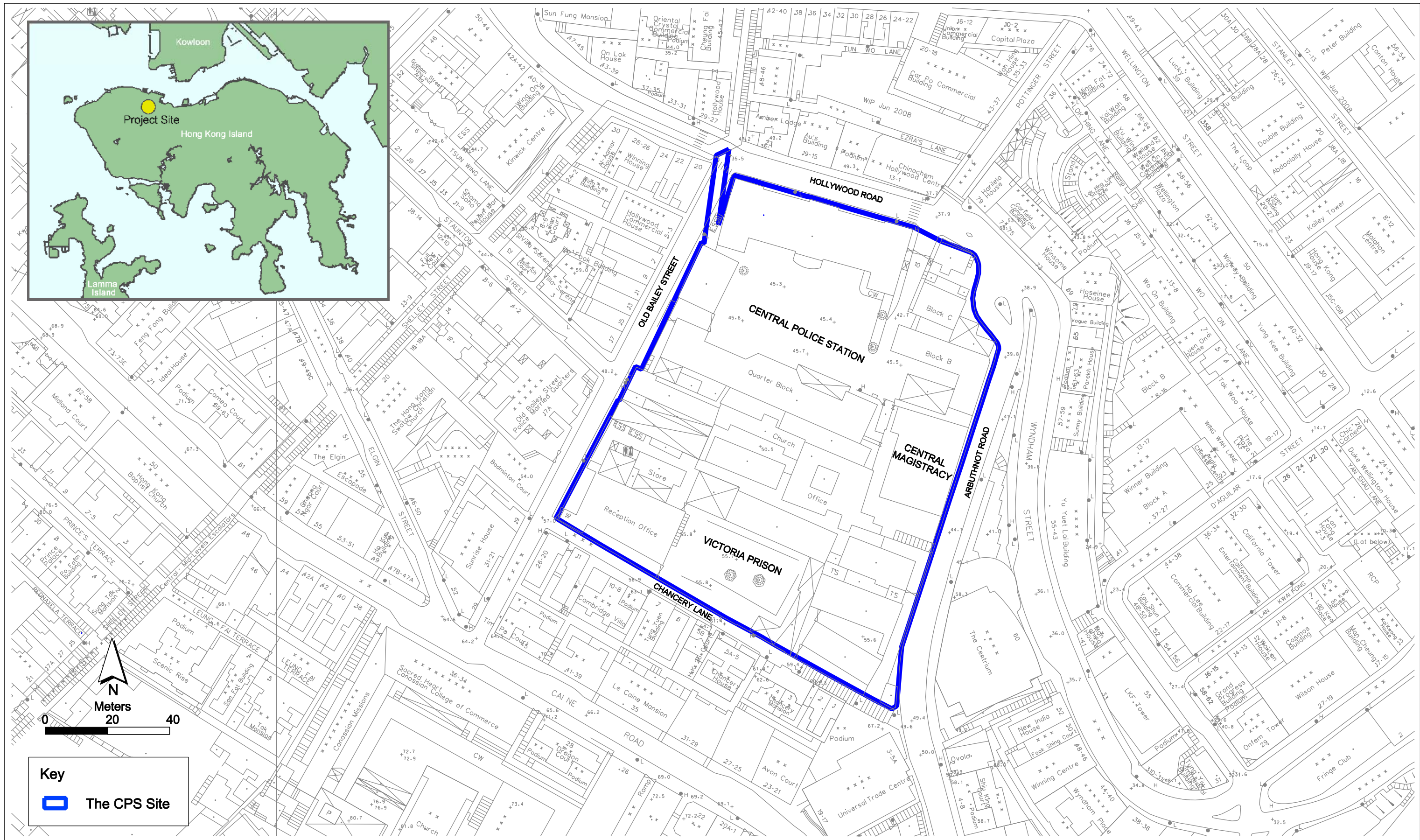
No complaint was received during the reporting period.

No summons/prosecution was received during the reporting period.

The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Annex A

Locations of Works Areas and the Surroundings



Annex A1

Project Location

**Environmental
Resources
Management**



賽馬會文物保育有限公司
The Jockey Club CPS Limited

FILE: 0095646a-A3_01.dgn
DATE: 21/11/2011



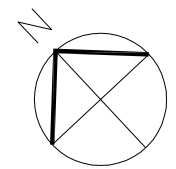
Annex A2

Declared Monuments within the Project Site

Environmental Resources Management



賽馬會文物保育有限公司
The Jockey Club CPS Limited



LEGEND

- 1. General Strip Out
- 2. ELS
- 3. Basement Construction
- 4. Underpinning Works
- 5. E&M Installation
- 6. Roof Tiles Replacement Works
- 7. Pilling Works & pre-Loading Test
- 8. New Structure Construction
- 9. Structure A&A Works
- 10. Repair Works to Timber Window, Door
- 11. Demolition Works / Slab Demolition
- 12. Second Masonry Loading Test
- 13. External Scaffolding Erection

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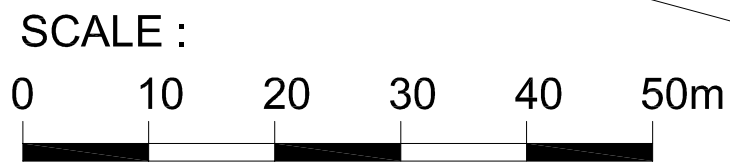
CENTRAL POLICE STATION

Client
 賽馬會文物保育有限公司
 The Jockey Club CPS Limited

Contractor
Gammon

Drawing Title
SITE LAYOUT PLAN

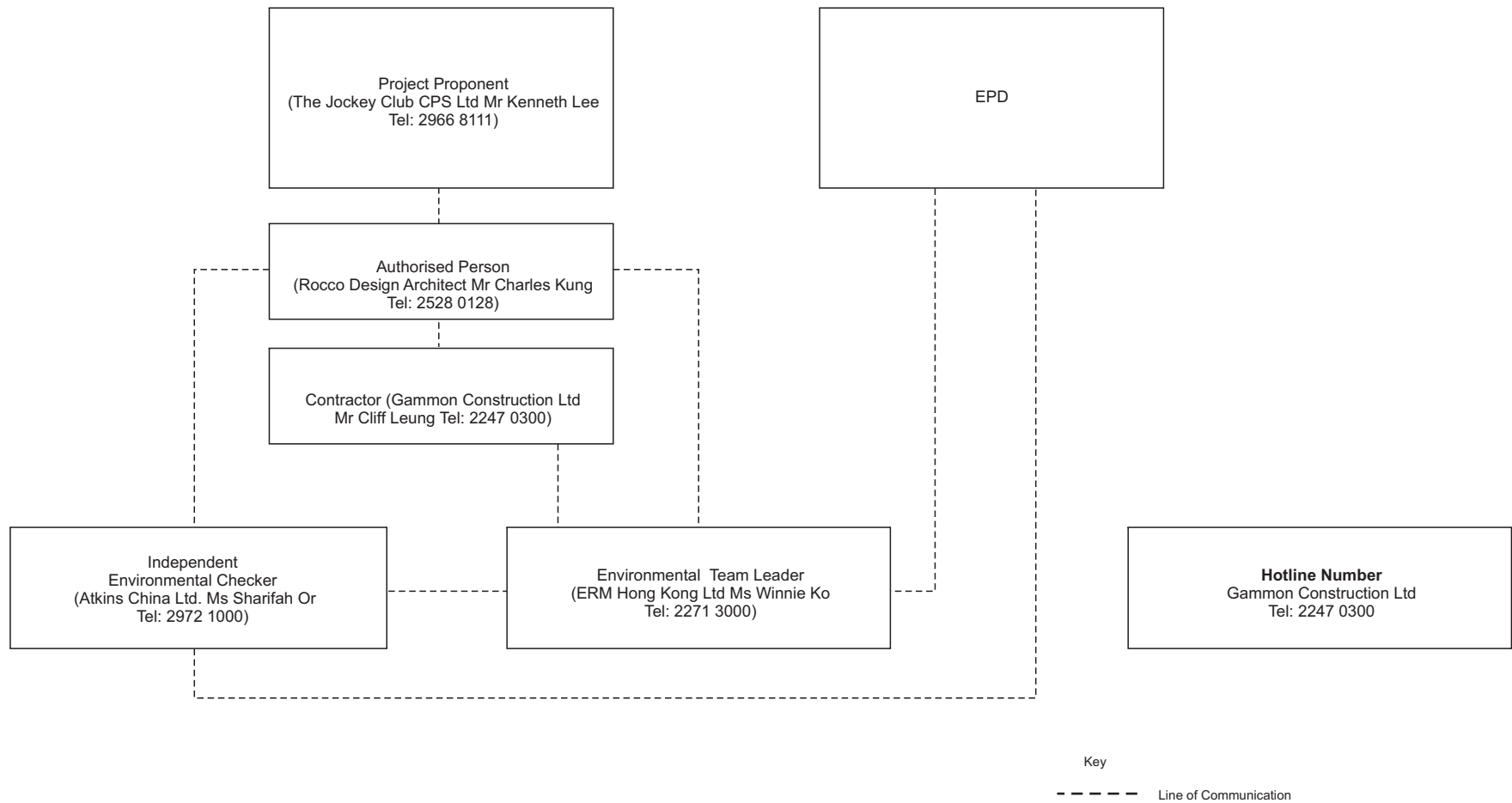
Drawn		Scale	N.T.S.
Designed		Status	Marked for Enquiry & Complaint log (CPS/E&C/09)
Checked		Drawing No.	
Approved		CAD Ref	



Annex A3 Site Layout Plan marked with Works (September- 2013)

Annex B

Project Organization Chart and Contact Detail



Annex C

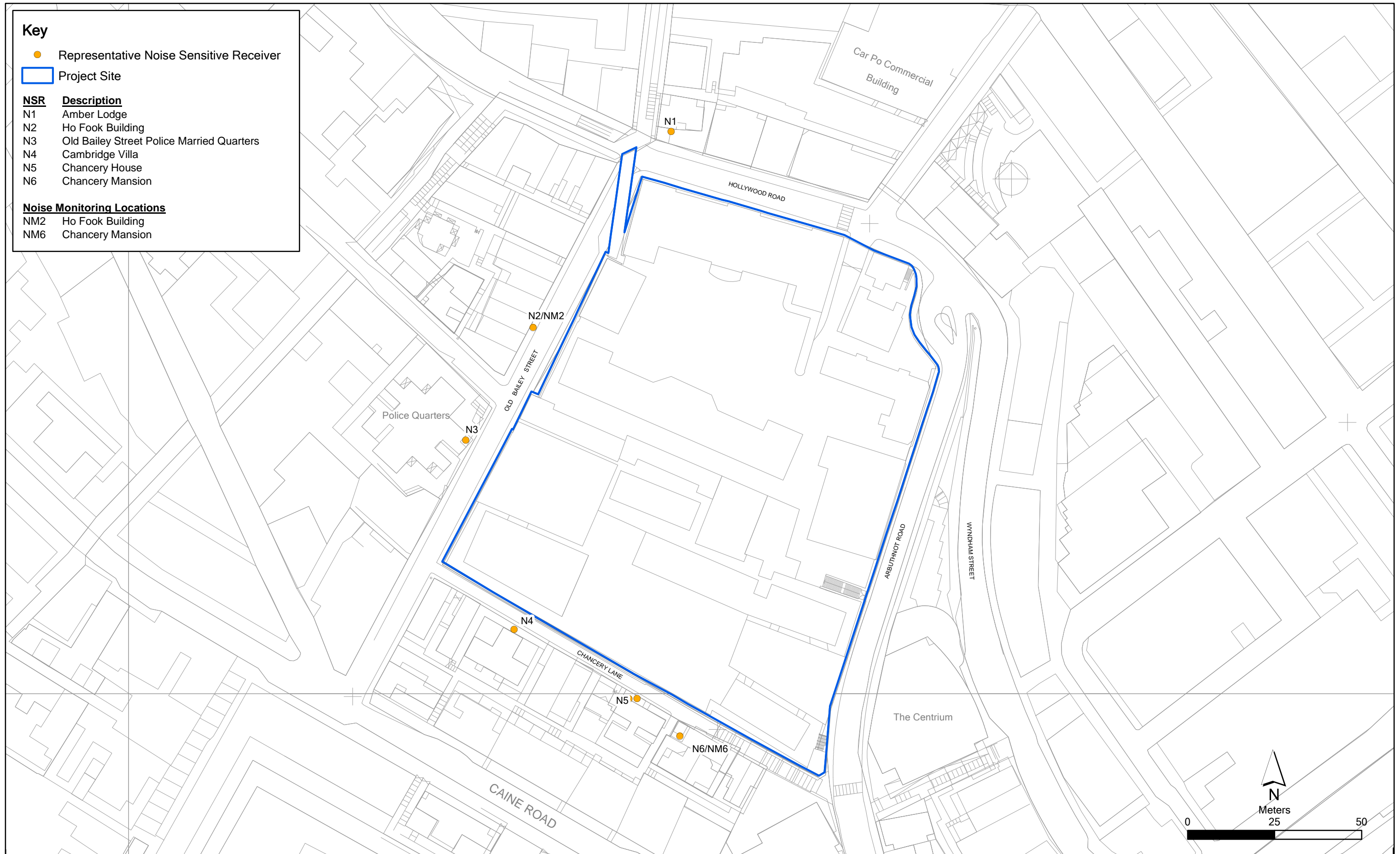
Locations of Noise
Monitoring Stations and
Noise Sensitive Receivers

Key

- Representative Noise Sensitive Receiver
- ▭ Project Site

NSR	Description
N1	Amber Lodge
N2	Ho Fook Building
N3	Old Bailey Street Police Married Quarters
N4	Cambridge Villa
N5	Chancery House
N6	Chancery Mansion

Noise Monitoring Locations	
NM2	Ho Fook Building
NM6	Chancery Mansion



Annex C

Location of Representative Noise Sensitive Receivers and Noise Monitoring Locations

File: 0095646_NSR_NM_May2012.mxd
Date: 09/05/2012

Environmental Resources Management



賽馬會文物保育有限公司
The Jockey Club CPS Limited

Annex D

Monitoring Schedule of the Reporting Period and Next Month

**Central Police Station Compound Conservation and Revitalisation
(Ho Fook Building - NM2 & Chancery Mansion - NM6)
Monitoring Schedule for Reporting Month - September 2013**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01-Sep	02-Sep	03-Sep	04-Sep	05-Sep	06-Sep	07-Sep
			Noise Monitoring at NM2 & NM6			
08-Sep	09-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep
		Noise Monitoring at NM2 & NM6				
15-Sep	16-Sep	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep
	Noise Monitoring at NM2 & NM6					Noise Monitoring at NM2 & NM6
22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep
					Noise Monitoring at NM2 & NM6	
29-Sep	30-Sep					

**Central Police Station Compound Conservation and Revitalisation
(Ho Fook Building - NM2 & Chancery Mansion - NM6)
Monitoring Schedule for Next Reporting Month - October 2013**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Oct	02-Oct	03-Oct	04-Oct	05-Oct
				Noise Monitoring at NM2 & NM6		
06-Oct	07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct
			Noise Monitoring at NM2 & NM6			
13-Oct	14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct
		Noise Monitoring at NM2 & NM6				
20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct
	Noise Monitoring at NM2 & NM6					Noise Monitoring at NM2 & NM6
27-Oct	28-Oct	29-Oct	30-Oct	31-Oct		

Annex E

Calibration Reports for Calibrators and Sound Level Meters

Certificate of Calibration

校正證書

Certificate No. : C133573
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- Self-calibration was performed before the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C130019
CL281	Multifunction Acoustic Calibrator	DC110233

- Test procedure : MA101N.

- Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L _A	A	Fast	94.00	1	93.6	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 120	L _A	A	Fast	94.00	1	93.6 (Ref.)
				104.00		103.6
				114.00		113.6

IEC 61672 Class 1 Spec. : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L _A	A	Fast	94.00	1	93.6	Ref.
			Slow			93.5	± 0.3

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Certificate of Calibration 校正證書

Certificate No. : C133573
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L _A	A	Fast	94.00	63 Hz	67.3	-26.2 ± 1.5
					125 Hz	77.3	-16.1 ± 1.5
					250 Hz	84.9	-8.6 ± 1.4
					500 Hz	90.3	-3.2 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	94.9	+1.2 ± 1.6
					4 kHz	94.8	+1.0 ± 1.6
					8 kHz	92.6	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L _C	C	Fast	94.00	63 Hz	92.7	-0.8 ± 1.5
					125 Hz	93.4	-0.2 ± 1.5
					250 Hz	93.6	0.0 ± 1.4
					500 Hz	93.7	0.0 ± 1.4
					1 kHz	93.7	Ref.
					2 kHz	93.5	-0.2 ± 1.6
					4 kHz	93.0	-0.8 ± 1.6
					8 kHz	90.7	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 307154

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value : 94 dB : 63 Hz - 125 Hz : ± 0.35 dB
 250 Hz - 500 Hz : ± 0.30 dB
 1 kHz : ± 0.20 dB
 2 kHz - 4 kHz : ± 0.35 dB
 8 kHz : ± 0.45 dB
 12.5 kHz : ± 0.70 dB
 104 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)
 114 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate of Calibration

校正證書

Certificate No. : C134306
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC13-1709)

Description / 儀器名稱 : Sound Level Calibrator
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-73
Serial No. / 編號 : 10786708
Supplied By / 委託者 : Envirotech Services Co.
Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,
Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 12 July 2013

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By : 
測試 : K C Lee

Certified By : 
核證 : K M Wu

Date of Issue : 15 July 2013
簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Certificate of Calibration

校正證書

Certificate No. : C134306
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C133632
CL281	Multifunction Acoustic Calibrator	DC130171
TST150A	Measuring Amplifier	C120886

- Test procedure : MA100N.

- Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.8	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.990	1 kHz ± 2 %	± 1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

Annex F

Event / Action Plans for Noise

Annex F Event and Action Plan for Noise

Event	Action			
	Environmental Team (ET)	Independent Environmental Checker (IEC)	Authorised Person (AP)	Contractor
Action Level	<ol style="list-style-type: none"> 1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, AP and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the AP accordingly; 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to proposed remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC and AP; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, AP and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and AP informed of the results; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Discuss amongst AP, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the AP accordingly; 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the AP until the exceedance is abated.

Annex G

Summary of Implementation Status

Annex G Implementation Schedule for Environmental Protection Measures

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
<i>Cultural Heritage</i>					
S3.9.1	S3.2.6	Subject to the outcome of the archaeological investigation, if archaeological deposits are identified to be impacted by the proposed development, appropriate mitigation measures will be recommended and agreed with AMO.	In accordance with the recommendations in the Archaeological Action Plan (AAP) issued on 21 Dec 11 and approved on 30 Dec 11 by AMO	During detailed design and construction	No field work in the reporting month.
S3.9.2	S3.3.1	<u>Vibration Monitoring</u> A baseline condition survey and baseline vibration impact will be conducted by a specialist for the approval of AMO and Buildings Department prior to commencement of the construction works to define the vibration control limits and recommend a vibration monitoring proposal for the concerned historic buildings and structures in and outside CPS for AMO's prior approval before commencement of the construction works.	Historic buildings and structures in CPS, the granite walls at Old Bailey Street and the proposed Grade 3 historic building (No. 20 Hollywood Road)	During detailed design and construction	√
S3.9.2	S3.3.3	<u>Compliance of the Approved Measures and Auditing</u> Staff training by an experience building conservation expert or relevant competent person(s) in the environmental team of the project should be provided to the on-site staffs, contractors, sub-contractors and workers of the project before commencement of works to ensure their full understanding of the approved protection schedule, restoration proposal and work methodologies related to cultural heritage, and their respective responsibilities in the implementation of the environmental protection measures. Regular site audit for cultural heritage should be carried out in the construction phase by an experience building conservation expert in the environmental team ("the Heritage Checker") to investigate the site practice of the contractors and workers and their compliance of the approved work methodologies with respect of conservation works, mitigations for cultural heritage and any related works. A detailed	Whole site	Prior to and during construction	√

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
		<p>proposal of the regular audit such as methodology (e.g. performance and monitoring indicators, control tools, frequency of the audit, etc.) and the conservation professionals to be engaged should be agreed with AMO prior to work commencement.</p> <p>The Heritage Checker shall also attend the regular site meetings with AMO and report the compliance and effectiveness of the mitigation measures for cultural heritage.</p>			
S3.9.3	S3.3.4	<p><u>Archival Recording</u></p> <p>An archival recording should be conducted to provide a detailed reference for the update of the Conservation Management Plan and inventory of historical features of the monuments, the preparation of as-built drawings showing the condition of the historic buildings and structures after the completion of the construction works. These archival records will be a reference source for future maintenance of the character defining elements, conservation of the monuments, interpretation and conservation education of the Site. The archival recording shall include but not limit to the video and photographic recording on the detailed process of the repair trials for different kinds of historical features, conservation works of character defining elements and historic fabrics of the monuments, and a written records of any new changes to the detailed design made in the construction phase illustrate with photos and drawings. A full set of the archives records (including both hard and soft copies) should be submitted to the AMO for approval after the work completion for record purpose. Any new findings related to the conservation of built heritage in the Site identified during the detailed design stage and construction phases shall be properly recorded in details for notification to the AMO and update of the Conservation Management Plan.</p>	Whole Site	During detailed design, construction and prior to operation	N/A – Archival recording will be conducted at later stage.
S3.7.3	-	<p><u>General Construction Methods</u></p> <p>Prior to the commencement of the modification/refurbishment works at an existing building or structure (e.g. masonry walls near the Old Bailey Wing) , a site survey will be carried out by the design team, and all building dimensions and levels of the building/structure shown will be</p>	Whole site	During construction	√

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
		checked and confirmed by the contractor. Non-percussive piling methods will be adopted for the construction of the foundation for the new buildings. Protective and precaution measures to the existing buildings and structure adjacent to the work area (including the proposed Grade 3 historic building (No. 20 Hollywood road) and the granite boundary walls between the Ablutions Block of the police station (building no. 08) and the General Office of the prison area (building no. 18) which is adjacent to the new construction of the Old Bailey Wing and for an old granite walls at Old Bailey Street within 15m from the new construction) shall be provided to avoid damage to the existing features and to safeguard the structural integrity during the course of construction. Small scale handheld pneumatic tools with minimal vibration impact to the existing buildings/ structures are selected so as to have a better logistic and handling at the existing buildings and structures, which usually have only narrow working areas. In cases of the local demolition of structural elements, demountable platforms will be erected to temporarily support the affected area and divert the loading from above to avoid instability and create excessive cracking and settlement of the building/structure.			
S3.7.1 & 3.7.2	-	<p>Implementation and update of the Conservation Management Plan (CMP). Any new findings related to the conservation of the built heritage in the site identified during the detailed design and construction stage shall be properly recorded in details for the notification to the AMO and update in the CMP. After the construction, a cartographic and photographic recording on the restored historic buildings, historic features and the site shall be conducted and the following records shall be included into the CMP as appendices for updating and record purpose:</p> <ul style="list-style-type: none"> • one set of measured drawings and photographic records showing the as-built condition of historic buildings and structures; and • an updated inventory list of the historic features together with the cross referenced location plans and photo records. <p>One set of updated CMP shall be submitted to the AMO for approval before the operation stage of the project.</p>	Whole site	During detailed design, construction, post-construction and operation	√ - CMP was implemented during the reporting month. There were no updates for the CMP.

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
<i>Landscape & Visual</i>					
S4.7.27	-	<p><u><i>In-situ Tree Protection - Cordon Zone (CZ)</i></u></p> <p>Cordon off each tree along its drip line (below the crown) with a chain-link fencing of 2.5 m height with padlocked gate, allowing limited access to area only to authorized persons. The base of the perimeter fence will be sealed up to 30 cm height to ensure that no construction drainage water will enter. If grouting is to be conducted less than 5 m from the edge of the CZ, a waterproof membrane will be installed below the ground to a depth of 1.5 m on the outer edge of the CZ to prevent the subsurface lateral movement of contaminated construction wastewater from intruding the soil inside the CZ.</p>	Whole site	During construction	<p>√ - Part of the cordon zone of Tree-5 has been used as a worker storage room. The Contractor was recommended to pay utmost attention to potential land pollution at the worker storage room at all times.</p> <p>Scaffolding has been set up close to Tree-5 within the cordon zone. The Contractor was reminded to perform proper measures to protect Tree-5 during the carrying out of works within the cordon zone.</p>
S4.7.2	-	<p><u><i>In-situ Tree Protection - Advanced & Phased Root Pruning</i></u></p> <p>All edges of the CZ that will be affected by excavation will undergo root pruning by a trained arborist or horticulturist, in advance of the earth work. The entire affected length of the CZ, plus 3 m additional length at both ends, shall be designated as the root pruning segment (RPS). The require trench will be opened manually in the RPS, be 1.5 m deep and 1 m wide, and closed on the same day after pruning with a good soil mix. All roots with a diameter >20 mm encountered in the course of trench opening shall be cut flushed with the inner wall of the trench. If the RPS exceeds one-quarter of the CZ circumference, the root pruning should be conducted in two stages. Each phase will tackle half of the RPS length. After the first phase, the tree will be allowed to recuperate for not less than four months before the second phase root pruning is conducted. The RPS shall be protected by sheet piles along the outer edge. The rig that installs the piles and the associated operations shall not intrude into the CZ or injure the protected tree.</p>	Whole site	During construction	N/A – no root pruning has been conducted yet
S4.7.2	-	<p><u><i>In-situ Tree Protection - Foliage cleansing system</i></u></p> <p>A sprinkler cleansing system will be installed either in the crown of the tree or at a suitable location on an adjacent building to provide the</p>	Whole site	During construction	√

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
		means to wash the foliage of the accumulated dust when necessary, particularly in the dry season.			
S4.7.2	S4	<p><u>In-situ Tree Protection - Monthly inspection</u></p> <p>Monthly inspection of affected trees by an experienced and appropriately trained arborist or horticulturist using Form 1 – Tree Group Inspection Form and Form 2 – Tree Risk Assessment Form developed by Development Bureau (http://www.trees.gov.hk/en/doc/TRAGuideline_July2010version_combine.pdf) or a form designed by a tree expert and approved by Tree Management Office. All irregularities that deviate from the recommended tree protection measures, or could impose deleterious impacts on the protected trees, must be reported to the authorized person or the tree expert within two days.</p>	Whole site	During construction	√
S4.7.2	-	<p><u>Light Control</u></p> <p>Control of night-time lighting shall be implemented to minimise impact to adjacent VSRs.</p>	Whole site	During construction and operation	√
S4.7.2	S4	<p><u>Compensatory Tree Planting</u></p> <p>A new planting site has been identified for compensatory tree planting in the Parade Ground. The planting is to compensate for felling of T10. The existing tree site will be enlarged to become a wide tree strip to accommodate at least six trees. The entire strip of land that accommodates T1 to T4 should be revamped to improve the soil condition for future tree growth.</p> <p>The new tree strip should be 4 m wide and covered by porous unit pavers to permit the entry of rain and irrigation water and air exchange between the soil and the atmosphere. The unit pavers should be supported by small columns to create a vault-like structure so as to avoid compaction of the underlying soil due to pedestrian trampling. The unit pavers will be movable to provide access to the soil underneath so that fertilizers and conditioners could be added on a</p>	At identified compensatory tree planting location at the Parade Ground	During detailed design and construction	N/A – Compensatory Tree Planting will be conducted at later stage.

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
		<p>regular basis. The air conditioner unit currently located near the proposed planting site should also be removed. This new tree planting site should also be provided with proper irrigation.</p> <p>Pursuant to the "Environment, Transport and Works Bureau Technical Circular (Works) No. 3/2006 Tree Preservation", the compensation ratio should preferably be 1:1 according to trunk girth. T10 has a DBH of 20 cm (Table 4.3), and it is proposed that six trees of heavy standard size be planted, each with a DBH of around 10 cm and root balls of not less than 0.75 m diameter and 0.75 m depth,. Since the aggregate DBH of the new trees would be 60 cm, the rate of compensation is equivalent to three times the DBH of T10, far beyond the requirements</p> <p>The six replacement trees should be planted in the new tree strip in two staggered rows, maximising distance between each tree to avoid mutual interference in the future. It is recommended that the species selected should have a small final dimension of less than 10 m height given the proximity to built structures such as the retaining wall and buildings. Two each of the outstanding and related flowering tree species connected to local natural history are suggested::</p> <ul style="list-style-type: none"> - <i>Bauhinia</i> 'Blakeana' a native evergreen species with deep mauve flowers and an exceptionally long flowering period from late autumn to early spring. - <i>Bauhinia purpure</i>, a native evergreen with lighter purple flowers from late autumn to early winter. - <i>Bauhinia variegata</i>, an exotic deciduous species, with pale pinkish flowers in spring to early summer often when the tree has little or no leaves. 			
S4.7.2	S4	<p><u>Vertical Greening</u></p> <p>Within the limitations of the conservation of the CPS character, greening of vertical structures should be provided where possible.</p> <p>As such it is recommended that the inner southern wall of the Site be planted as a green wall. The plantings should be inserted in between each of the large protruding piers and an offset be made from both the</p>	Inner Southern Wall	During detailed design and construction	N/A – No vertical greening was conducted during the reporting month.

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
		top and bottom edge so that old and new are equally visible. An independent frame should be strategically positioned in order to ensure minimal disturbance to the original wall, and provide the main structural support and planting surface for the green wall. The frame on to which the new green will be planted should contain its own irrigation system so that moisture for the plants will remain mainly on the planting surface and not the existing wall behind. The planting chosen should be appropriate to the Hong Kong climate, requiring relatively little maintenance to sustain the quality of both plants and wall.			
S4.7.2	-	<i>New Custom Paving</i> New, Patterned, High Quality, Concrete Custom Pavers should replace most of the existing paving in the open spaces.	Whole site	During detailed design and construction	N/A – No custom paving was conducted during the reporting month.
S4.7.2	S4	<i>In-situ Tree Protection - Quarterly inspection</i> Quarterly Inspection of affected and newly planted trees by an experienced and appropriately trained arborist or horticulturist using Form 1 – Tree Group Inspection Form and Form 2 – Tree Risk Assessment Form developed by Development Bureau (http://www.trees.gov.hk/en/doc/TRAGuideline_July2010version_combine.pdf) or a form designed by a tree expert and approved by Tree Management Office for a period of 12 months after construction.	Whole site	During post construction and operation	N/A – The quarterly inspection will be conducted at later stage.
<i>Noise</i>					
S5.9	-	The following site practices should be followed during the construction of the Project: <ul style="list-style-type: none"> • Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction phase; • Silencers or mufflers on construction equipment will be utilised and will be properly maintained during the construction phase; • Mobile plant, if any, will be sited as far away from NSRs as possible; 	Whole Site	During construction	√

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
		<ul style="list-style-type: none"> Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or will be throttled down to a minimum; Plant known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from on-site construction activities. 			
S5.9	-	Noise insulating sheet would be adopted for certain PME (eg drill rig, excavator for demolition of existing structures, etc). The noise insulating sheet should be deployed such that there would be no opening or gaps on the joints.	Whole Site	During construction	√
S5.9	-	Use temporary noise barriers to mitigate the noise impact arising from the construction works, particularly for low-rise NSRs. Movable noise barriers of 3 m in height with skid footing should be used and located within a few metres of stationary plant and mobile plant such that the line of sight to the NSR is blocked by the barriers. The length of the barrier should be at least five times greater than its height. The noise barrier material should have a superficial surface density of at least 7 kg m ⁻² and have no openings or gaps.	Whole Site	During construction	√
S5.9	-	Use quiet PME as far as practicable to mitigate the construction noise impact.	Whole Site	During construction	√
S5.9	-	Scheduling of construction activities with identified grouping of PMEs.	Whole Site	During construction	√
S5.11	S5	Weekly noise monitoring will be undertaken at the representative NSRs N2 Ho Fook Building and N5 Chancery House. Monthly site audits will be conducted to ensure that the recommended mitigation measures are properly implemented during the construction stage.	Whole Site	During construction	√
<i>Air Quality</i>					
S6.8.1	-	Dust control measures stipulated in the <i>Air Pollution Control (Construction Dust) Regulation</i> will be implemented during the construction phase to control the potential fugitive dust emissions.	Whole Site	During construction	√

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
S6.8.1	-	In particular: Temporary stockpiles of dusty materials will be either covered entirely by impervious sheets; placed in an area sheltered on the top and three sides; or sprayed with water to maintain the entire surface wet at all the time.	Whole Site	During construction	√
S6.8.1	-	Impervious sheet will be provided for skip hoist for material transport.	Whole Site	During construction	√
S6.8.1	-	Vehicle washing facilities will be provided at the designated vehicle exit points.	Whole Site	During construction	√
S6.8.1	-	Every vehicle will be washed to remove any dusty materials from its chassis and wheels immediately before leaving the worksite.	Whole Site	During construction	√
S6.8.1	-	Road sections between vehicle-wash areas and vehicular entrances will be paved.	Whole Site	During construction	√
S6.8.1	-	The load carried by the trucks will be covered entirely to ensure no dust emission from the vehicles.	Whole Site	During construction	√
S6.8.1	-	Hoarding of not less than 2.4m high from ground level will be provided along the Project Site boundary adjoining a road where the new buildings (Old Bailey Wing and Arbuthnot Wing) will be constructed.	Whole Site	During construction	√
S6.8.1	-	Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials will be covered entirely by impervious sheeting sheltered on top and 3-sides.	Whole Site	During construction	√
S6.8.1	-	An effective dust screen will be provided to enclose scaffolding, if required, from the ground floor level of building for construction of superstructure of the new buildings.	Whole Site	During construction	√
S6.8.1	-	Impervious dust screen or sheeting will be implemented for demolition of structures and renovation of outer surfaces of structures that abuts or fronts open area accessible to the public to no less than 1m higher than the highest level of the structure being demolished.	Whole Site	During construction	√
S6.8.1	-	The area at which demolition work takes place will be sprayed with water or dust suppression chemical immediately prior to, during and immediately after the demolition activity.	Area for Demolition Work	During construction	√

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
S6.8.1	-	ULSD will be used for all construction plant on-site.	Whole Site	During construction	√
S6.8.1	-	The engine of the construction equipment or trucks during idling will be switched off.	Whole Site	During construction	√
S6.8.1	-	Site practices such as regular maintenance and checking of construction equipment deployed on-site will be conducted to avoid any black smoke emissions and to minimise gaseous emissions.	Whole Site	During construction	N/A – Not observed.
S6.10	S3.2	Monthly environmental site audits to ensure that appropriate dust control measures are properly implemented and good construction site practices are adopted throughout the construction period.	Whole Site	During construction	√
<i>Water Quality</i>					
S7.6	-	Channels, earth bunds or sand bag barriers will be provided on site to direct stormwater to silt removal facilities. The design of silt removal facilities will make reference to the guidelines in <i>Appendix A1 of ProPECC PN 1/94</i> . All drainage facilities and erosion and sediment control structures will be inspected on a regular basis and maintained to confirm proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit will be removed regularly.	Whole Site	During construction	√
S7.6	-	All drainage facilities and erosion and sediment control structures will be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit will be removed regularly and disposed of.	Whole Site	During construction	N/A – Not observed.
S7.6	-	Measures will be taken to reduce the ingress of stormwater into excavation areas. If the excavation of the concrete foundation is to be carried out in wet season, they will be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations will be discharged into stormwater drains via silt removal facilities.	Whole Site	During construction	N/A – Not observed.
S7.6	-	Open stockpiles of excavated and demolition materials will be covered with tarpaulin or similar fabric during rainstorms. Measures will be taken to prevent the washing away of residues, chemicals or debris into any drainage system.	Whole Site	During construction	√

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
S7.6	-	Manholes (including newly constructed ones) will always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system.	Whole Site	During construction	N/A – Not observed.
S7.6	-	Precautions will be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of <i>ProPECC PN 1/94</i> . Particular attention will be paid to the control of silty surface runoff during storm events.	Whole Site	During construction	N/A – Not observed.
S7.6	-	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge will be adequately designed for the controlled release of stormwater flows. All sediment traps will be regularly cleaned and maintained. The temporary diverted drainage will be reinstated to the original condition when the construction work has finished or the temporary diversion is no longer required.	Whole Site	During construction	N/A – Not observed.
S7.6	-	Vehicle and plant servicing areas, vehicle washing bays and lubrication bays will, as far as possible, be located within roofed areas. The drainage in these covered areas will be connected to foul sewers via a petrol interceptor.	Whole Site	During construction	N/A – Not observed.
S7.6	-	Oil leakage or spillage will be contained and cleaned up immediately. Waste oil will be collected and stored for recycling or disposal.	Whole Site	During construction	N/A – Not observed.
S7.6	-	Waste streams classifiable as chemical wastes will be properly stored, collected and treated.	Whole Site	During construction	√
S7.6	-	All fuel tanks and chemical storage areas will be provided with locks and be sited on paved areas.	Whole Site	During construction	√
S7.6	-	The storage areas will be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters.	Whole Site	During construction	√
S7.6	-	The Contractors will prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals.	Whole Site	During construction	√

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
S7.6	-	Surface runoff from bunded areas will pass through oil/grease traps prior to discharge to the stormwater system	Whole Site	During construction	N/A – Not observed.
S7.6	-	The stormwater discharge from the site will be monitored as part of the routine monitoring under the WPCO licence, if applicable.	Whole Site	During construction	N/A – Not observed.
S7.6	-	The existing toilet facilities of the CPS will be available to the construction workforce. The sewage will be discharged to the public sewer.	Whole Site	During construction	√
S7.8	S5.2	Monthly site audits of the works areas will be carried out during the construction phase to monitor the environmental performance of the Project and to enable prompt actions to rectify any malpractice which may give rise to water pollution problem.	Whole Site	During construction	√
<i>Waste Management</i>					
S8.5	S6.3.1 & Table 6.1	<u>General</u> The Contractor shall apply for and obtain all the necessary waste disposal permits or licences are obtained prior to the commencement of the construction works.	Whole Site	During construction	√
S8.5	-	<u>Management of Waste Disposal</u> The construction contractor will open a billing account with the EPD. Every construction waste or public fill load to be transferred to the Government waste disposal facilities such as public fill reception facilities, sorting facilities, landfills will require a valid “chit” which contains the information of the account holder to facilitate waste transaction recording and billing to the waste producer.	Whole Site	During construction	√
S8.5	S6.2	A trip-ticket system will also be established to monitor the disposal of construction waste at landfill and to control fly-tipping. The trip-ticket system will be included as one of the contractual requirements and implemented by the contractor.	Whole Site	During construction	√

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
S8.5	S6 & Table 6.1	A recording system for the amount of wastes generated /recycled and disposed of will be established during the construction phase.	Whole Site	During construction	√
S8.5	S6.3	<u>Reduction of Construction Waste Generation</u> C&D material will be segregated on-site into public fill and construction waste and stored in different containers or skips to facilitate reuse of the public fill and proper disposal of the construction waste. Specific areas of the work site will be designated for such segregation and storage if immediate use is not practicable.	Whole Site	During construction	√
S8.5	S6	<u>Chemical Waste</u> The contractor will register as a chemical waste producer with the EPD.	Whole Site	During construction and operation	√
S8.5	S6	Containers used for storage of chemical waste shall: <ul style="list-style-type: none"> • Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • Have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • Display a label in English and Chinese in accordance with instructions prescribed in <i>Schedule 2 of the Regulations</i>. 	Whole Site	During construction and operation	√
S8.5	S6	Storage areas for chemical waste shall: <ul style="list-style-type: none"> • Be clearly labelled and used solely for the storage of chemical waste; • Be enclosed on at least 3 sides; • Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; • Have adequate ventilation; • Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and • Be arranged so that incompatible materials are appropriately separated. 	Whole Site	During construction and operation	√

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Location	When to Implement the Measure	Status
S8.5	S6	A licensed contractor shall be employed to collect chemical waste for delivery to a licensed treatment facility.	Chemical Waste Treatment Centre at Tsing Yi	During construction and operation	√
S8.5	S6 & Table 6.1	<u>General Refuse</u> General refuse will be stored in enclosed bins separately from construction and chemical wastes. The general refuse will be delivered to the transfer station, separately from construction and chemical wastes, on a daily basis to reduce odour, pest and litter impacts.	Whole site	During construction	√
S8.5	S6	Recycling bins will be provided at strategic locations to facilitate recovery of aluminium can and waste paper from the Site. Materials recovered will be sold for recycling.	Whole site	During construction and operation	√
S8.5	S6	<u>Staff Training</u> At the commencement of the construction works, training will be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling.	Whole site	Commencement of construction	√
S8.7	S6.1 & 6.3	Monthly audits of the waste management practices will be carried out during the construction phases to determine if wastes are being managed in accordance with the recommended good site practices. The audits will examine all aspects of waste management including waste generation, storage, recycling, transport and disposal.	Whole site	During construction	√

Remark:

- √ Compliance of Mitigation Measures
- <> Compliance of Mitigation but need improvement
- x Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by Gammon Construction Ltd
- Δ Deficiency of Mitigation Measures but rectified by Gammon Construction Ltd
- N/A Not Applicable in Reporting Period

Annex H

Noise Monitoring Results

Annex H Noise Monitoring Results

Daytime Noise Monitoring Results

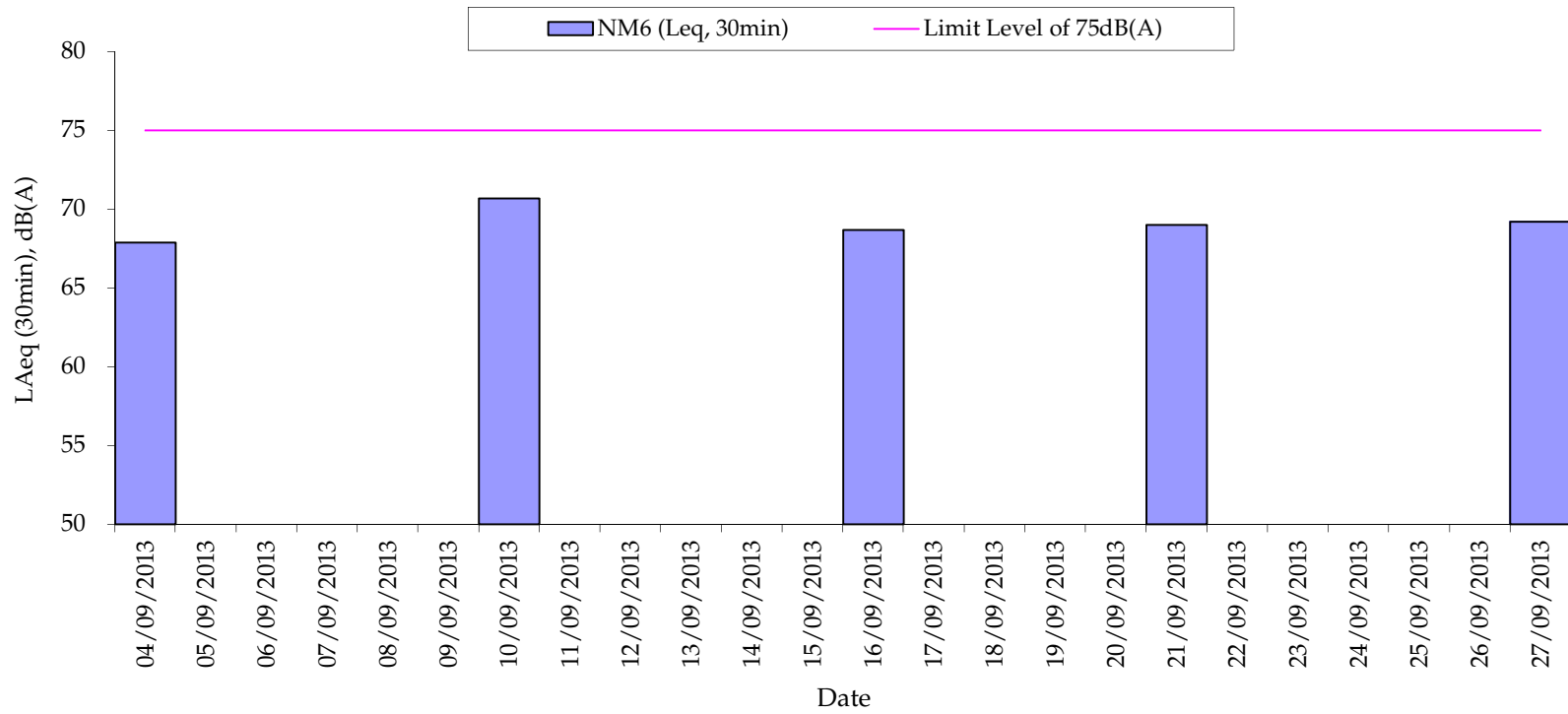
NM6 Chancery Mansion

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90						
04-Sep-13	13:40	14:10	Cloudy	67.9	69.4	65.5	Crawler crane (within the project site)	Traffic Noise	-	0.5	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10786708)
10-Sep-13	15:00	15:30	Sunny	70.7	71.4	69.2	Crawler crane, compressor (within the project site)	Traffic Noise	-	0.5	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10786708)
16-Sep-13	13:37	14:07	Sunny	68.7	70.1	67.8	Crawler crane, compressor (within the project site)	Traffic Noise	-	0.3	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10786708)
21-Sep-13	10:21	10:51	Sunny	69.0	70.2	67.9	Crawler crane, compressor (within the project site)	Traffic Noise	-	0.5	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10786708)
27-Sep-13	13:38	14:08	Sunny	69.2	70.4	67.5	Crawler crane, compressor (within the project site)	Traffic Noise	-	0.6	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10786708)
Min.				67.9								
Max.				70.7								

NM2 Ho Fook Building

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90						
04-Sep-13	13:00	13:30	Cloudy	66.5	68.0	64.2	Crawler crane (within the project site)	Traffic noise	-	0.5	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10786708)
10-Sep-13	14:16	14:46	Sunny	68.1	70.2	66.1	Crawler crane (within the project site)	Traffic Noise	-	0.5	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10786708)
16-Sep-13	14:15	14:45	Sunny	69.3	71.5	66.2	Crawler crane, interior fitting (within the project site)	Traffic Noise	-	0.3	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10786708)
21-Sep-13	9:43	10:13	Sunny	68.6	70.2	65.8	Crawler crane, interior fitting (within the project site)	Traffic Noise	-	0.5	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10786708)
27-Sep-13	14:16	14:46	Sunny	68.2	69.5	65.6	Crawler crane (within the project site)	Traffic Noise	-	0.6	RION- NL31 (S/N 00410224)	RION - NC73 (S/N 10786708)
Min.				66.5								
Max.				69.3								

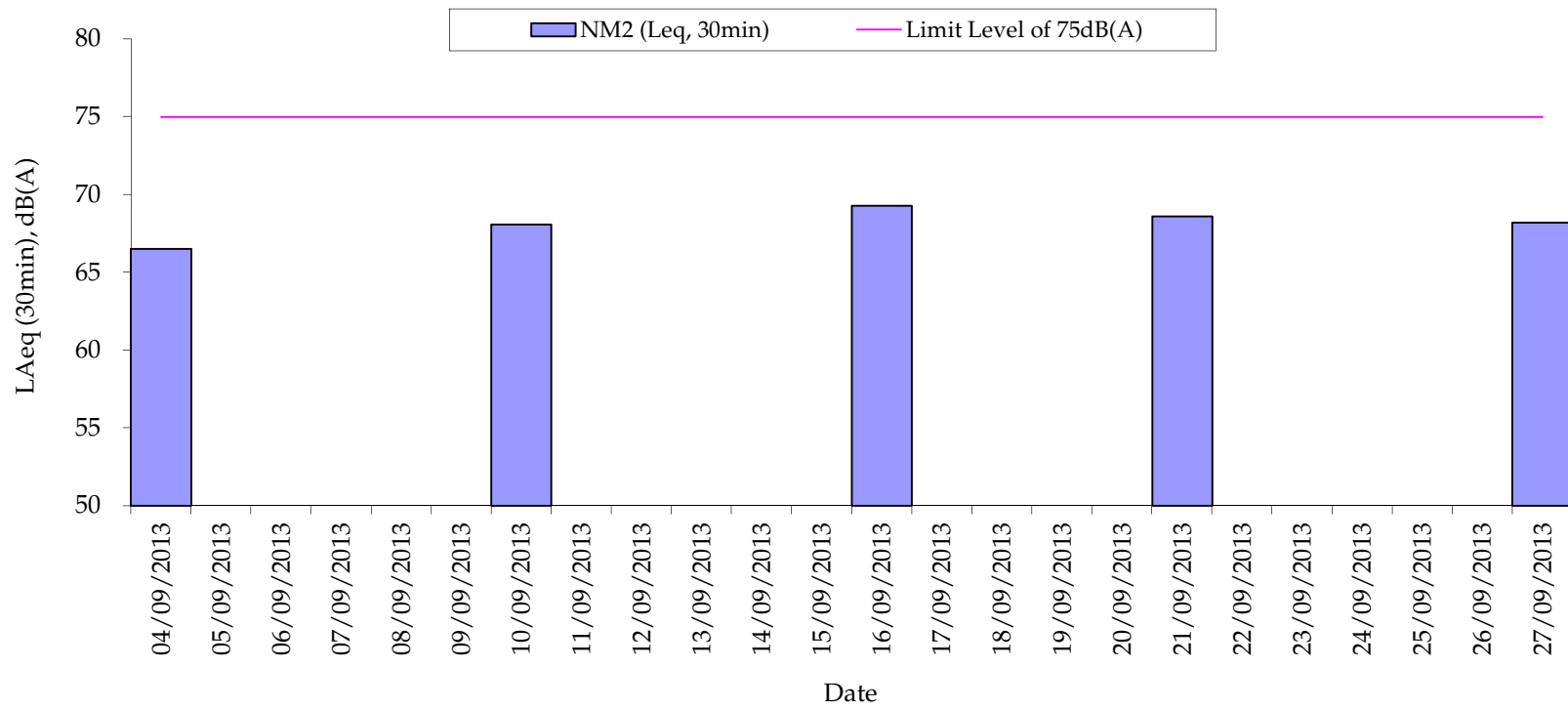
Normal Weekdays Noise Monitoring Results at NM6 - Chancery Mansion (Leq, 30min)



Remark:

- 75dB(A) was adopted as the Limit Level during normal weekdays in the reporting period

Normal Weekdays Noise Monitoring Results at NM2 - Ho Fook Building (Leq, 30min)



Remark:

- 75dB(A) was adopted as the Limit Level during normal weekdays in the reporting period

Annex I

Construction Programme for the Project

Annex J

Tree Inspection Reports



R11013
 欣榮 (香港) 環境管理有限公司

Yan Wing (Hong Kong) Environment Management Limited

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- 2 OCT 2013

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Our Ref. : YW/TP/GAMMON/2013/9/1

30th September 2013

Gammon Construction Limited
 28/F Devon House, TaiKoo Place 979 King's Road
 Hong Kong
 Attn : Mr. Cliff C.H. LEUNG, Mr. Ariel LUI

Tel. 2516 8823
 Fax. 2516 6260

Dear Sirs,

**Summary of Monthly Inspection Report for the Six Existing Trees
 at Central Police Station Compound for September 2013
 (Contract Ref. : J3416/400.4/D00025)**

Tree No.	Botanical Name	Date of Inspection	Overall Health Condition Good/Fair/Poor	Remarks
Tree-5	<i>Mangifera indica</i> 芒果	2 nd Sept. 2013	Good	1. To keep the planter always clean and tidy. 2. To complete the nearby renovation work a.s.a.p. so as to minimize disturbance to the tree.
Tree-6	<i>Aleurites moluccana</i> 石栗	2 nd Sept. 2013	Fair	N.F.A.
Tree-7	<i>Aleurites moluccana</i> 石栗	2 nd Sept. 2013	Fair	N.F.A.
Tree-8	<i>Plumeria rubra</i> 紅雞蛋花	2 nd Sept. 2013	Fair	N.F.A.
Tree-9	<i>Araucaria cunninghamia</i> 花旗杉	2 nd Sept. 2013	Fair	N.F.A.
Tree-11	<i>Dracaena marginata</i> 馬尾鐵	2 nd Sept. 2013	Fair	1. To complete the nearby renovation work a.s.a.p. so as to minimize disturbance to the tree.



 欣榮 (香港) 環境管理有限公司

Yan Wing (Hong Kong) Environment Management Limited

香港 新界 沙頭角 新樓街 15 號 二樓
No. 15, San Lau Street, 1/F., Sha Tau Kok, N.T., Hong Kong

通信地址 (Mail Address) : 上水郵局信箱 八八九 號 (Sheung Shui Post Office Box 889)


Tel: 9776 1987, 2486 2317 Fax: 2482 4667 E-mail: yanwinghk@netvigator.com

Tree Inspection Reports and Tree Group Inspection Form (Form 1) are attached for your reference and record, please.

I should be much grateful if you could endorse the attached Invoice (No.1040) and fax it to my Office at 2482 4667. Thank you.

Yours faithfully

For and on behalf of
Yan Wing (HK) Environment Management Ltd.


(WONG Pak Hay)
Contract Manager



FORM 1: TREE GROUP INSPECTION FORM
表格 1: 樹群檢查表格



General Information 基本資料

Company 公司:	Gammon Construction Ltd	Name of Tree Inspection officer 巡查人員姓名:	LAU Man Chung
File Ref. 檔案編號:	YW/TP/GAMMON/2013/9/2	Name of Endorsement Officer 覆核人員姓名:	WONG Pak Hay
Date of Inspection 巡查日期:	September 2, 2013		
Project/Contract No. 合約/工程編號:	J3416/400.4/D00025		

Location Information 位置資料

Location 地點:	Central Police Station Compound	Nearby Utility Post No. 就近公用設施編號:	
Location Types 地點類別: Address: __ (multiple answers allowed) 可選多於一項	<input type="checkbox"/> Roadside 路旁 <input checked="" type="checkbox"/> Open space 空地 <input type="checkbox"/> Exhibition Centre 展覽中心 <input type="checkbox"/> View Point 觀景台 <input type="checkbox"/> Walking / nature trail 行山徑 / 自然徑 <input type="checkbox"/> Others (please specify) 其他 (請說明): _____	<input type="checkbox"/> Community Hall / Centre 社區會堂 / 中心 <input type="checkbox"/> Roadside Planter 路旁花園 <input type="checkbox"/> Rain shelter / pavilion 避雨亭 / 涼亭 <input type="checkbox"/> Sitting out area 休憩處	

General Tree Information 基本樹木資料

* Delete as appropriate 請把不合適的刪除

Main tree species in the group or minority tree species of significant size 在群組內的主要樹種或樹幹胸徑或高度或樹冠範圍較大的樹種 (Note 2)	Approx. number of trees in the relevant species or as a % of tree group 該樹種在群組內的百分比/數目*	Range of tree height (m) 該樹種高度範圍	Overall health condition 整體健康狀況 (good, fair, poor 好, 良, 差)	Overall structural condition 整體結構狀況 (good, fair, poor 好, 良, 差)	Other remarks (Any special tree condition, e.g. dying/dead, pest/disease problem and structural defects; and soil condition 其他評語 (樹木狀況例如: 凋謝/枯樹/病蟲害或結構問題; 及泥土狀況)
<i>Mangifera indica</i> 芒果	17%, 1 No.	16M	GOOD	GOOD	1. To keep the planter always clean and tidy. 2. To complete the nearby renovation work a.s.a.p. so as to minimize disturbance to the tree.
<i>Aleurites moluccana</i> 石栗	32% 2 Nos.	10-13M	FAIR	FAIR	N.F.A.
<i>Plumeria rubra</i> 紅雞蛋花	17% 1 No.	7M	FAIR	FAIR	N.F.A.
<i>Araucaria cunninghamia</i> 花旗杉	17% 1 No.	13M	FAIR	FAIR	N.F.A.
<i>Dracaena marginata</i> 馬尾鐵	17% 1 No.	8M	FAIR	FAIR	1. To complete the nearby renovation work a.s.a.p. so as to minimize disturbance to the tree.

Target 目標

TARGET (people or property potentially affected by tree/branch failure) 目標 (因樹木倒塌或枝條斷裂而受影響的人或財產)
Does target exist? 目標是否存在? <input checked="" type="checkbox"/> Yes 是 <input type="checkbox"/> No 否
Can target be moved? 能否移除目標? <input type="checkbox"/> Yes 是 <input checked="" type="checkbox"/> No 否
Can the use of site be restricted? 可否限制場地的使用? <input checked="" type="checkbox"/> Yes 是 <input type="checkbox"/> No 否
Frequency of use of location 使用該地點的頻密程度: <input type="checkbox"/> Occasional use 偶爾使用 <input type="checkbox"/> Intermittent use 間歇使用 <input checked="" type="checkbox"/> Frequent use 經常使用 <input type="checkbox"/> Constant use 恆常使用

Identification of Trees for Remedial Action or Detailed Tree Risk Assessment

識別下述樹木, 以便採取風險緩減措施或進行詳細樹木風險評估

Trees falling under the following criteria 樹木屬於以下任何一項或多於一項類別	Number of trees 樹木數量	Remedial action or detailed tree risk assessment 緩減措施或進行詳細樹木風險評估
(1) Trees on complaint list with structural or health problems 投訴個案中, 結構或健康問題的樹木 (Note 1)	NII	
(2) Mature trees belonging to species with brittle wood structure and having	NII	

	unsatisfactory health or structural conditions with failure potential 屬木質脆弱品種並已達成熟期及有倒塌風險的樹木 (Note 1)		
(3)	Tree with major defects or health problems 有明顯缺陷或健康問題的樹木 (Note 1)	NII	
(4)	Trees growing in very stressful site conditions with failure potential 生長於非常擠壓環境而有倒塌風險的樹木 (Note 1)	NII	

Signature of Tree Inspection Officer :



Signature of Endorsement Officer:

Name of Contractor

Yan Wing (HK) Environment Management Ltd.

Date:

30-9-2013



Note 1: If remedial action (such as pruning) undertaken cannot mitigate the potential risk of tree or branch failure, detailed tree risk assessment (using Form 2) should be carried out

備註 1: 若風險緩減措施(如枝幹修剪)仍未能解決倒塌或枝條斷裂的潛在風險, 應為該樹進行詳細的樹木風險評估(表格 2)。

Note 2: Please read in conjunction with TMO's Guidelines on Tree Risk Assessment and Management Arrangement (Para. 4.3. refers.)

備註 2: 請參閱樹木管理辦事處的樹木風險評估安排及管理指引(第 4.3 節)

**Inspection Report for the 6 Existing Trees
at Central Police Station Compound
(Contract Ref. : J3416/400.4/D00025)**

I. TREE NUMBER : Tree-5 *Mangifera indica* 芒果

II. BASIC INFORMATION :

Height (m)	16m	Crown spread (m)	18m
DBH (mm)	1000mm	Overall Health Condition Good/Fair/Poor	Good
Date of Inspection	2 nd September 2013	Last Inspection Date	6 th August 2013

III. COMMENTS :

1. Overall health condition of the tree is good.
2. Cleanliness of the planter is not acceptable.
3. The tree has been wrapped with hessian cloth and reflex net.
4. A large scaffold set up near the tree for renovation work.
5. The crown is full of green and vigorous leaves.
6. Construction works are in progress outside the cordon zone.

IV. RECOMMENDATIONS :

1. The planter should always be kept clean and tidy.
2. As to minimize disturbance to the tree, the nearby renovation work should be completed as soon as possible.

V. PHOTO RECORD :

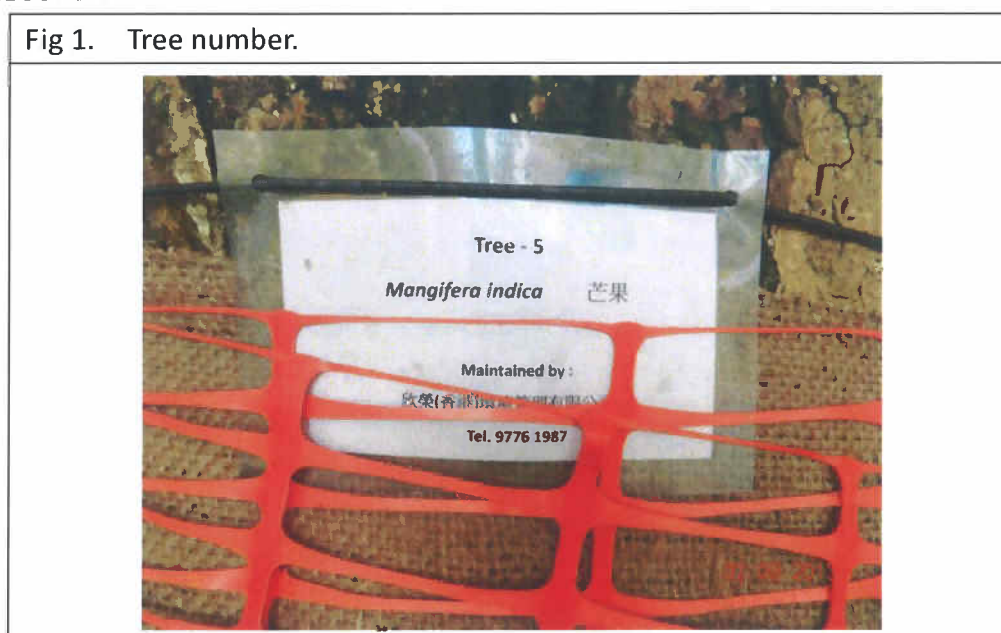


Fig 2. The planter is full of fallen leaves and cleansing tools. Cleanliness of the planter is not acceptable.



Fig. 3 The tree has been wrapped with hessian cloth and reflex net so as to protect the trunk.



Fig. 4 A large scaffold set up near the tree for renovation work.



Fig. 5 The crown is full of green and vigorous leaves.

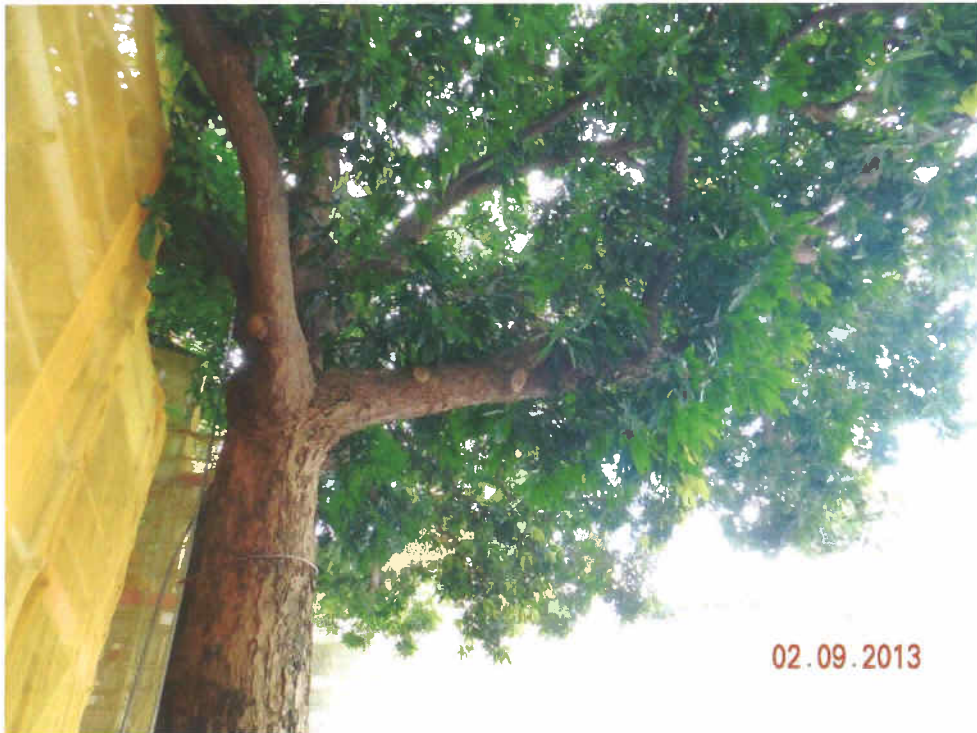


Fig. 6 The site outside the cordon zone is clean and tidy.



Fig. 7 Construction works are in progress outside the cordon zone.



Fig. 8 Overall view of Tree-5 during inspection on 2nd September 2013.



Signature of Inspection Officer :
(Mr. LAU Man-chung, ISA CA-HK0050A)

Signature of Endorsement Officer :
(Mr. WONG Pak-hay, Contract Manager)

Name of Contractor :

Dated this :

Yan Wing (HK) Environment
Management Ltd.

30th September 2013.



**Inspection Report for the 6 Existing Trees
at Central Police Station Compound
(Contract Ref. : J3416/400.4/D00025)**

I. TREE NUMBER : Tree-6 *Aleurites moluccana* 石栗

II. BASIC INFORMATION :

Height (m)	10m	Crown spread (m)	10m
DBH (mm)	510mm	Overall Health Condition Good/Fair/Poor	Fair
Date of Inspection	2 nd September 2013	Last Inspection Date	6 th August 2013

III. COMMENTS :

1. Overall health condition of the tree is fair.
2. The planter keeps clean and tidy.
3. The site near the tree is clean and tidy.
4. The crown is full of green and vigorous leaves.
5. Construction works are in progress outside the cordon zone.
6. The site outside the cordon zone is clean and tidy.

IV. RECOMMENDATIONS :

1. No further action is required.

V. PHOTO RECORD :



Fig 2. The planter appears clean and tidy.



Fig. 3 The site near the tree is clean and tidy.



Fig. 4 The crown is full of green and vigorous leaves.



Fig. 5 The site outside the cordon zone is clean and tidy.



Fig. 6 Construction works are in progress outside the cordon zone.



Fig. 7 Front view of Tree-6 during inspection on 2nd September 2013.



Fig. 8 Overall view of Tree-6 during inspection on 2nd September 2013.



Signature of Inspection Officer :
(Mr. LAU Man-chung, ISA CA-HK0050A)

Signature of Endorsement Officer :
(Mr. WONG Pak-hay, Contract Manager)

Name of Contractor :

Dated this :

Yan Wing (HK) Environment
Management Ltd.

30th September 2013



**Inspection Report for the 6 Existing Trees
at Central Police Station Compound
(Contract Ref. : J3416/400.4/D00025)**

I. TREE NUMBER : Tree-7 *Aleurites moluccana* 石栗

II. BASIC INFORMATION :

Height (m)	13m	Crown spread (m)	12m
DBH (mm)	650mm	Overall Health Condition Good/Fair/Poor	Fair
Date of Inspection	2 nd September 2013	Last Inspection Date	6 th August 2013

III. COMMENTS :

1. Overall health condition of the tree is fair.
2. Cleanliness of the planter is acceptable.
3. The site inside the cordon zone is clean and tidy.
4. The crown is full of green and vigorous leaves.
5. Appropriate notice displays in front of the cordon zone.
6. Construction works are in progress outside the cordon zone.

IV. RECOMMENDATIONS :

1. No further action is required.

V. PHOTO RECORD :



Fig 2. Cleanliness of the planter is acceptable.



Fig. 3 The site near the tree is clean and tidy.



Fig. 4 The crown is full of green and vigorous leaves.



Fig. 5 A pipe leads water to the crown for irrigation.

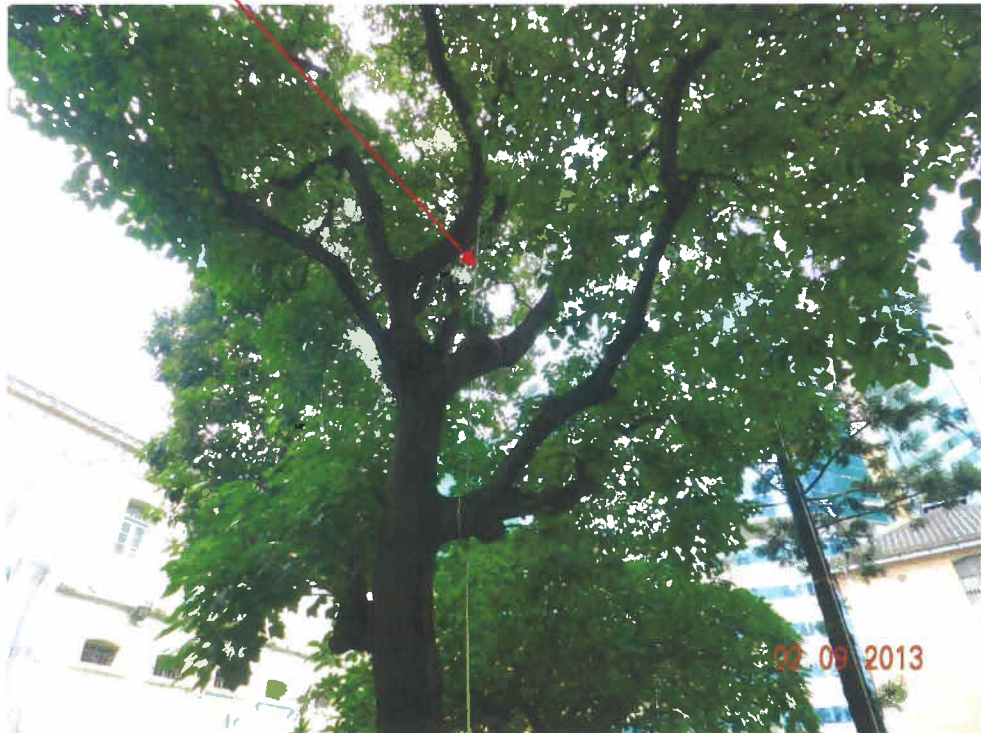


Fig. 6 Appropriate notice displays in front of the cordon zone.



Fig. 7 Construction works are in progress outside the cordon zone.

Tree-7



Fig. 8 Overall view of Tree-7 during inspection on 2nd September 2013.




Signature of Inspection Officer :
(Mr. Lau Man-chung, ISA CA-HK0045A)

Signature of Endorsement Officer :
(Mr. WONG Pak-hay, Contract Manager)

Name of Contractor :

Dated this :



Yan Wing (HK) Environment
Management Ltd.

30th September 2013



**Inspection Report for the 6 Existing Trees
at Central Police Station Compound
(Contract Ref. : J3416/400.4/D00025)**

I. TREE NUMBER : Tree-8 *Plumeria rubra* 紅雞蛋花

II. BASIC INFORMATION :

Height (m)	7m	Crown spread (m)	9m
DBH (mm)	430mm	Overall Health Condition Good/Fair/Poor	Fair
Date of Inspection	2 nd September 2013	Last Inspection Date	6 th August 2013

III. COMMENTS :

1. Overall health condition of the tree is fair.
2. Cleanliness of the planter is acceptable.
3. The site inside the cordon zone is clean and tidy.
4. The crown is full of green and vigorous leaves with a few red flowers.
5. The site outside the cordon zone is clean and tidy.

IV. RECOMMENDATIONS :

1. No further action is required.

V. PHOTO RECORD :



Fig 2. Cleanliness of the planter is acceptable.



Fig 3 The site near the tree is clean and tidy.



Fig. 4 The crown is full of green and vigorous leaves with a few red flowers.

Tree-8



Fig. 5 The site outside the cordon zone is clean and tidy.



Fig. 6 Overall view of Tree-8 during inspection on 2nd September 2013.



Signature of Inspection Officer :
(Mr. LAU Man-chung, ISA CA-HK0050A)

Signature of Endorsement Officer :
(Mr. WONG Pak-hay, Contract Manager)

Name of Contractor :

Dated this :

Yan Wing (HK) Environment
Management Ltd.

30th September 2013



**Inspection Report for the 6 Existing Trees
at Central Police Station Compound
(Contract Ref. : J3416/400.4/D00025)**

I. TREE NUMBER : Tree - 9 *Araucaria cunninghamia* 花旗杉

II. BASIC INFORMATION :

Height (m)	13m	Crown spread (m)	5m
DBH (mm)	230mm	Overall Health Condition Good/Fair/Poor	Fair
Date of Inspection	2 nd September 2013	Last Inspection Date	6 th August 2013

III. COMMENTS :

1. Overall health condition of the tree is fair.
2. The planter and the site are clean and tidy.
3. Sap flow has not been found again on the mid trunk.
4. Green and vigorous branches/leaves appear on the tree.
5. The site outside the cordon zone is clean and tidy.

IV. RECOMMENDATIONS :

1. No further action is required.

V. PHOTO RECORD :



Fig 2. The planter and the site are clean and tidy at the time of inspection.



Fig. 3 The site near Tree-9 is clean and tidy.



Fig. 4 The cavity seems to be recovered. No sap flow has been found again on the mid trunk..



Fig. 5 Green and vigorous leaves appear on the tree.



Fig. 6 The site outside the cordon zone is clean and tidy.



Fig. 7 Front view of Tree-9 during inspection on 2nd September 2013.



Fig. 8 Overall view of Tree-9 during inspection on 2nd September 2013.



Signature of Inspection Officer :
(Mr. LAU Man-chung, ISA CA-HK0050A)

Signature of Endorsement Officer :
(Mr. WONG Pak-hay, Contract Manager)

Name of Contractor :

Dated this :





Yan Wing (HK) Environment
Management Ltd.

30th September 2013



**Inspection Report for the 6 Existing Trees
at Central Police Station Compound
(Contract Ref. : J3416/400.4/D00025)**

I. TREE NUMBER : Tree -11 *Dracaena marginata* 馬尾鐵

II. BASIC INFORMATION :

Height (m)	8m	Crown spread (m)	2m
DBH (mm)	170mm	Overall Health Condition Good/Fair/Poor	Fair
Date of Inspection	2 nd September 2013	Last Inspection Date	6 th August 2013

III. COMMENTS :

1. Overall health condition of the tree is fair.
2. Cleanliness of the planter is acceptable.
3. Cleanliness of the site is acceptable.
4. The tree has been wrapped with hessian cloth and reflex net.
5. The dead and decayed branch still remains on the tree.
6. The site outside the cordon zone is clean and tidy.

IV. RECOMMENDATIONS :

1. As to minimize disturbance to the tree, the nearby renovation work should be completed as soon as possible.

V. PHOTO RECORD :



Fig. 2 Cleanliness of the planter is acceptable.



Fig. 3 Cleanliness of the site is acceptable.

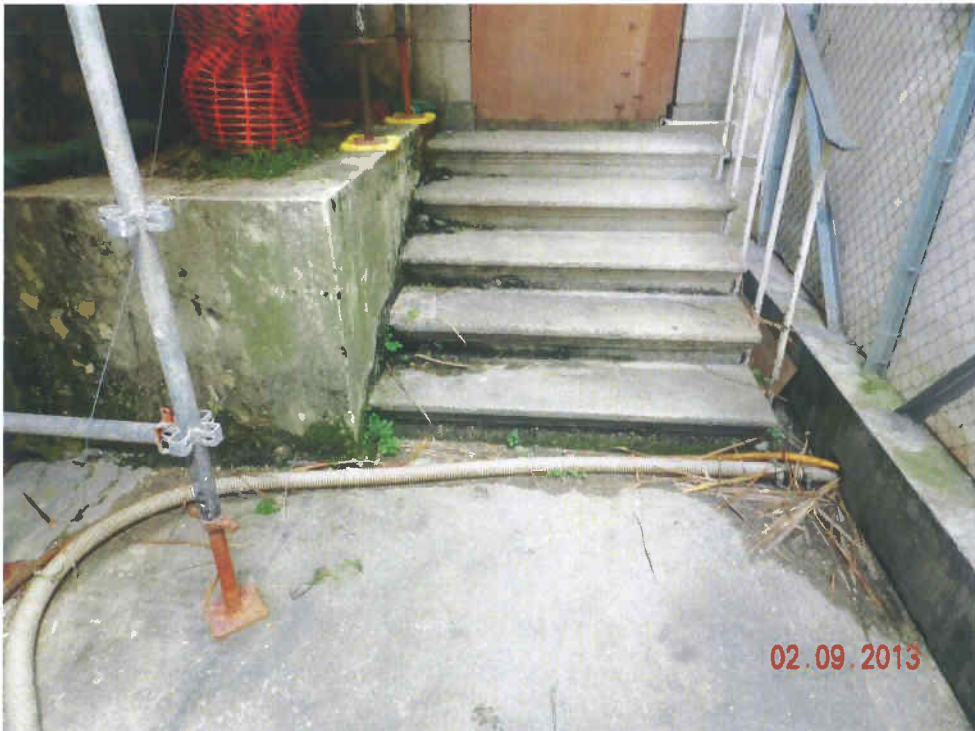


Fig. 4 A large scaffold set up near Tree-11. The tree has been wrapped with hessian cloth and reflex net so as to protect the trunk.



Fig. 5 The dead and decayed branch still remains on the tree. We recommend to prune it off shortly after the renovation work has been completed.



Fig. 6 Appropriate notice displays in front of the cordon zone.



Fig. 7 The site outside the cordon zone is clean and tidy.



Fig. 8 Overall view of Tree-11 during inspection on 2nd September 2013.



Signature of Inspection Officer :
(Mr. LAU Man-chung, ISA CA-HK0050A)

Signature of Endorsement Officer :
(Mr. WONG Pak-hay, Contract Manager)

Name of Contractor :

Dated this :



Yan Wing (HK) Environment
Management Ltd.

30th September 2013



Annex K

Environmental Complaint,
Environmental Summons
and Prosecution Log

Annex K Cumulative Complaint and Summons/Prosecutions Log

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
November 2011	0	0
December 2011	0	0
January 2012	0	0
February 2012	0	0
March 2012	4	0
April 2012	0	0
May 2012	0	0
June 2012	2	0
July 2012	1	0
August 2012	0	0
September 2012	0	0
October 2012	0	0
November 2012	2	0
December 2012	0	0
January 2013	0	0
February 2013	1	0
March 2013	1	0
April 2013	0	0
May 2013	0	0
June 2013	0	0
July 2013	0	0
August 2013	0	0
September 2013	0	0
Overall Total	11	0

Annex L

Records of Vibration Monitoring for Piling works

Pipe pile wall, grout curtain and excavation and lateral support at Parade Ground



NOTES:
 1. UTILITIES SETTLEMENT POINTS (UT1 TO UT9) SHALL ONLY BE INSTALLED AFTER EXCAVATION PERMIT IS OBTAINED. AS ALTERNATIVE SETTLEMENT POINTS (GS18 AND GS19) MAY BE INSTALLED.
 2. SHOULD UT1 TO UT6 BE INSTALLED, GS18 AND GS19 SHALL NOT BE REQUIRED.
 3. EITHER UTILITIES SETTLEMENT MARKERS (UT1 TO UT6) OR GROUND SETTLEMENT MARKERS (GS18 AND GS19) SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF OLD BAILEY WING ELS WORKS.

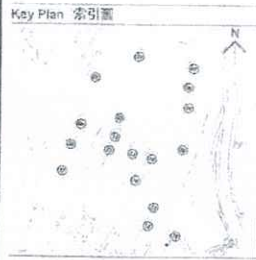
LEGEND

	EXISTING FRESH WATER MAIN
	EXISTING SALT WATER MAIN
	EXISTING STREET LIGHTING NO. 33458-A1
	EXISTING STREET LIGHTING CABLE
	EXISTING GAS MAIN
	EXISTING HV ELECTRICITY CABLE
	EXISTING LV ELECTRICITY CABLE
	EXISTING TELECOMMUNICATION DUCT (HUTCHINSON GLOBAL COMMUNICATIONS LIMITED)
	EXISTING STORMWATER DRAIN
	EXISTING FOUL SEWER
	PROPOSED FOUL SEWER
	SITE BOUNDARY
	EXISTING RETAINING WALL
	EXISTING DRILLHOLE WITH STANDPIPE/PIEZOMETER
	PROPOSED BUILDING SETTLEMENT POINTS/TILMETER
	PROPOSED RETAINING WALL SETTLEMENT POINTS/TILMETER
	PROPOSED INCLINOMETER TO BE BUILT IN BORED PILE WALL OR PIPE PILE WALL
	PROPOSED GROUND SETTLEMENT POINTS
	PROPOSED UTILITY MONITORING POINTS
	PROPOSED VIBRATION MONITORING POINTS
	PROPOSED ADDITIONAL DRILLHOLE

No.	Description	Date	By	Approved
1	BD SUBMISSION	12/11	VS	
2	A	03/12	VS	

Note: This plan has been processed on a centralized check bar under the centralized processing system as promulgated in PNH A234-16. The output of the authorized person, registered structural engineer and/or registered geotechnical engineer concerned specified under section 4(3)(b) and the provision of section 14(2) of the Buildings Ordinance are of particular reference in this regard.

Plan Approved
 NG Kim-shing
 Chief Structural Engineer
 for BUILDING AUTHORITY
 - 3 MAY 2012



BD SUBMISSION
 Drawing Status 製圖狀況

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- Do not take measurements directly from this drawing.
- 切勿直接從圖紙上量取尺寸。
- Check and verify all dimensions on site.
- 於現場核對及核實所有尺寸。
- Read this drawing in conjunction with the specifications and all other related drawings.
- 此圖紙須與圖則及所有其他相關圖紙一併閱讀。
- Notify the relevant consultants immediately of any discrepancy found herein.
- 如有發現任何不一致之處，應立即通知有關顧問。

Client 業主: 香港中文大學文物館有限公司
 The Chinese University of Hong Kong
 Design Consultant: HERZOG & DEMEUREN
 Conservation Architect: Rocco
 Execution Architect: Rocco

Structural Engineer / RSE: ARUP
 E & M Engineer: JRP
 Project 項目: CENTRAL POLICE STATION CONSERVATION AND REVITALISATION PROJECT
 Drawing Title 圖名: MONITORING LAYOUT PLAN

Scale 比例: 1:3000 A1
 Drawing No. 圖號: 00-OAP209674-C-001
 Checked 校核: AL
 Approved 核准: VS

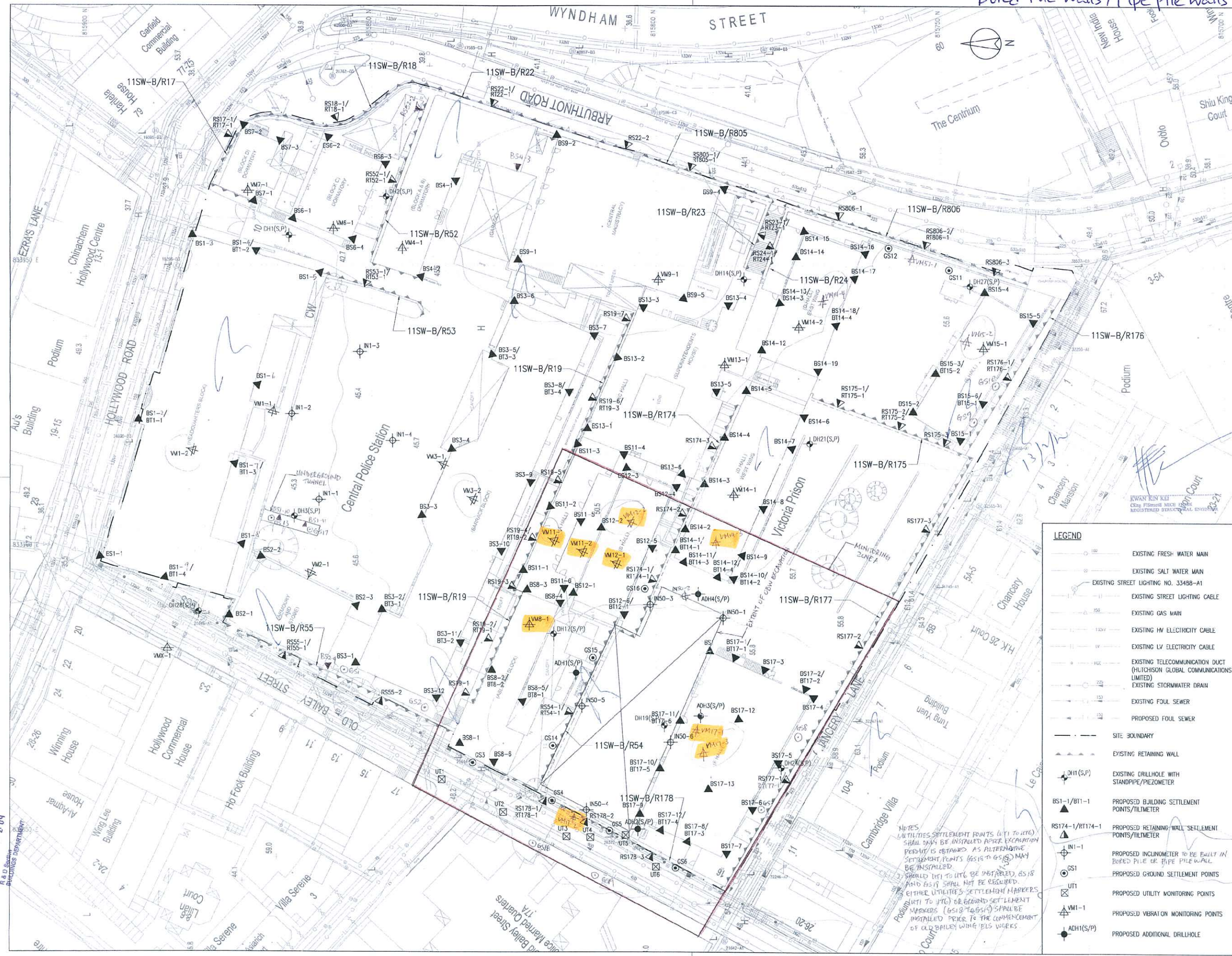


Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

POINT	VM1-1*	#VM1-2*	VM2-1	VM3-1**	#VM3-2**
DATE	mm/s	mm/s	mm/s	mm/s	mm/s
02-Sep-13	0.166	0.170	0.086	0.242	0.124
03-Sep-13	0.580	0.303	0.692	0.272	0.098
04-Sep-13	0.138	0.167	0.211	0.186	0.149
05-Sep-13	0.159	0.104	0.438	0.212	0.256
06-Sep-13	0.160	0.102	0.087	0.197	0.135
07-Sep-13	0.095	0.169	0.462	0.166	0.150
08-Sep-13			SUNDAY		
09-Sep-13	0.139	0.178	0.527	0.422	0.136
10-Sep-13	0.548	0.137	0.098	0.346	0.157
11-Sep-13	0.207	0.087	0.086	0.287	0.145
12-Sep-13	0.335	0.841	0.144	0.270	0.365
13-Sep-13	0.090	0.121	0.083	0.194	0.160
14-Sep-13	0.323	0.446	0.091	0.230	0.122
15-Sep-13			SUNDAY		
16-Sep-13	0.137	0.112	0.105	0.258	0.151
17-Sep-13	0.120	1.190	0.139	0.805	0.178
18-Sep-13	0.382	0.102	0.111	0.175	0.091
19-Sep-13	0.131	0.108	0.083	0.469	0.108
20-Sep-13			HOLIDAY		
21-Sep-13	0.422	0.583	0.131	0.534	0.350
22-Sep-13			SUNDAY		
23-Sep-13	0.478	0.639	0.209	0.194	0.095
24-Sep-13	0.147	0.164	0.163	0.531	0.116
25-Sep-13	0.165	0.143	0.086	0.116	0.128
26-Sep-13	0.128	0.870	0.094	1.020	0.166
27-Sep-13	0.172	0.189	0.103	0.462	0.318
28-Sep-13	0.384	0.230	0.158	0.270	0.367
29-Sep-13			SUNDAY		
30-Sep-13	0.302	0.158	0.094	0.175	0.136

Remarks: # Vibration at largest span of highest structural level

Bored Pile Walls / Pipe pile Walls at Block 50



E.D. Ref. No. 2009/11 (B/L 17.3.5) (H.C.) (S)
 F.S.D. Ref. No. 2009/11 (B/L 17.3.5) (H.C.) (S)

Revision/Submission 修改版/ 版本
 No. 编号 Description 说明 Date 日期 Approved 审批
 - BD SUBMISSION 12/11 JS

Plan Approved
 NG Kimshing
 Chief Structural Engineer
 for BUILDING AUTHORITY
 20 FEB 2012



BD SUBMISSION
 Drawing Status 绘图状况

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Client 業主
 賽馬會文物保育有限公司
 The Jockey Club CPS Limited

Design Consultant
 HERZOG & DEMEURON

Conservation Architect
 Rocco

Executive Architect / AP
 ARUP

Project 項目
 CENTRAL POLICE STATION
 CONSERVATION AND REVITALISATION
 PROJECT

Drawing Title 圖名
 MONITORING LAYOUT PLAN

Scale 比例 1:3000
 Drawn 繪圖 K.C.Loi
 Checked 校對 AL
 Drawing No. 圖號 00-OAP209674-G-001

LEGEND

	EXISTING FRESH WATER MAIN
	EXISTING SALT WATER MAIN
	EXISTING STREET LIGHTING NO. 33488-A1
	EXISTING STREET LIGHTING CABLE
	EXISTING GAS MAIN
	EXISTING HV ELECTRICITY CABLE
	EXISTING LV ELECTRICITY CABLE
	EXISTING TELECOMMUNICATION DUCT (HILICHSON GLOBAL COMMUNICATIONS LIMITED)
	EXISTING STORMWATER DRAIN
	EXISTING FOUL SEWER
	PROPOSED FOUL SEWER
	SITE BOUNDARY
	EXISTING RETAINING WALL
	EXISTING DRILLHOLE WITH STANDPIPE/PNEUMETER
	PROPOSED BUILDING SETTLEMENT POINTS/TILMETER
	PROPOSED RETAINING WALL SETTLEMENT POINTS/TILMETER
	PROPOSED INCLINOMETER TO BE BUILT IN BORED PILE OR PIPE PILE WALL
	PROPOSED GROUND SETTLEMENT POINTS
	PROPOSED UTILITY MONITORING POINTS
	PROPOSED VIBRATION MONITORING POINTS
	PROPOSED ADDITIONAL DRILLHOLE

NOTES
 UTILITIES SETTLEMENT POINTS (UT1 TO UT6) SHALL ONLY BE INSTALLED AFTER EXCAVATION PERMIT IS OBTAINED AS ALTERNATIVE SETTLEMENT POINTS (GS16 TO GS19) MAY BE INSTALLED.
 應在取得挖掘許可後才安裝 UT1 至 UT6 的儀器，因為可安裝另類的儀器 (GS16 至 GS19)。
 GS18 AND GS19 SHALL NOT BE REQUIRED.
 GS18 及 GS19 不須安裝。
 EITHER UTILITY SETTLEMENT MARKERS (UT1 TO UT6) OR GROUND SETTLEMENT MARKERS (GS18 TO GS19) SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF OLD BAILEY WALLS WORKS.

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 R.A.D. Section
 PLANNING DEPARTMENT

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 25-Aug-2013 to 7-Sep-2013

POINT		VM8-1	VM11-1#	VM11-2	VM12-1#	VM12-2	VM14-3	VM17-1	VM17-2	VM17-3#
DATE	PD/(m)	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s
19-Jun-2012 (Initial)		0.56	0.13	0.19	0.22	0.13	0.21	0.13	0.13	0.37
Surveying Date										
25-Aug-2013		Sunday								
26-Aug-2013		0.44	0.41	0.56	0.19	0.20	0.21	0.53	0.45	0.41
27-Aug-2013		0.16	0.20	0.40	0.35	0.32	0.34	0.35	0.30	0.35
28-Aug-2013		0.27	0.35	0.20	0.19	1.15	0.18	0.13	0.21	0.27
29-Aug-2013		1.58	1.40	0.86	0.22	0.17	0.18	0.19	0.16	0.90
30-Aug-2013		0.46	0.31	0.30	0.34	0.26	0.45	0.37	0.84	0.34
31-Aug-2013		0.95	1.37	0.45	0.71	0.19	0.39	0.40	0.76	1.13
1-Sep-2013		Sunday								
2-Sep-2013		0.26	0.54	0.51	0.27	0.39	0.21	0.24	0.61	0.43
3-Sep-2013		0.21	0.23	0.29	0.15	0.18	0.15	0.22	0.22	0.30
4-Sep-2013		0.13	0.31	0.17	0.33	0.37	0.17	0.20	0.17	0.45
5-Sep-2013		0.31	0.23	0.29	0.38	0.39	0.37	0.15	0.28	0.40
6-Sep-2013		0.22	0.26	0.37	0.31	0.19	0.16	0.22	0.18	0.26
7-Sep-2013		0.18	0.22	0.20	0.29	0.18	0.15	1.41	0.14	0.24
Remark										

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 8-Sep-2013 to 21-Sep-2013

POINT		VM8-1	VM11-1#	VM11-2	VM12-1#	VM12-2	VM14-3	VM17-1	VM17-2	VM17-3 #
DATE	PD/(m)	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s
19-Jun-2012 (Initial)		0.56	0.13	0.19	0.22	0.13	0.21	0.13	0.13	0.37
Surveying Date										
8-Sep-2013		Sunday								
9-Sep-2013		0.54	0.37	0.26	0.28	1.70	0.31	1.40	0.15	0.61
10-Sep-2013		0.30	0.14	0.26	0.27	0.23	0.18	0.20	0.42	0.17
11-Sep-2013		0.19	0.56	0.17	0.18	0.24	0.23	0.15	0.30	0.15
12-Sep-2013		0.38	0.51	0.31	0.32	0.14	0.18	0.41	0.40	0.26
13-Sep-2013		0.40	0.92	1.47	0.47	0.66	0.79	0.30	0.27	0.40
14-Sep-2013		0.24	0.18	0.18	0.16	0.35	0.41	0.20	0.17	0.27
15-Sep-2013		Sunday								
16-Sep-2013		0.50	1.17	1.14	0.48	1.14	0.46	0.29	0.46	0.29
17-Sep-2013		0.17	0.16	0.35	0.17	0.19	0.19	0.33	0.24	0.15
18-Sep-2013		0.29	0.37	0.19	0.30	0.23	0.26	0.21	0.23	0.43
19-Sep-2013		0.29	0.18	0.18	0.17	0.34	0.38	0.25	0.44	0.32
20-Sep-2013		Public Holiday								
21-Sep-2013		0.18	0.21	0.48	0.24	1.97	0.36	0.29	0.59	0.27
Remark										

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 22-Sep-2013 to 5-Oct-2013

POINT		VM8-1	VM11-1#	VM11-2	VM12-1#	VM12-2	VM14-3	VM17-1	VM17-2	VM17-3 #
DATE	PD/(m)	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s	mm/s
19-Jun-2012 (Initial)		0.56	0.13	0.19	0.22	0.13	0.21	0.13	0.13	0.37
Surveying Date										
22-Sep-2013		Sunday								
23-Sep-2013		0.33	0.26	0.16	0.22	0.16	0.16	0.15	0.17	0.24
24-Sep-2013		0.15	1.27	0.14	0.23	0.16	0.16	0.27	0.45	0.26
25-Sep-2013		0.22	0.47	0.55	0.26	0.17	0.25	0.25	0.34	0.13
26-Sep-2013		0.38	0.25	1.90	0.28	0.16	0.26	0.26	0.40	0.45
27-Sep-2013		0.34	0.14	0.21	0.15	0.15	0.14	0.15	0.21	0.18
28-Sep-2013		0.34	0.71	0.29	0.20	0.32	1.20	0.34	0.19	0.49
29-Sep-2013		Sunday								
30-Sep-2013		0.12	0.21	0.25	0.16	0.13	0.25	0.32	0.22	0.30
1-Oct-2013		Public Holiday								
2-Oct-2013		0.21	0.28	0.18	0.40	0.18	0.19	0.43	0.50	0.43
3-Oct-2013		0.26	0.50	0.32	0.25	0.15	0.58	0.62	0.26	0.15
4-Oct-2013		0.15	0.20	0.37	0.57	0.29	0.30	0.41	0.64	0.27
5-Oct-2013		0.48	0.23	0.47	0.30	0.34	0.35	0.25	0.39	0.65
Remark										

Shaft Grouted Pre-bored H-piles at Block 51 (Arbutnot Wing)



Revision/Submitter 修改/日期		
No.	Description 說明	Date 日期
-	BO SUBMISSION (50)	12/11 JS
A	BO SUBMISSION (01)	03/12 JS
B	BO SUBMISSION (17)	03/12 JS
C	BO SUBMISSION REV BATCH 1	03/12 JS
D	FOR INFORMATION (50)	03/12 JS
E	BO SUBMISSION (51)	05/12 JS

Note: This plan has been prepared on a standard block basis under the standard processing system as permitted by the P&AP A/M/18. The dates of the individual design, technical proposal and/or approved technical proposal concerned are identified under section 07(5) and the presence of such a date of the Building Ordinance and of particular reference in this regard.

Plan Approved
 NG Kin-ning
 Chief Structural Engineer
 for BUILDING AUTHORITY
 13 JUL 2012



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LEGEND

	EXISTING FRESH WATER MAIN
	EXISTING SALT WATER MAIN
	EXISTING STREET LIGHTING NO. 33488-A1
	EXISTING STREET LIGHTING CABLE
	EXISTING GAS MAIN
	EXISTING HV ELECTRICITY CABLE
	EXISTING LV ELECTRICITY CABLE
	EXISTING TELECOMMUNICATION DUCT (HITCHISON GLOBAL COMMUNICATIONS LIMITED)
	EXISTING STORMWATER DRAIN
	EXISTING FOUL SEWER
	PROPOSED FOUL SEWER
	SITE BOUNDARY
	EXISTING RETAINING WALL
	EXISTING DRILLHOLE WITH STANDPIPE/PIEZOMETER
	PROPOSED BUILDING SETTLEMENT POINTS/TILTMETER
	PROPOSED RETAINING WALL SETTLEMENT POINTS/TILTMETER
	PROPOSED INCLINOMETER TO BE BUILT IN BORED PILE WALL OR PIPE PILE WALL
	PROPOSED GROUND SETTLEMENT POINTS
	PROPOSED UTILITY MONITORING POINTS
	PROPOSED VIBRATION MONITORING POINTS
	PROPOSED ADDITIONAL DRILLHOLE

Client 業主: 寶馬會文娛管理有限公司 The Jockey Club CFS Limited

Design Consultant: HERZOG & DEMEURON

Conservation Architect: 羅傑士建築師有限公司

Executive Architect / AP: ROCCO

Structural Engineer / RSE: E & M Engineer

ARUP JRP

Project 項目: CENTRAL POLICE STATION CONSERVATION AND REVITALISATION PROJECT

Drawing Title 圖名: MONITORING LAYOUT PLAN

Scale 比例: 1:3000A1
 Drawn 繪圖: K.C.L.S.
 Checked 校核: AL
 Drawing No. 圖號: 00-OAP209674-G-001
 Revision 修改: E

Site No: 00-OAP209674-G-001.dwg

(Shaft Grouted Pre-bored H-piles at Block 51)



Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibrating Monitoring	2mm/s	2.5mm/s	3mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 1-Sep-2013 to 14-Sep-2013

POINT		VM14-4	VM15-2	VM51-1						
DATE	PD/(m)	mm/s	mm/s	mm/s						
03-Dec-2012	(Initial)	0.14	0.21	0.3						
1-Sep-2013		Sunday								
2-Sep-2013		0.45	0.31	0.35						
3-Sep-2013		0.15	1.41	0.34						
4-Sep-2013		0.18	0.22	0.24						
5-Sep-2013		0.52	0.61	0.26						
6-Sep-2013		0.14	0.29	0.95						
7-Sep-2013		0.18	0.26	0.19						
8-Sep-2013		Sunday								
9-Sep-2013		0.15	0.23	0.34						
10-Sep-2013		0.14	0.20	0.26						
11-Sep-2013		0.21	0.16	0.18						
12-Sep-2013		0.15	0.22	0.35						
13-Sep-2013		0.46	0.41	0.54						
14-Sep-2013		0.21	0.22	0.16						
Remarks										

Prepared by : Lo wing yue (Surveyor)

(Shaft Grouted Pre-bored H-piles at Block 51)



Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibrating Monitoring	2mm/s	2.5mm/s	3mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 15-Sep-2013 to 28-Sep-2013

POINT		VM14-4	VM15-2	VM51-1						
DATE	PD/(m)	mm/s	mm/s	mm/s						
03-Dec-2012	(Initial)	0.14	0.21	0.3						
15-Sep-2013		Sunday								
16-Sep-2013		0.21	0.30	1.04						
17-Sep-2013		0.26	0.18	0.42						
18-Sep-2013		0.15	0.27	0.29						
19-Sep-2013		0.64	0.31	0.15						
20-Sep-2013		Public Holiday								
21-Sep-2013		0.30	0.27	0.18						
22-Sep-2013		Sunday								
23-Sep-2013		0.15	0.28	0.16						
24-Sep-2013		0.14	0.26	0.20						
25-Sep-2013		0.15	0.29	0.19						
26-Sep-2013		0.27	0.36	0.64						
27-Sep-2013		0.23	0.78	0.18						
28-Sep-2013		0.23	1.04	0.32						
Remarks										

Prepared by : Lo wing yue (Surveyor)

(Shaft Grouted Pre-bored H-piles at Block 51)

WW 恆誠建築工程有限公司
Win Win Way Construction Company Ltd.

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibrating Monitoring	2mm/s	2.5mm/s	3mm/s

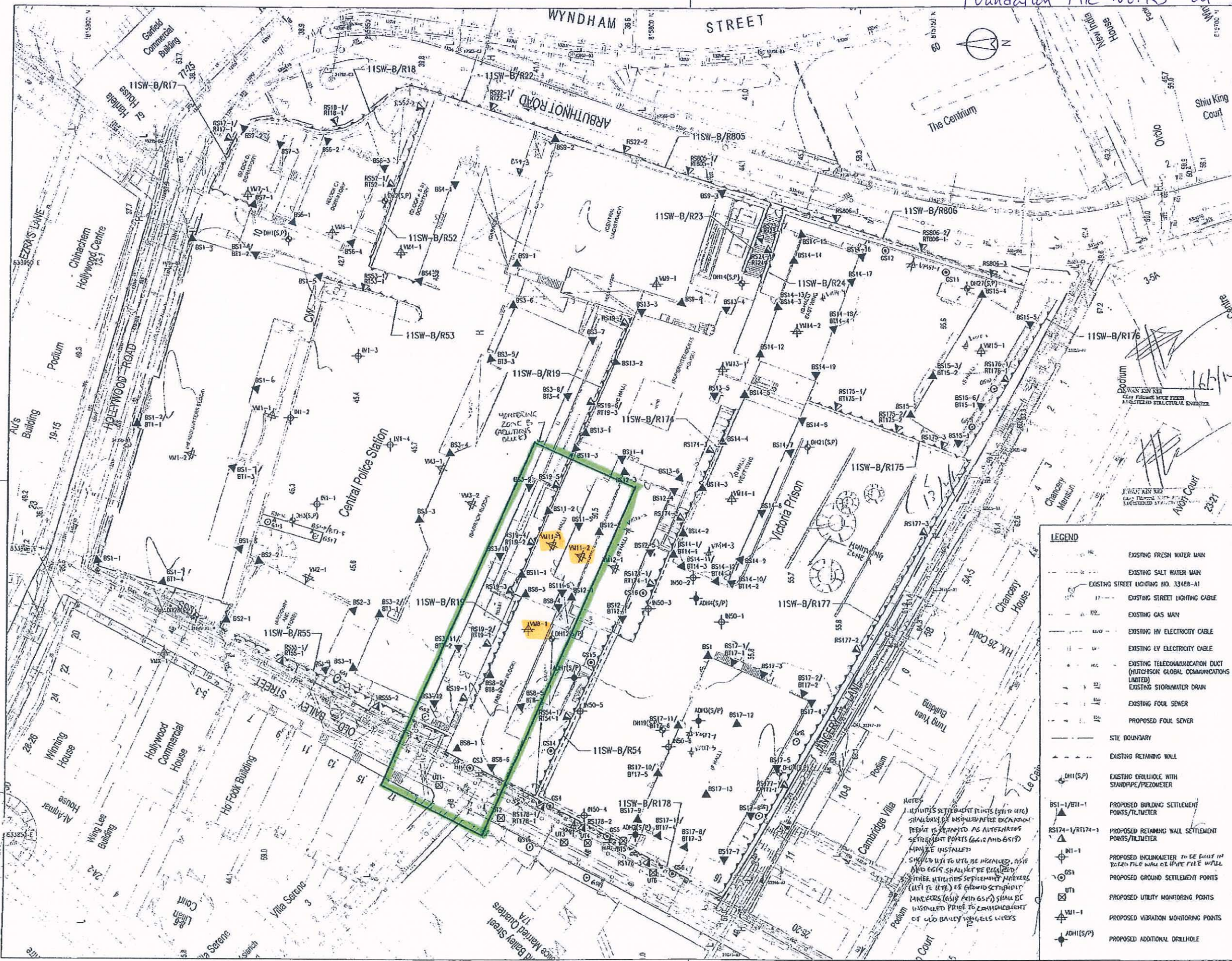
Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 29-Sep-2013 to 12-Oct-2013

POINT		VM14-4	VM15-2	VM51-1						
DATE	PD/(m)	mm/s	mm/s	mm/s						
03-Dec-2012	(Initial)	0.14	0.21	0.3						
29-Sep-2013		Sunday								
30-Sep-2013		0.35	0.30	0.35						
1-Oct-2013										
2-Oct-2013		0.39	0.22	0.22						
3-Oct-2013		0.25	0.25	0.26						
4-Oct-2013		0.42	0.28	0.29						
5-Oct-2013		0.26	0.25	0.15						
6-Oct-2013										
7-Oct-2013										
8-Oct-2013										
9-Oct-2013										
10-Oct-2013										
11-Oct-2013										
12-Oct-2013										
Remarks										

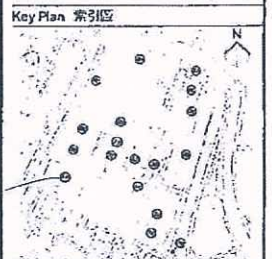
Prepared by : Lo wing yue (Surveyor)

Foundation Pile Works at Block 8.



BD Ref No. 17-2024-002	
BD Ref No. 20-2024-002	
Revision/Description/Date/By	
No. Rev. Description/Date/By	
1 - ED SUBMISSION	12/11 JS

Plan Approved
 NG Kingling
 Chief Structural Engineer
 for BUILDING AUTHORITY
 20 FEB 2012



BD SUBMISSION
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Client 業主
 寶馬有文物保存有限公司
 The Jersey Club Ltd

Design Consultant
HERZOG & DEMEUREN
 Conservation Architect
 建築師事務所

Executive Approved IAP
ROCCO
 E & M Engineer

Structural Engineer / RSE
ARUP
 JRP

Project 項目
**CENTRAL POLICE STATION
 CONSERVATION AND REVITALISATION
 PROJECT**

Drawing Title 圖名
MONITORING LAYOUT PLAN

Scale 比例
 1:3000A1
 Drawing No. 圖號
 00-OAP209674-G-001
 Checked 校核
 AL
 Revision 修訂
 1/1

LEGEND

	EXISTING FRESH WATER MAIN
	EXISTING SALT WATER MAIN
	EXISTING STREET LIGHTING NO. 3342B-A1
	EXISTING STREET LIGHTING CABLE
	EXISTING GAS MAIN
	EXISTING HV ELECTRICITY CABLE
	EXISTING LV ELECTRICITY CABLE
	EXISTING TELECOMMUNICATION DUCT (FUTURION GLOBAL COMMUNICATIONS LIMITED)
	EXISTING STORMWATER DRAIN
	EXISTING FOUL SEWER
	PROPOSED FOUL SEWER
	SITE BOUNDARY
	EXISTING RETAINING WALL
	EXISTING DRILLHOLE WITH STANDPIPE/PNEZOMETER
	PROPOSED BUILDING SETTLEMENT POINTS/TILTMETER
	PROPOSED RETAINING WALL SETTLEMENT POINTS/TILTMETER
	PROPOSED INCLINOMETER TO BE FIXED IN TRENCH/FILE WALL OR PIPE/FILE WALL
	PROPOSED GROUND SETTLEMENT POINTS
	PROPOSED UTILITY MONITORING POINTS
	PROPOSED VIBRATION MONITORING POINTS
	PROPOSED ADDITIONAL DRILLHOLE

NOTES
 1. ALL UTILITY SETTLEMENT POINTS (WITH OR WITHOUT STANDPIPE) SHOULD BE INSTALLED AFTER EXCAVATION PERMIT IS OBTAINED AS ALTERNATIVE SETTLEMENT POINTS (E.G. BS15 AND BS16) MAY BE INSTALLED.
 2. STANDPIPE MUST BE INSTALLED, BS15 AND BS16 SHOULD BE INSTALLED.
 3. THREE UTILITY SETTLEMENT POINTS (WITH OR WITHOUT STANDPIPE) SHOULD BE INSTALLED PRIOR TO COMMENCEMENT OF ALL PILE WORKS.

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibrating Monitoring	2mm/s	2.5mm/s	3mm/s
#Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 25-Aug-2013 to 7-Sep-2013

POINT		VM8-1	VM11-1#	VM11-2						
DATE	PD/(m)	mm/s	mm/s	mm/s						
23-Apr-2012 (Initial)		0.212	0.087	0.116						
25-Aug-2013		Sunday								
26-Aug-2013		0.44	0.41	0.56						
27-Aug-2013		0.16	0.20	0.40						
28-Aug-2013		0.27	0.35	0.20						
29-Aug-2013		1.58	1.40	0.86						
30-Aug-2013		0.46	0.31	0.30						
31-Aug-2013		0.95	1.37	0.45						
1-Sep-2013		Sunday								
2-Sep-2013		0.26	0.54	0.51						
3-Sep-2013		0.21	0.23	0.29						
4-Sep-2013		0.13	0.31	0.17						
5-Sep-2013		0.31	0.23	0.29						
6-Sep-2013		0.22	0.26	0.37						
7-Sep-2013		0.18	0.22	0.20						

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibrating Monitoring	2mm/s	2.5mm/s	3mm/s
#Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 8-Sep-2013 to 21-Sep-2013

POINT		VM8-1	VM11-1#	VM11-2						
DATE	PD/(m)	mm/s	mm/s	mm/s						
23-Apr-2012 (Initial)		0.212	0.087	0.116						
08-Sep-2013					Sunday					
9-Sep-2013		0.54	0.37	0.26						
10-Sep-2013		0.30	0.14	0.26						
11-Sep-2013		0.19	0.56	0.17						
12-Sep-2013		0.38	0.51	0.31						
13-Sep-2013		0.40	0.92	1.47						
14-Sep-2013		0.24	0.18	0.18						
15-Sep-2013					Sunday					
16-Sep-2013		0.50	1.17	1.14						
17-Sep-2013		0.17	0.16	0.35						
18-Sep-2013		0.29	0.37	0.19						
19-Sep-2013		0.29	0.18	0.18						
20-Sep-2013					Public Holiday					
21-Sep-2013		0.18	0.21	0.48						

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibrating Monitoring	2mm/s	2.5mm/s	3mm/s
#Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 22-Sep-2013 to 5-Oct-2013

POINT		VM8-1	VM11-1#	VM11-2						
DATE	PD/(m)	mm/s	mm/s	mm/s						
23-Apr-2012 (Initial)		0.212	0.087	0.116						
22-Sep-2013					Sunday					
23-Sep-2013		0.33	0.26	0.16						
24-Sep-2013		0.15	1.27	0.14						
25-Sep-2013		0.22	0.47	0.55						
26-Sep-2013		0.38	0.25	1.90						
27-Sep-2013		0.34	0.14	0.21						
28-Sep-2013		0.34	0.71	0.29						
29-Sep-2013					Sunday					
30-Sep-2013		0.12	0.21	0.25						
1-Oct-2013					Public Holiday					
2-Oct-2013		0.21	0.28	0.18						
3-Oct-2013		0.26	0.50	0.32						
4-Oct-2013		0.15	0.20	0.37						
5-Oct-2013		0.48	0.23	0.47						

Mini-piles with post-pressurized grout in CDG and steel shear H-piles at Block 1



Project No.	00-OAP209674-G-001
Revision/Description	03/12 JS
DD SUBMISSION	12/11 JS
A BD SUBMISSION	03/12 JS
B BD SUBMISSION	03/12 JS

Plan Approved
 NG Kwan-ling
 Chief Structural Engineer
 for BUILDING AUTHORITY
 19 MAR 2012



BD SUBMISSION
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Client 業主

 The Cultural Heritage Conservation Centre
 The Cultural Heritage Conservation Centre

Design Consultant
HERZOG & DEMEUREN
 Conservation Architect
 Executive Architect / AP

Structural Engineer / RSC
ARUP

Project 項目
**CENTRAL POLICE STATION
 CONSERVATION AND REVITALISATION
 PROJECT**

Drawing Title 圖名
MONITORING LAYOUT PLAN

Scale 比例	Drawn 繪圖	Checked 校對
1:300@A1	K.C. Lai	AL
Drawing No. 圖號	Revision 修訂	
00-OAP209674-G-001	B	

LEGEND

	EXISTING FRESH WATER MAIN
	EXISTING SALT WATER MAIN
	EXISTING STREET LIGHTING NO. 33488-A1
	EXISTING STREET LIGHTING CABLE
	EXISTING GAS MAIN
	EXISTING HV ELECTRICITY CABLE
	EXISTING LV ELECTRICITY CABLE
	EXISTING TELECOMMUNICATION DUCT (HONGKONG & ORAL COMMUNICATIONS LIMITED)
	EXISTING STORMWATER DRAIN
	EXISTING FOUL SEWER
	PROPOSED FOUL SEWER
	SITE BOUNDARY
	EXISTING RETAINING WALL
	EXISTING DRILLHOLE WITH STANDPIPE/PREZOMETER
	PROPOSED BUILDING SETTLEMENT POINTS/TILTMETER
	PROPOSED RETAINING WALL SETTLEMENT POINTS/TILTMETER
	PROPOSED INCLINOMETER TO BE BUILT IN BORED PILE WALL OR PIPE PILE WALL
	PROPOSED GROUND SETTLEMENT POINTS
	PROPOSED UTILITY MONITORING POINTS
	PROPOSED VIBRATION MONITORING POINTS
	PROPOSED ADDITIONAL DRILLHOLE

NOTES:

- UTILITIES SETTLEMENT POINTS (UT1 TO UT6) SHALL ONLY BE INSTALLED AFTER EXCAVATION PERMIT IS OBTAINED. AS ALTERNATIVE SETTLEMENT POINTS (GS18 AND GS19) MAY BE INSTALLED.
- SHOULD UT1 TO UT6 BE INSTALLED, GS18 AND GS19 SHALL NOT BE REQUIRED.
- EITHER UTILITIES SETTLEMENT MARKERS (UT1 TO UT6) OR GROUND SETTLEMENT MARKERS (GS18 AND GS19) SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF OLD BAILEY WING ELS WORKS.



(Block 17 Foundation Works)



Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 1-Sep-2013 to 14-Sep-2013

POINT		VM17-1	VM17-3 #						
DATE	PD/(m)	mm/s	mm/s						
19-Jun-2012 (Initial)		0.13	0.37						
Surveying Date									
1-Sep-2013									Sunday
2-Sep-2013		0.24	0.43						
3-Sep-2013		0.22	0.30						
4-Sep-2013		0.20	0.45						
5-Sep-2013		0.15	0.40						
6-Sep-2013		0.22	0.26						
7-Sep-2013		1.41	0.24						
8-Sep-2013									Sunday
9-Sep-2013		1.40	0.61						
10-Sep-2013		0.20	0.17						
11-Sep-2013		0.15	0.15						
12-Sep-2013		0.41	0.26						
13-Sep-2013		0.30	0.40						
14-Sep-2013		0.20	0.27						
Remark									

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 15-Sep-2013 to 28-Sep-2013

POINT		VM17-1	VM17-3 #						
DATE	PD/(m)	mm/s	mm/s						
19-Jun-2012 (Initial)		0.13	0.37						
Surveying Date									
15-Sep-2013				Sunday					
16-Sep-2013		0.29	0.29						
17-Sep-2013		0.33	0.15						
18-Sep-2013		0.21	0.43						
19-Sep-2013		0.25	0.32						
20-Sep-2013				Public Holiday					
21-Sep-2013		0.29	0.27						
22-Sep-2013				Sunday					
23-Sep-2013		0.15	0.24						
24-Sep-2013		0.27	0.26						
25-Sep-2013		0.25	0.13						
26-Sep-2013		0.26	0.45						
27-Sep-2013		0.15	0.18						
28-Sep-2013		0.34	0.49						
Remark									

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 29-Sep-2013 to 12-Oct-2013

POINT		VM17-1	VM17-3 #						
DATE	PD/(m)	mm/s	mm/s						
19-Jun-2012 (Initial)		0.13	0.37						
Surveying Date									
29-Sep-2013				Sunday					
30-Sep-2013		0.32	0.30						
1-Oct-2013									
2-Oct-2013		0.43	0.43						
3-Oct-2013		0.62	0.15						
4-Oct-2013		0.41	0.27						
5-Oct-2013		0.25	0.65						
6-Oct-2013				Sunday					
7-Oct-2013		0.32	0.30						
8-Oct-2013		0.16	0.23						
9-Oct-2013									
10-Oct-2013									
11-Oct-2013									
12-Oct-2013									
Remark									

Annex M

Records of Vibration
Monitoring for Other
Construction Works

Structural Alteration and Additions at Block 14



U.O. Ref. No. 基字編號/編號
22/2007/11 (E.L.S. 1, 4&16) (C) (S)
P.S.D. Ref. No. 地檢字編號/編號

No.	Description 說明	Date 日期	Approval 審批
-	BD SUBMISSION (50)	12/11	JS
A	BD SUBMISSION (01)	03/12	JS
B	BD SUBMISSION (17)	03/12	JS
C	BD SUBMISSION RW BATCH 1	03/12	JS
D	FOR INFORMATION (50)	03/12	JS
E	BD SUBMISSION (51)	05/12	JS
F	BD SUBMISSION (04)	05/12	JS
G	BD SUBMISSION (03)	05/12	JS
H	BD SUBMISSION (14)	05/12	JS

Note: This plan has been processed on a computerized system as prescribed in PWD/AD/12. The owner of the subject building, registered structural engineer and registered professional engineer concerned as specified under section 4(7)(a) and the provision of section 14(2)(b) of the Buildings Ordinance are of particular relevance in this regard.

Plan Approved
 NG-Kin-shing
 Chief Structural Engineer
 for BUILDING AUTHORITY
 - 9 AUG 2012



BD SUBMISSION
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Client 業主
 香港警務處 (P.O. Box 221)
 The Police Club (CP) Limited

Design Consultant
HERZOG & DEMEUREN

Conservation Architect
 香港古物古蹟辦事處

Executive Architect / AP
ROCCO

Structural Engineer / RSE
ARUP

Project 項目
**CENTRAL POLICE STATION
 CONSERVATION AND REVITALISATION
 PROJECT**

Drawing Title 圖名
MONITORING LAYOUT PLAN

Scale 比例
 1:300BA1
 Drawing No. 圖號
 00-OAP209674-G-001
 Checked 校核
 K.C. Lo
 H

LEGEND

	EXISTING FRESH WATER MAIN
	EXISTING SALT WATER MAIN
	EXISTING STREET LIGHTING NO. 33488-A1
	EXISTING STREET LIGHTING CABLE
	EXISTING GAS MAIN
	EXISTING HV ELECTRICITY CABLE
	EXISTING LV ELECTRICITY CABLE
	EXISTING TELECOMMUNICATION DUCT (HUTCHISON GLOBAL COMMUNICATIONS LIMITED)
	EXISTING STORMWATER DRAIN
	EXISTING FOUL SEWER
	PROPOSED FOUL SEWER
	SITE BOUNDARY
	EXISTING RETAINING WALL
	EXISTING DRILLHOLE WITH STANDPIPE/PNEUMETER
	PROPOSED BUILDING SETTLEMENT POINTS/TILTMETER
	PROPOSED RETAINING WALL SETTLEMENT POINTS/TILTMETER
	PROPOSED INCLINOMETER TO BE BUILT IN BORED PILE WALL OR PIPE PILE WALL
	PROPOSED GROUND SETTLEMENT POINTS
	PROPOSED UTILITY MONITORING POINTS
	PROPOSED VIBRATION MONITORING POINTS
	PROPOSED ADDITIONAL DRILLHOLE

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 25-Aug-2013 to 7-Sep-2013

POINT		VM14-1#	VM14-2 #	VM14-3	VM14-4				
DATE	PD/(m)	mm/s	mm/s	mm/s	mm/s				
19-Nov-12 (Initial)		0.103	0.112	0.147	0.136				
25-Aug-2013		Sunday							
26-Aug-2013		0.18	0.33	0.21	0.42				
27-Aug-2013		0.18	0.41	0.34	0.16				
28-Aug-2013		0.32	0.37	0.18	0.27				
29-Aug-2013		0.29	0.39	0.18	0.32				
30-Aug-2013		0.37	0.26	0.45	0.32				
31-Aug-2013		0.44	0.40	0.39	0.30				
1-Sep-2013		Sunday							
2-Sep-2013		0.32	0.28	0.21	0.45				
3-Sep-2013		0.41	0.24	0.15	0.15				
4-Sep-2013		0.37	0.51	0.17	0.18				
5-Sep-2013		0.17	0.47	0.37	0.52				
6-Sep-2013		0.15	0.20	0.16	0.14				
7-Sep-2013		0.16	0.32	0.15	0.18				
Remarks									

Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 8-Sep-2013 to 21-Sep-2013

POINT		VM14-1#	VM14-2 #	VM14-3	VM14-4					
DATE	PD/(m)	mm/s	mm/s	mm/s	mm/s					
19-Nov-12 (Initial)		0.103	0.112	0.147	0.136					
8-Sep-2013		Sunday								
9-Sep-2013		0.74	0.72	0.31	0.15					
10-Sep-2013		0.20	0.46	0.18	0.14					
11-Sep-2013		0.29	0.16	0.23	0.21					
12-Sep-2013		0.18	0.22	0.18	0.15					
13-Sep-2013		0.36	1.15	0.79	0.46					
14-Sep-2013		0.40	0.18	0.41	0.21					
15-Sep-2013		Sunday								
16-Sep-2013		0.26	0.24	0.46	0.21					
17-Sep-2013		0.29	0.41	0.19	0.26					
18-Sep-2013		0.59	0.44	0.26	0.15					
19-Sep-2013		0.86	0.15	0.38	0.64					
20-Sep-2013		Public Holiday								
21-Sep-2013		0.86	0.39	0.36	0.30					
Remarks										

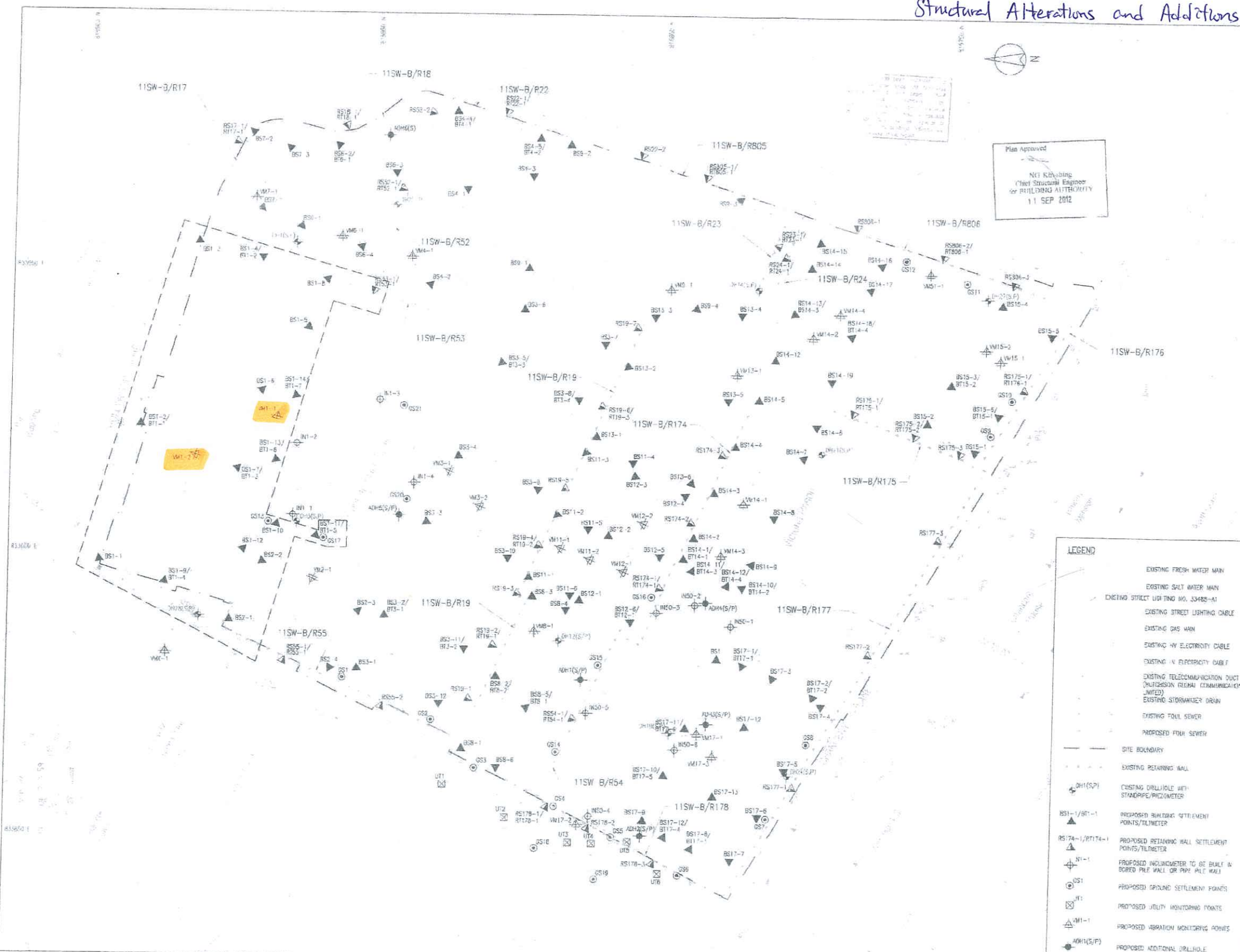
Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

Vibration Record

Project Title: Central Police Station Conservation & Revitalization Project No: WP201 22-Sep-2013 to 5-Oct-2013

POINT		VM14-1#	VM14-2 #	VM14-3	VM14-4				
DATE	PD/(m)	mm/s	mm/s	mm/s	mm/s				
19-Nov-12 (Initial)		0.103	0.112	0.147	0.136				
22-Sep-2013		Sunday							
23-Sep-2013		0.13	0.45	0.16	0.15				
24-Sep-2013		0.15	0.26	0.16	0.14				
25-Sep-2013		0.25	0.26	0.25	0.15				
26-Sep-2013		0.22	0.31	0.26	0.27				
27-Sep-2013		0.27	0.30	0.14	0.23				
28-Sep-2013		0.35	0.63	1.20	0.23				
29-Sep-2013		Sunday							
30-Sep-2013		0.23	0.42	0.25	0.35				
1-Oct-2013		Public Holiday							
2-Oct-2013		0.21	0.21	0.19	0.39				
3-Oct-2013		0.15	0.26	0.58	0.25				
4-Oct-2013		0.16	0.37	0.30	0.42				
5-Oct-2013		0.25	0.16	0.35	0.26				
Remarks									

Structural Alterations and Additions at Block 1



Plan Approved
 NGI Kowloon
 Chief Structural Engineer
 for BUILDING AUTHORITY
 11 SEP 2012

No.	Description	Date	Appr. By
B	ED SUBMISSION (S0)	12/11	JS
A	RD SUBMISSION (01)	03/12	JS
H	RD SUBMISSION (11)	03/12	JS
C	RD SUBMISSION IN BATCH 1	03/12	JS
D	FOR INFORMATION (S0)	05/12	JS
E	RD SUBMISSION (S1)	05/12	JS
F	RD SUBMISSION (S4)	05/12	JS
G	RD SUBMISSION (C3)	05/12	JS
H	ED SUBMISSION (14)	05/12	JS
J	RD SUBMISSION IN BATCH 2	05/12	JS
K	RD SUBMISSION (S607)	07/12	JS
L	RD SUBMISSION (01)(H3)	07/12	JS



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LEGEND

	EXISTING FRESH WATER MAIN
	EXISTING SALT WATER MAIN
	EXISTING STREET LIGHTING NO. 33485-41
	EXISTING STREET LIGHTING CABLE
	EXISTING GAS MAIN
	EXISTING HV ELECTRICITY CABLE
	EXISTING LV ELECTRICITY CABLE
	EXISTING TELECOMMUNICATION DUCT (HIGH/LOW VOLTAGE COMMUNICATIONS JUMPER)
	EXISTING STORMWATER DRAIN
	EXISTING FOUL SEWER
	PROPOSED FOUL SEWER
	SITE BOUNDARY
	EXISTING RETAINING WALL
	EXISTING DRILLHOLE WITH STANDPIPE/PNEUMETER
	PROPOSED BUILDING SETTLEMENT POINTS/TILMETER
	PROPOSED RETAINING WALL SETTLEMENT POINTS/TILMETER
	PROPOSED INCLINOMETER TO BE BUILT IN BORED PILE WALL OR PIPE PILE WALL
	PROPOSED GROUND SETTLEMENT POINTS
	PROPOSED QUALITY MONITORING POINTS
	PROPOSED VIBRATION MONITORING POINTS
	PROPOSED ADDITIONAL DRILLHOLE

Design Consultant
HERZOG & DEMEUREON
 Conservation Architect

Executive Architect: AP
ROCCO
 許晉邦

Structural Engineer: RSE
ARUP
 吳國強

Project Name
**CENTRAL POLICE STATION
 CONSERVATION AND REVITALISATION
 PROJECT**

Drawing Title
MONITORING LAYOUT PLAN

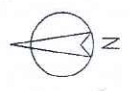
Scale 1:1000	Drawn By 1.JOOBAM	Checked By AL
Drawing No. 00	Revision No. 00	Revision No. 00
00-0AP209674-G-C01 L		



Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

POINT	#VM1-1*	#VM1-2*
DATE	mm/s	mm/s
11-12-12 (Initial)	0.132	0.698
01-Sep-13	Sunday	
02-Sep-13	0.166	0.170
03-Sep-13	0.580	0.303
04-Sep-13	0.138	0.167
05-Sep-13	0.159	0.104
06-Sep-13	0.160	0.102
07-Sep-13	0.095	0.169
08-Sep-13	Sunday	
09-Sep-13	0.139	0.178
10-Sep-13	0.548	0.137
11-Sep-13	0.207	0.087
12-Sep-13	0.335	0.841
13-Sep-13	0.090	0.121
14-Sep-13	0.323	0.446
15-Sep-13	Sunday	
16-Sep-13	0.137	0.112
17-Sep-13	0.120	1.190
18-Sep-13	0.382	0.102
19-Sep-13	0.131	0.108
20-Sep-13	Holiday	
21-Sep-13	0.422	0.583
22-Sep-13	Sunday	
23-Sep-13	0.478	0.639
24-Sep-13	0.147	0.164
25-Sep-13	0.165	0.143
26-Sep-13	0.128	0.870
27-Sep-13	0.172	0.189
28-Sep-13	0.384	0.230
29-Sep-13	Sunday	
30-Sep-13	0.302	0.158

Structural Additions and Alterations at Block 11



Note: This plan has been processed on a computer which uses the computerized processing system as specified in Part 14.19. The user of the software must register the user name and password as specified in the user manual and the user must enter the user name and password at the time of the software operation to ensure the security of the data.

Revision/Submission 校核/提交

No. 编号	Description 说明	Date 日期	Approved 核准
-	BD SUBMISSION (50)	12/11	JS
A	BD SUBMISSION (01)	03/12	JS
B	BD SUBMISSION (17)	03/12	JS
C	BD SUBMISSION RW BATCH 1	03/12	JS
D	FOR INFORMATION (50)	03/12	JS
E	BD SUBMISSION (51)	05/12	JS
F	BD SUBMISSION (04)	05/12	JS
G	BD SUBMISSION (14)	05/12	JS
H	BD SUBMISSION (14)	05/12	JS
J	BD SUBMISSION RW BATCH 2	05/12	JS
K	BD SUBMISSION (06&07)	07/12	JS
L	BD SUBMISSION (01)	07/12	JS
M	BD SUBMISSION (11)	07/12	JS

Plan Approved
CHIONG Kam-yung Jacky
 Chief Structural Engineer
 for BUILDING AUTHORITY
 - 3 OCT 2012



BD SUBMISSION
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LEGEND

	EXISTING FRESH WATER MAIN
	EXISTING SALT WATER MAIN
	EXISTING STREET LIGHTING NC. 33488-A1
	EXISTING STREET LIGHTING CABLE
	EXISTING GAS MAIN
	EXISTING HV ELECTRICITY CABLE
	EXISTING LV ELECTRICITY CABLE
	EXISTING TELECOMMUNICATION DUCT (HUTCHISON GLOBAL COMMUNICATIONS LIMITED)
	EXISTING STORMWATER DRAIN
	EXISTING FOUL SEWER
	PROPOSED FOUL SEWER
	SITE BOUNDARY
	EXISTING RETAINING WALL
	EXISTING DRILLHOLE WITH STANDPIPE/PIEZOMETER
	PROPOSED BUILDING SETTLEMENT POINTS/TILTMETER
	PROPOSED RETAINING WALL SETTLEMENT POINTS/TILTMETER
	PROPOSED INCLINOMETER TO BE BUILT IN BORED PILE WALL OR PIPE PILE WALL
	PROPOSED GROUND SETTLEMENT POINTS
	PROPOSED UTILITY MONITORING POINTS
	PROPOSED VIBRATION MONITORING POINTS
	PROPOSED ADDITIONAL DRILLHOLE

Client 業主

 The Jersey Club CP Limited

Design Consultant
HERZOG & DEMEURON

Conservation Architect

Executive Architect / AP
ROCCO

Structural Engineer / RSE E & M Engineer
ARUP

Project 項目
**CENTRAL POLICE STATION
 CONSERVATION AND REVITALISATION
 PROJECT**

Drawing Table 圖名
MONITORING LAYOUT PLAN

Scale 比例
 1:300 @ A1

Drawn 繪圖
 K.C. Lai

Checked 校核
 AL

Drawing No. 圖號
 00-OAP209674-G-001

Revision 校核
 M

Cost file 00-OAP209674-G-001.dwg



Monitoring Check Pts.	Trigger Levels		
	Alert level	Alarm level	Action level
Vibration Monitoring	2mm/s	2.5mm/s	3mm/s
# Vibration at largest span of highest Structural level	5.0mm/s	6.0mm/s	7.5mm/s

POINT		VM11-1#*	VM11-2*
DATE	PD/(m)	mm/s	mm/s
23-Apr-2012	(Initial)	0.087	0.116
02-Sep-13		0.184	0.400
03-Sep-13		0.116	0.306
04-Sep-13		0.128	0.192
05-Sep-13		0.129	0.147
06-Sep-13		0.153	0.122
07-Sep-13		0.144	0.211
08-Sep-13		SUNDAY	
09-Sep-13		0.157	0.172
10-Sep-13		0.145	0.111
11-Sep-13		0.128	0.274
12-Sep-13		0.180	0.117
13-Sep-13		0.230	0.091
14-Sep-13		0.106	0.113
15-Sep-13		SUNDAY	
16-Sep-13		0.306	0.156
17-Sep-13		0.223	0.288
18-Sep-13		0.311	0.117
19-Sep-13		0.116	0.151
20-Sep-13		HOLIDAY	
21-Sep-13		0.242	0.446
22-Sep-13		SUNDAY	
23-Sep-13		0.087	0.087
24-Sep-13		0.117	0.192
25-Sep-13		0.117	0.086
26-Sep-13		0.131	0.162
27-Sep-13		0.131	0.216
28-Sep-13		0.415	0.336
29-Sep-13		SUNDAY	
30-Sep-13		0.302	0.158