

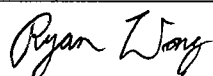
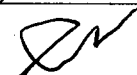
China State – China Railway Joint Venture

CE 28/2004 (GE)

**Landslide Preventive Works at Po Shan Road,  
Mid-Levels – Design and Construction  
(Natural Terrain Risk Mitigation Works)**

**Monthly Operation Phase Landscape and  
Visual Audit Report No. 12**

December 2010

	Name	Signature
Prepared & Checked:	Ryan Wong	
Reviewed & Approved:	Edith Ng	

Version: 0

Date:

10 January 2011

**Disclaimer**

This report is prepared for China State – China Railway Joint Venture and is given for its sole benefit in relation to and pursuant to Landslide Preventive Works at Po Shan Road, Mid-Levels – Design and Construction (Natural Terrain Risk Mitigation Works) and may not be disclosed to, quoted to or relied upon by any person other than China State – China Railway Joint Venture without our prior written consent. No person (other than China State – China Railway Joint Venture) into whose possession a copy of this report comes may rely on this report without our express written consent and China State – China Railway Joint Venture may not rely on it for any purpose other than as described above.

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Ref.: MSLPOSHNEM00\_0\_0272L.11

12 January 2011

By Fax (2730 7110) and Post

Engineer's Representative  
AECOM (Geotechnical)  
20/F Grand Central Plaza, Tower 2  
138 Shatin Rural Committee Road  
Shatin, N.T.  
Hong Kong

Attention: Mr. Lawrence Shek

Dear Mr. Shek,

**Re: Agreement No. CE28/2004 (GE)  
Landslide Preventive Works at Po Shan, Mid-levels  
Monthly Inspection Report (December 2010)  
for Landscape & Visual Audit and Monitoring**

Reference is made to the Monthly Inspection Report for Landscape & Visual Audit and Monitoring for operation phase (December 2010) of the project by the Environmental Team by email on 10 January 2011.

We would like to inform that we have no comment on the captioned report.

Thank you very much for your kind attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,



David Yeung  
Independent Environmental Checker

c.c. AECOM      Attn: Ms. Edith Ng

Fax: 2891 0305

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## 1. Background

- 1.1 The objective of the Project “Landslide Preventive Works at Po Shan, Mid-levels – Design and Construction (Natural Terrain Risk Mitigation Works)” under Contract CE 28/2004 (GE) is to carry out detailed design and supervision of landslide preventive works on local repair of the hillside to minimize slope deterioration and shallow instability.
- 1.2 The Project site is located at the mostly undeveloped hillside above the residential development at Po Shan Road and adjacent to the trimmed back slope on the site of the catastrophic 1972 Po Shan Road failure. Previous studies had been carried out and results indicated that the natural hillside above Po Shan Road is affected by high groundwater level and unfavourable geology. Sub-surface drainage measures by means of sub-horizontal drains had been installed in 1984-85. These measures have been successful in lowering the main ground water table, thus improving the stability of the slopes such that large-scale failure has not occurred in the last twenty years. The proposed landslide preventive works would be constructed to protect the existing residential developments at the toe of the project site.
- 1.3 The scope of works of this Project includes the installation about 700 numbers of soil nails and about 60 numbers of raking drains on the natural terrain within the concerned area. The length of the soil nails is about 20m with a spacing of 2m horizontally and 3m vertically; the length of raking drains is about 10m with a spacing of 5m horizontally and 15m vertically.
- 1.4 AECOM Asia Company Ltd., integrating the operation of ENSR Asia (HK) Ltd. as of 1 May 2009, was employed by the Contractor, China State – China Railway Joint Venture, as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project.
- 1.5 The construction of the Project and the EM&A programme commenced on 1 April 2008. The construction works, including compensatory planting of vegetations, had been completed in December 2009 and the construction phase EM&A programme was terminated on 31 December 2009, as approval by EPD. The operation phase EM&A programme commenced on 1 January 2010.
- 1.6 This report documented the findings of Landscape & Visual Audit and Monitoring works conducted in the operation phase period between 1 and 31 December 2010.
- 1.7 The key personnel contact names and numbers are summarized in Table 1.1

**Table 1.1 Contact Information of Key Personnel**

Party	Position	Name	Telephone	Fax
CEDD	Senior Engineer	H. W. Sun	2762 5375	2714 0247
ER (MGS)	Resident Engineer	Lawrence Shek	2170 6607	2730 7110
	Assistant Resident Engineer	S. F. Chau	2170 6621	2730 7110
IEC (ENVIRON)	Independent Environmental Checker	David Yeung	3743 0788	3548 6988
Contractor (CCJV)	Project Manager	C. Y. Mak	2665 3232	2667 5666
ET (AECOM)	ET Leader	Edith Ng	3105 8525	2891 0305

## 2. LANDSCAPE AND VISUAL

### Monitoring Requirement

- 2.1 During the operation phase of the Project, landscape and visual monitoring should be carried out monthly by a Registered Landscape Architect (RLA) to ensure the compensatory planting and horticultural maintenance operations are properly established during the 12 month establishment period. A detailed report is annexed in Appendix A.

**APPENDIX A  
DETAILED LANDSCAPE AND VISUAL  
MONITORING REPORT**

**Agreement No. CE 28/2004 (GE)**  
**Landslide Preventive Works at Po Shan, Mid-Levels**  
**Design and Construction**  
**(Natural Terrain Risk Mitigation Works)**

**Landscape & Visual Audit and Monitoring**  
**(Operational Phase)**

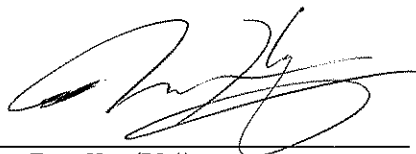
**Monthly Inspection Report No. 12**

**(December 2010)**

Prepared by

URBIS LIMITED

Prepared by :



*Tran Tuan Huy (RLA)*

10<sup>th</sup> January 2011

Approved by :



*Alexander Duggie (RLA)*

10<sup>th</sup> January 2011

## **1.0 INTRODUCTION**

The Landscape and Visual Audit & Monitoring are conducted to fulfill the requirements of the EIA Report during the Construction and Operational Phases of the project, and are based on the procedures and requirements as set out in the Agreement No. CE 28/2004 (GE) Landslide Preventive Works at Po Shan, Mid-Levels – Design and Construction (Natural Terrain Risk Mitigation Works) - Environmental Monitoring and Audit Manual.

As stated in section 3.5 and 3.6 of the EM&A Manual, all landscape and visual mitigation measures undertaken by the Contractor during the construction phase and the first 12 months of the operational phase shall be audited on a bi-weekly and monthly basis respectively to ensure compliance with the intended aims of the mitigation measures.

## **2.0 SCOPE OF AUDIT and MONITORING**

The broad scope of landscape and visual monitoring and audit on mitigation measures is as detailed below:

### **2.1 Construction Phase**

Identify any potential conflicts between the proposed landscape measures and any other project works or operation requirements, and recorded for the contractor to resolve in early stage, without compromising the intention of the mitigation measures. Also, the followings shall be monitored:

- designation of 'no-intrusion zones', and to record any trespass by the contractor, including damage to existing vegetation;
- allowance for adjustment of soil nails on site for the avoidance of tree trunks and tree roots;
- dust and erosion control for exposed soil;
- tree planting operations, checking method statement against specification requirements;
- all retained trees within the working boundary shall be regularly checked and reported to the engineer, including damage to the tree canopy edge.

Considerations shall also be made to address the appearance and view by public through:

- control over the appearance of construction workers, hoarding, construction plants / machines
- careful selection of security floodlights to avoid light pollution

### **2.2 Operation Phase**

Ensure the compensatory planting and horticultural maintenance operations are properly carried out during the 12 months establishment period, including:

- Inspection for fungal / viral attacks and pest infestations
- Litter collection
- Watering
- Weeding removal
- Replacement of defective planting material
- Grass cutting / groundcover trimming and removal of arisings
- Fertilizing application as required in specification
- Aeration / mulching application

**Agreement No. CE 28/2004 (GE)**  
**Landslide Preventive Works at Po Shan, Mid-Levels**  
**Design and Construction (Natural Terrain Risk Mitigation Works)**  
**Landscape & Visual Audit and Monitoring**

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**3.0 INSPECTION**

**3.1 Summary of Inspection – 22<sup>nd</sup> December 2010**

**3.1.1 Matters Arising from Previous Inspections**

- There was no matter arising from the last inspection report.

**3.1.2 Landscape Establishment Works**

- It was generally observed that the shrubs and palm trees under establishment were in healthy condition and well established. Please refer to typical site inspection photos 1 to 12 enclosed under Appendix-B.
- The inspection was the last monthly inspection of the 12-month Establishment Period and no outstanding works was found.

**3.1.3 Recommendations**

- Nil.

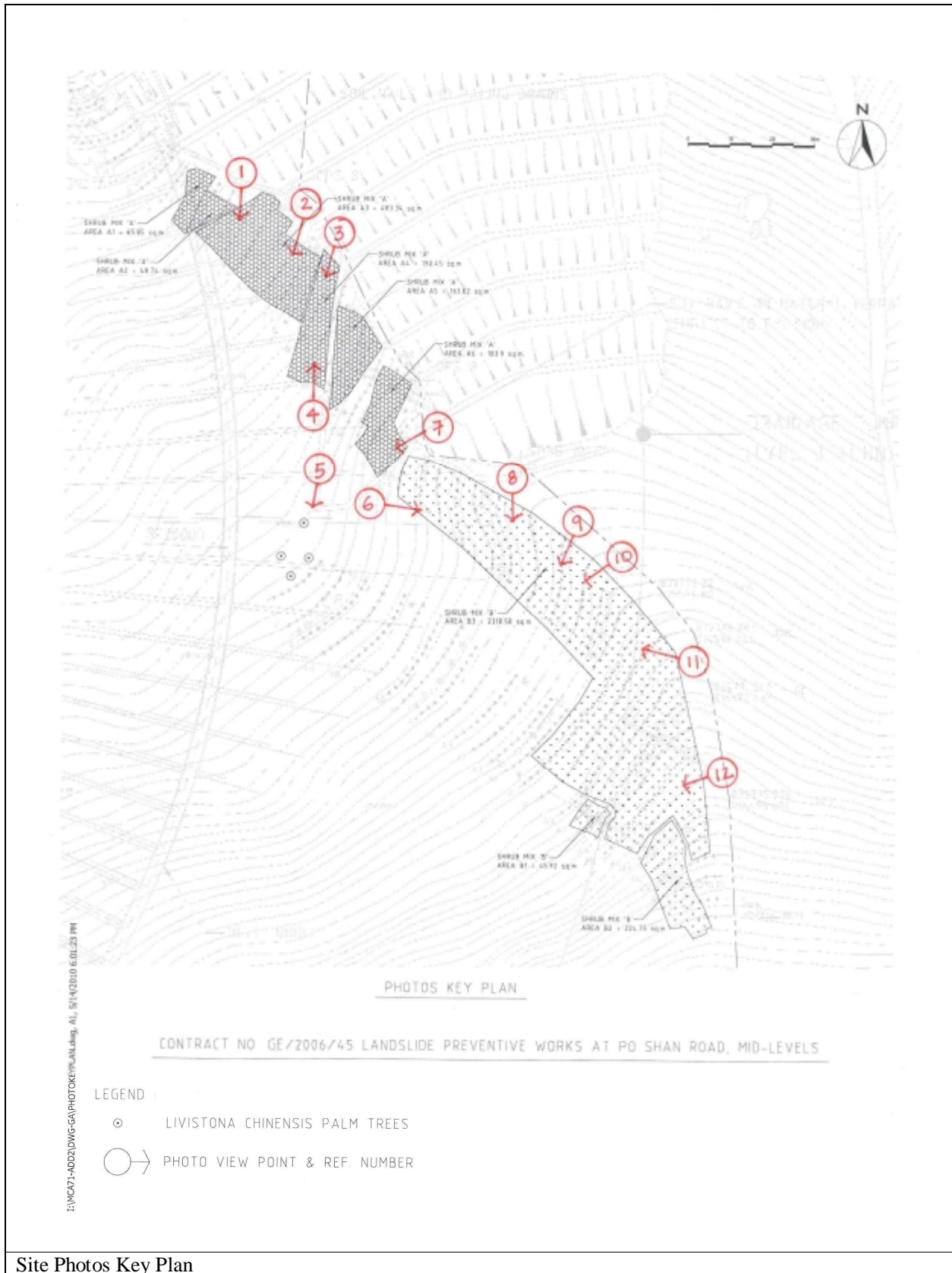
**4.0 AUDIT SCHEULE**

**4.1 This report is the last monthly audit for the Operation Phase of the EM&A Programme.**

**APPENDIX B  
LANDSCAPE AND VISUAL SITE  
INSPECTION PHOTOS**



**Landslide Preventive Works at Po Shan, Mid-Levels  
Design and Construction (Natural Terrain Risk Mitigation Works)  
Landscape & Visual Audit and Monitoring**



Site Photos Key Plan



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12