

**Contract No. GE/2013/35
Landslip Prevention and Mitigation Programme, 2012, Package A
Landslip Prevention and Mitigation Works**

Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, Caine Lane, Mid-Levels

Monthly EM&A Report for August 2017

AECOM Asia Co. Ltd.

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EXECUTIVE SUMMARY

The Project comprises two features which respectively located at the south of the Hong Kong Museum of Medical Sciences (HKMMS) and the northwest of HKMMS, Caine Lane, Mid-levels.

The Consultants, which was engaged by the Geotechnical Engineering Office (GEO) of CEDD, carried out the design and construction supervision of the Project. The Architectural Service Department (ArchSD) is the maintenance department.

The EM&A programme commenced on 5 April 2017.

This report document the findings of EM&A works conducted in the period between 1 and 31 August 2017. As informed by the Contractor, the major activities in the reporting period were:

Location	Site Activities
11SW-A/R94	<ul style="list-style-type: none"> - Drilling of soil nail holes by coring machine - Fixing and installation of soil nail bars - Grouting of soil nails holes - Reinstate the masonry stone facing - Construction of soil nail heads
11SW-A/FR218	<ul style="list-style-type: none"> - Backfilling of top soil - Construction of stairway

Complaint, Notification of Summons and Successful Prosecution

No environmental complaint, notification of summons and successful prosecution were received in the reporting month.

Reporting Changes

There was no reporting change in the reporting month.

Site Inspection by External Parties

No any site inspection by external parties in this Reporting Month.

Future Key Issues

Key issues to be considered in the forthcoming month included:-

Location	Site Activities
11SW-A/R94	<ul style="list-style-type: none"> - Drilling of soil nail holes by coring machine - Fixing and installation of soil nail bars - Grouting of soil nails holes - Reinstate the masonry stone facing - Construction of soil nail heads
11SW-A/FR218	<ul style="list-style-type: none"> - Backfilling of top soil - Construction of stairway

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

1 INTRODUCTION

1.1 Purpose of the Report

1.1.1 This is the fifth monthly EM&A Report which summaries audit findings for the project during the reporting period between 1 and 31 August 2017.

1.2 Report Structure

1.2.1 This monthly EM&A Report is organized as follows:

Section 1: Introduction

Section 2: Project Information

Section 3: Implementation Status of Environmental Mitigation Measures

Section 4: Monitoring Results

Section 5: Environmental Site Inspection and Audit

Section 6: Environmental Non-conformance

Section 7: Government Authority Inspection

Section 8: Future Key Issues

Section 9: Conclusions and Recommendations

Section 10: Adjustment

2 PROJECT INFORMATION

2.1 Background

2.1.1 The Project comprises Feature Nos. 11SW-A/R94 and 11SW-A/FR218 which respectively located at the south of the Hong Kong Museum of Medical Sciences (HKMMS) and the northwest of HKMMS, Caine Lane, Mid-levels. They are located within a "Government, Institution or Community" (G/IC) zone on the Sai Ying Pun & Sheung Wan Outline Zoning Plan (OZP) No. S/H3/29. The location of the Project is shown in Project Profile plan.

2.1.2 The Project Profile (PP) for the above features (Register No.: PP-541/2016) was submitted on 20 June 2016 under the Environmental Impact Assessment Ordinance (EIAO). Following the submitted PP, the Director of Environmental Protection (DEP)'s letter of permission to apply directly for environmental permit on 26 July 2016 (Ref.: DIR-250/2016). Environmental Permit (EP) (EP No. EP-520/2016) was granted on 8 August 2016, which covers Feature Nos. 11SW-A/R94 and 11SW-A/FR218.

2.2 Site Description

2.2.1 The main scope of works for the two features comprises the following as shown:

Feature no. 11SW-A/R94

- Temporary removal of the existing masonry stone facing
- Drilling of soil nail holes by coring machine
- Fixing and installation of soil nail bars
- Grouting of soil nails holes
- Construction of soil nail heads
- Reinstatement of the existing masonry stone facing

Feature no. 11SW-A/FR218

- Pit by pit excavation
- Laying of blinding at the bottom of the excavated pits
- Installation of dowel bars at the back of the existing masonry wall
- Backfilling of the excavated pits by concrete
- Backfilling of top soil
- Landscape works (planter wall, shrubs and hydroseeding)

2.3 Construction Programme and Activities

2.3.1 The major construction activities undertaken in the reporting month were summarised below:

Location	Site Activities
11SW-A/R94	<ul style="list-style-type: none"> - Drilling of soil nail holes by coring machine - Fixing and installation of soil nail bars - Grouting of soil nails holes - Reinstate the masonry stone facing - Construction of soil nail heads
11SW-A/FR218	<ul style="list-style-type: none"> - Backfilling of top soil - Construction of stairway

2.3.2 The construction programme was presented in **Appendix A**.

2.4 Project Personnel

2.4.1 The key personnel contact names and numbers for the Project were summarized in **Table 2.1**.

Table 2.1 Contact Information of Key Personnel

<u>Party</u>	<u>Position</u>	<u>Name</u>	<u>Telephone</u>
AECOM Asia Co. Ltd.	IEC	Gigi Lam	3922 9000
AECOM Asia Co. Ltd.	Resident Engineer	Tommy Poon	3689 2883
Contractor - Geotech Engineering Ltd.	Project Manager	Danise Tang	9183 2621
	Site Agent	Francis Bao	6680 7070

2.5 Status of Environmental Licenses, Notification and Permits

2.5.1 Relevant valid environmental licenses, permits and/or notifications on environmental protection for this Project in the reporting month were summarized in **Table 2.2**.

Table 2.2 Status of Environmental Licenses, Notifications and Permits

Permit / License No. / Notification/ Reference No.	Valid Period		Status	Remarks
	From	To		
<i>Environmental Permit</i>				
EP-520/2016	8-8-2016	-	Valid	-
<i>Billing Account for Construction Waste Disposal</i>				
701982721	30-4-2014	End of Project	Account Active	-

3 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

- 3.1.1 The Contractor had implemented environmental mitigation measures and requirements as stated in the PP and the EP. The implementation status of the environmental mitigation measures during the reporting period was summarized in **Appendix B**. Status of required submissions under the EP during the reporting period was summarised in **Table 3.1**.

Table 3.1 Status of Required Submission under Environmental Permit

<u>EP Condition</u>	<u>Submission</u>	<u>Submission Due Date</u>
Condition 3.2	Monthly Monitoring Report	15 September 2017

4 MONITORING RESULTS

4.1 Waste Management

- 4.1.1 The C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.
- 4.1.2 As advised by the Contractor, some of the inert C&D material had reused on site and both features had limited works which affected by inclement weather in this report month. 6.35t inert C&D material was generated in the reporting month. No paper/cardboard packaging material, metal or plastic was collected by recycling contractor in the reporting month.
- 4.1.3 The record of disposal was summarized in **Appendix C**.
- 4.1.4 The Contractor was advised to properly maintain on site sorting for the C&D materials and wastes collection and recording system and maximize reuse / recycle of the C&D materials and wastes. The Contractor was reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.
- 4.1.5 The total estimated quantities of C&D materials and wastes generated from both features were revised as 310m³.

4.2 Noise Management

- 4.2.1 Noise mitigation measures, which mentioned in PP, had strictly implemented.
- 4.2.2 Noise monitoring was conducted in every week at 6 Noise Sensitive Receiver which mentioned in the PP. The results of the noise level had fully complied with the standard as in the PP.

4.3 Cultural Heritage Management

- 4.3.1 Ground settlement markers, tilting monitoring markers and vibration monitoring points were installed around the construction site.
- 4.3.2 Reading of the ground settlement, tilting monitoring and vibration monitoring were obtained at a daily interval. The reading of the above monitoring had fully complied with the standard in the PP.

4.4 Wastewater Management

- 4.4.1 All wastewater generated from construction activities was collected and pumped to the storage tanks for reuse on site. The surplus water was temporarily stored in the water tanks, when necessary, the suction truck would be deployed to collect the surplus water by a licensed discharge sub-contractor.

5 ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 5.1.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. The summary of the mitigation measures implementation schedule was provided in **Appendix B**.
- 5.1.2 In this reporting month, four joint site inspections with the IEC, RE's representatives and the Contractor were carried out on 3, 10, 17 and 25 August 2017. The IEC site audit checklists were provided in **Appendix D**. No non-compliance was recorded during the site inspections. Details of observations recorded during the site inspections was summarized in **Table 5.1**.

Table 5.1 Observations and Recommendations of Site Audit

<u>Parameters</u>	<u>Date</u>	<u>Observations and Recommendations</u>	<u>Follow-up</u>
Air Quality	Nil	Nil	Nil
Noise	03/08/2017	The door of the noise enclosure near Feature No. 11SW-A/FR218 was not appropriately closed, it was rectified by the Contractor immediately. Advised the Contractor to remind workers to observe good site practice and keep the door always closed.	03/08/2017&10/08/2017
Water Quality	03/08/2017	A portion of sandbag at the slope toe and at the storage area were not properly placed. Advised the Contractor to add sandbags to prevent surface runoff during rainy season.	10/08/2017
	17/08/2017	Sandbags along the site boundary of Feature No. 11SW-A/FR218, facing Sliver Jubilee Mansion, were found to be broken.	25/08/2017
	17/08/2017	A short section of drain near the staircase of Feature No. 11SW-A/FR218 was not properly covered, the Contractor was reminded to properly cover it.	25/08/2017
	25/08/2017	A sandbag along the site boundary of Feature No.: 11SW-A/FR218, facing the staircase, was found to be broken.	01/09/2017
Waste	17/08/2017	Tarpaulin should be provided for packaged waste material.	01/09/2017
Cultural Heritage	Nil	Nil	Nil
Permits/Licenses	Nil	Nil	Nil

6 ENVIRONMENTAL NON-CONFORMANCE

6.1 Summary of Environmental Non-Compliance

6.1.1 No environmental non-compliance was recorded in the reporting month.

6.2 Summary of Environmental Complaints

6.2.1 No environmental complaint was recorded in the reporting month.

6.3 Summary of Environmental Summon and Successful Prosecutions

6.3.1 No environmental related prosecution or notification of summons was received in the reporting month.

7 GOVERNMENT AUTHORITY INSPECTION

- 7.1.1 There was one site inspection carried out by Environmental Protection Department (EPD) on 17/08/2017. No comment was received in the reporting period.

8 FUTURE KEY ISSUES

8.1 Construction Programme for the Forthcoming Month

8.1.1 Potential environmental impacts arising from the below construction activities were mainly associated with construction dust, construction noise, water quality and waste management.

Location	Site Activities
11SW-A/R94	<ul style="list-style-type: none">- Drilling of soil nail holes by coring machine- Fixing and installation of soil nail bars- Grouting of soil nails holes- Reinstate the masonry stone facing- Construction of soil nail heads
11SW-A/FR218	<ul style="list-style-type: none">- Backfilling of top soil- Construction of stairway

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

- 9.1.1 Four environmental site inspections were carried out in August 2017. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audits.
- 9.1.2 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received in this reporting month.

9.2 Recommendations

- 9.2.1 According to the environmental site inspections performed in the reporting month, the following recommendations were provided:

Air Quality Impact

- No specific observation was identified in this reporting month.

Construction Noise Impact

- The Contractor to remind workers to observe good site practice and keep the door of noise enclosure always closed.

Water Quality Impact

- The Contractor should provide sufficient sandbags to prevent surface runoff during rainy season.
- The damaged sandbags along the site boundary of both features should be replaced.
- The whole section of surface drainage should be properly covered.

Waste Management

- The packaged C&D waste material should be properly covered by tarpaulin.

Cultural Heritage

- No specific observation was identified in this reporting month.

Permits/licenses

- No specific observation was identified in this reporting month.

10 ADJUSTMENT

10.1.1 No adjustment in this reporting period.

Appendix A

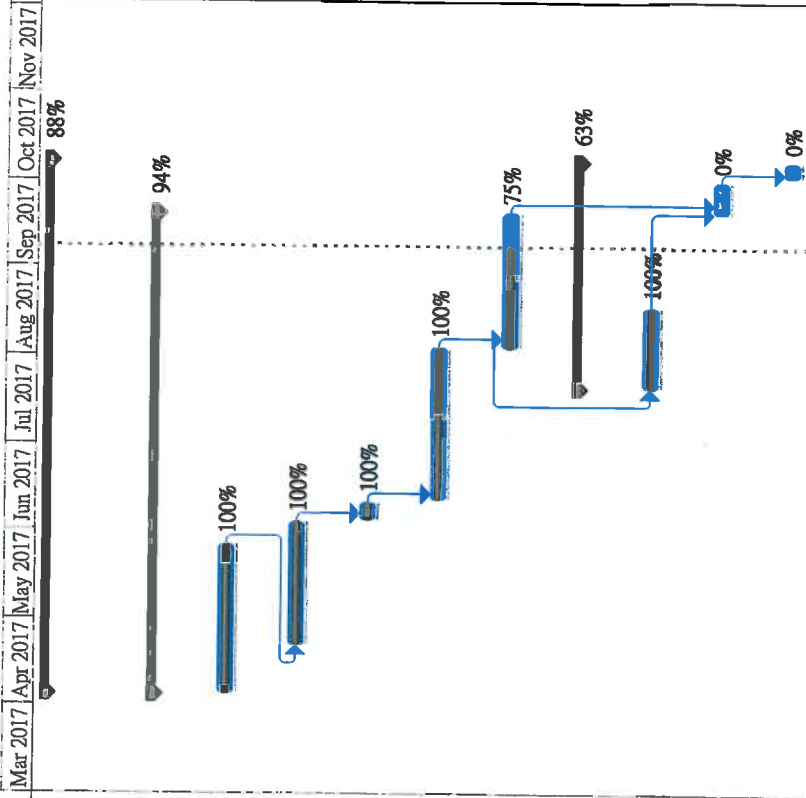
Construction Programme

Landslip Preventive and Mitigation Programme, 2012, Package A Landslip Preventive and Mitigation Works
 Contract No. : GE/2013/35 Works Order Nos. : LPM201335/62/AFR218
 Slope No. & Location : 11SW-A/FR218 Pathological Institute, Caine Lane, Mid-Levels

Contractor : Geotech Engineering Limited
 Programme Date : 08/09/2017 Revision No. : 14
 Commencement Date : 05/04/2017 Anticipated Completion Date : 07/10/2017

UPDATED WORKS PROGRAMME

ID	Description	Quantity	Duration	Start	Finish
1	Feature No.11SW-A/FR218 Pathological Institute, Caine Lane, Mid-Levels		151 days	2017/4/5	2017/10/7
2	GEOTECHNICAL WORKS		137 days	2017/4/5	2017/9/19
3	Pit Excavation and install shoring system	360 cu.m.	40 days	2017/4/5	2017/5/26
4	Backfilling with Mass Concrete	250 cu.m.	34 days	2017/4/22	2017/6/3
5	Construction Wall Stem of Wall Thickening	18m (L)	6 days	2017/6/5	2017/6/10
6	Construction for Mass Concrete Planter Wall	18m (L)	45 days	2017/6/12	2017/8/3
7	Filling of compacted fill	73.5 cu.m.	40 days	2017/8/4	2017/9/19
8	MISCELLANEOUS		66 days	2017/7/21	2017/10/7
9	Construction of concrete staircase	8.0m	24 days	2017/7/21	2017/8/17
10	Masonry Works for Wing Wall and Planter Wall	80.0 sq.m.	10 days	2017/9/20	2017/9/30
11	Hydroseeding & Planting Works	120.0 sq.m. & 960 mrs	4 days	2017/10/3	2017/10/7



Remark:

1. The above duration is based on working days.

Prepared By :

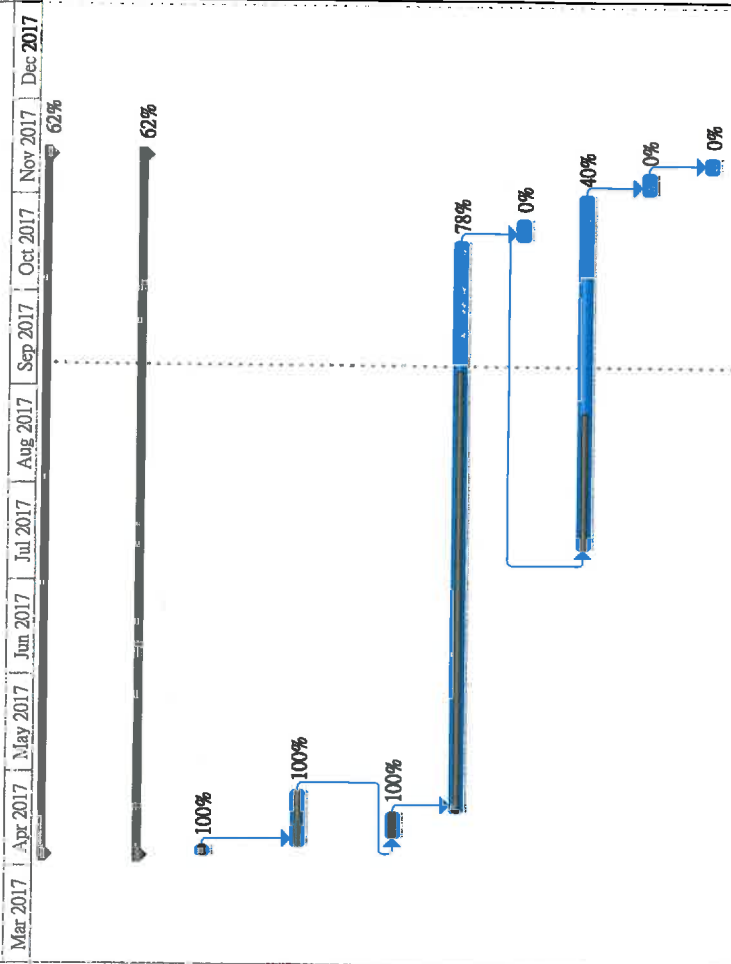
Landslip Preventive and Mitigation Programme, 2012, Package A -
 Contract No. : GE/2013/35 Works Order No. : LPM201335/14/AR94
 Slope No. & Location : 11SW-AR94 Hong Kong Museum of Medical Science, No.2 Caine Lane, Mid-Levels

Landslip Preventive and Mitigation Works

Contractor : Geotech Engineering Limited
 Programme Date : 08/09/2017 Revision No. : 14
 Commencement Date : 05/04/2017 Anticipated Completion Date : 13/11/2017

UPDATED WORKS PROGRAMME

ID	Description	Quantity	Duration	Start	Finish
1	Feature No.11SW-AR94 Hong Kong Museum of Medical Science		181 days	2017/4/5	2017/11/13
2	GEO TECHNICAL WORKS		181 days	2017/4/5	2017/11/13
3	Erection and modification of Base Scaffolding and Temporary Working Platform	1 item	3 days	2017/4/5	2017/4/7
4	Take up and store existing Masonry Stones (approx. 0.5m x 0.5m each no.)	70 nos.	12 days	2017/4/8	2017/4/25
5	Install Test Nails and carry out Pull Out Test	2 nos.	4 days	2017/4/11	2017/4/18
6	Soil Nailing Works	62 ms.	150 days	2017/4/19	2017/10/17
7	Installation of Raking Drains	4 nr.	6 days	2017/10/18	2017/10/24
8	Construction of Soil Nail Heads	62 ms.	94 days	2017/7/12	2017/11/1
9	Reinstatement of existing Masonry Stones	70 nos.	6 days	2017/11/2	2017/11/8
10	Dismantle Temporary Working Platform and Base Scaffolding	1 item	4 days	2017/11/9	2017/11/13



Remark:

1. The above duration is based on working days.

Prepared By :

Appendix B

Environmental Mitigation Implementation Schedule

Appendix B Environmental Mitigation Implementation Schedule

Potential Environmental Impacts	Proposed Mitigation Measures
Air Quality	
<ul style="list-style-type: none"> Fugitive dust emissions from construction activities including site formation, drilling, and wind erosion of the excavated areas 	<ul style="list-style-type: none"> Dust suppression measures as stipulated in the <i>Air Pollution Control (Construction Dust) Regulation (Cap. 311R) of Air Pollution Control Ordinance (APCO) (Cap. 311)</i> Good site practices
Noise	
<ul style="list-style-type: none"> Construction noise from the use of powered mechanical equipment (PME) for the construction activities 	<ul style="list-style-type: none"> Use of quieter PME Use of noise enclosure Use of movable noise barrier Use of noise insulating fabric for certain PME Good site practices
Water Quality	
<ul style="list-style-type: none"> Water pollution from uncontrolled surface runoff and erosion of exposed soil, earthworks and stockpiles during storm events Muddy water from construction activities such as dust suppression sprays, dewatering during excavation and washing of construction equipment 	<ul style="list-style-type: none"> Good site practices as per <i>Professional Persons Environmental Consultative Committee Practice (ProPECC) Note PN 1/94 "Construction Site Drainage"</i>
Waste Management	
<ul style="list-style-type: none"> Certain amount of C&D materials from construction works 	<ul style="list-style-type: none"> Good waste management plan, practices and waste reduction measures Disposal of C&D materials should be managed in accordance with the <i>Development Bureau Technical Circular (Works) DEVB TC(W) No. 6/2010 "Trip Ticket System for Disposal of Construction & Demolition Materials"</i>. Proper storage, collection and transportation to designated destination of waste, including C&D materials, general refuse and chemical wastes On-site sorting of all C&D materials to inert or non-inert
Ecology	
<ul style="list-style-type: none"> No adverse ecological impact is expected. 	<ul style="list-style-type: none"> Not required
Cultural Heritage	
<ul style="list-style-type: none"> Indirect impact to the historic feature, such as extension of existing cracks on the structures within the Monument or the dislocation of the roof tiles on the Main Building and Annex Block, by ground-borne vibration from the use of PME 	<ul style="list-style-type: none"> Conduct condition survey at the existing components of the Monument prior to the commencement of the construction work Provide protective measures to the structure of HKMMS subject to results of condition survey Provide tarpaulin curtain to protect the Annex Block during the construction phase Conduct detailed photographic and cartographic recording of Feature No. 11SW-A/FR218 to the satisfaction of AMO before the affected masonry work is temporarily removed for the slope works Install ground settlement markers, tilting

	<p>monitoring markers and vibration monitoring points during the active construction period and obtain readings at a daily interval</p> <ul style="list-style-type: none">● Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94● Reserve clearance distance between the proposed soil nails at Feature No. 11SW-A/R94 and the Annex Block (including the columns in front of the masonry wall)● Reinstate the masonry wall of the Feature No. 11SW-A/R94 after the upgrading works● Adopt Manual pit by pit excavation● Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218
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Appendix C

Record of Disposal

Records of Disposal of INERT C & D Materials

Month August year 2017

Disvision: GEO / CEDD

Contract No.: GE/2013/35

Contract Title: Landslip Prevention and Mitigation Programme, 2012, Package A, Landslip Prevention and Mitigation Works.

(Inert)

Site Location: 1) 11SW-A/FR218

Contractor: Geotech Engineering Limited.

DDF No. ¹	Date of Disposal	Disposal Site ²	Vehicle Reg. No.	Time of Departure	Proportion of Truckload	Time of Disposal	Date of DDF & Receipt submitted by Contractor	Receipt No.	Late Return of DDF and / or Receipt	Vol. (m ³) / Wt. (t) (Where applicable)	Total Vol. (m ³) / Wt. (t) (Where applicable)
17630243	17/8/2017	CW-PFBP	CZ9006	11:25	3/4	12:01	19/8/2017	170077075	Nil	6.35 t	6.35 t



Submitted by: Geotech Engineering Limited.

Signature:

Name/Post: Cyrus Li / Safety Officer

Date: 4-9-2017

Records of Disposal of INERT C & D Materials

Month August year 2017

Disivision: GEO / CEDD

Contract No.: GE/2013/35

Contract Title: Landslip Prevention and Mitigation Programme, 2012, Package A, Landslip Prevention and Mitigation Works.

(Inert)

Site Location: 1) 11SW-A/R94

Contractor: Geotech Engineering Limited.

DDF No.1	Date of Disposal	Disposal Site ²	Vehicle Reg. No.	Time of Departure	Proportion of Truckload	Time of Disposal	Date of DDF & Receipt submitted by Contractor	Receipt No.	Late Return of DDF and / or Receipt	Vol. (m ³) / Wt. (t) (Where applicable)	Total Vol. (m ³) / Wt. (t) (Where applicable)
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											



Submitted by: Geotech Engineering Limited.

Signature:

Name/Post: Cyrus Li / Safety Officer

Date: 4-9-2017

Appendix D

IEC Site Audit Checklist

Project: Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels
Inspection Date: 3 August 2017
Time: 15:30 pm
Inspection Area:
 Feature No. 11SW-A/R94
 Feature No. 11SW-A/R218
 HKMMS & its Annex Block

Inspected by
Client: CEDD
ER: AECOM
IEC: AECOM
ET: N/A
Contractor: Geotech Engineering Ltd.

PART A: GENERAL INFORMATION

Weather: Sunny Fine Cloudy Rainy
Temperature: ~ 30 °C
Humidity: High Moderate Low
Wind: Strong Breezy Light Calm

PART B: SITE AUDIT

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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Section 1: Water Quality

1.01	Obtained an effluent discharge license.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Item (A)
1.02	Provision of sedimentation tank.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "1"
1.04	Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Good site practices should be adopted to remove rubbish and litter from construction site so as to prevent the rubbish and litter from spreading the site area. And, it would be cleaned the construction sites on a regular basis.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Manholes are adequately covered and temporarily sealed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Some procedures and equipment for rainstorm protection are provided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Measures to prevent leaked oil from entering the drainage system are provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Section 2: Air Quality

2.01	Use of regular watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Use of frequent watering for particularly dusty static construction area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Hoarding are not less than 2.4m tall provided at areas with public access.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Public road around the site entrance should be kept clean and free from dust.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Mechanical covers of all dump trucks entering or leaving the site are in good services conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Dark smoke emission from plant/equipment should be avoided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks	
Section 3: Noise							
3.01	All plants are well maintained and in good operating condition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	All the plants should be serviced regularly during the construction program.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Use of noise enclosure for static PME.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "2"
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Idle equipment should be turned off or throttled down.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Where possible, quieter PME should be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Section 4: Waste/Chemical Management							
4.01	Training of site personnel in site cleanliness and proper waste management.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Provision of sufficient waste disposal point and regular collection of waste.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Regular cleaning and maintenance for drainage systems.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Waste should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Storage area should be provided with covers and, if necessary, water spraying system to prevent materials for wind-blown or being washed away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	On-site sorting of all C&D materials to inert or non-inert.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	The panels have hold legible red English words and Chinese characters "CHEMMICAL WASTE" "化學廢物" note less than 60mm high on a white background.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Section 5: Landscape & Visual							
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Section 6: Culture Heritage							
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.02	Install ground settlement makers, tilting monitor makers and vibration monitoring points during the active construction period and obtain readings at a daily interval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.04	Reserve clearance distance, 600mm, between the proposed soil nails at Feature No. 11SW-A/R94 and the Annex Block (including the columns in front of the masonry wall).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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Section 7: Others

7.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?

Not Obs.
 Yes
 No
 Follow up
 N/A

Remarks

Item (A) Wastewater and runoff is collected and pumped to storage tanks for reuse on the site. Suction truck will be arranged to collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above measures, no effluent discharge license is required.

Follow-up Observation(s)

Item "1" For Feature No. 11SW-A/R94, it was noted that a portion of sandbag at the slope toe and at the storage area were not properly placed. Advised the Contractor to add sandbags to prevent surface runoff during rainy season.

Item "2" The door of the noise enclosure structure near Feature No. 11SW-A/FR218 was not appropriately closed. Although it was rectified by the Contractor immediately, advised the Contractor to remind workers to observe good site practice and keep the door always closed.

~~Client~~

ER

ENPO/IEC

~~ET~~

Contractor

()



(Mr. Tommy Poon)



(Ms. Gigi Lam)

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(Mr. Francis Bao)

Project: Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels
Inspection Date: 10 August 2017
Time: 15:30 pm
Inspection Area: Feature No. 11SW-A/R94
 Feature No. 11SW-A/R218
 HKMMS & its Annex Block

Inspected by: _____
Client: CEDD
ER: AECOM
IEC: AECOM
ET: N/A
Contractor: Geotech Engineering Ltd.

PART A: GENERAL INFORMATION

Weather: Sunny Fine Cloudy Rainy
Temperature: ~ 30 °C
Humidity: High Moderate Low
Wind: Strong Breezy Light Calm

PART B: SITE AUDIT

Section 1: Water Quality

Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
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1.01	Obtained an effluent discharge license.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Item (A)
1.02	Provision of sedimentation tank.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Item "1"
1.04	Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Good site practices should be adopted to remove rubbish and litter from construction site so as to prevent the rubbish and litter from spreading the site area. And, it is would be cleaned the construction sites on a regular basis.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Manholes are adequately covered and temporarily sealed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Some procedures and equipment for rainstorm protection are provided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Measures to prevent leaked oil from entering the drainage system are provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Section 2: Air Quality

2.01	Use of regular watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Use of frequent watering for particularly dusty static construction area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Hoarding are not less than 2.4m tall provided at areas with public access.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Public road around the site entrance should be kept clean and free from dust.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Mechanical covers of all dump trucks entering or leaving the site are in good services conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Dark smoke emission from plant/equipment should be avoided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks	
Section 3: Noise							
3.01	All plants are well maintained and in good operating condition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	All the plants should be serviced regularly during the construction program.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Use of noise enclosure for static PME.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Item "2"
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Idle equipment should be turned off or throttled down.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Where possible, quieter PME should be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Section 4: Waste/Chemical Management							
4.01	Training of site personnel in site cleanliness and proper waste management.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Provision of sufficient waste disposal point and regular collection of waste.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Regular cleaning and maintenance for drainage systems.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Waste should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Storage area should be provided with covers and, if necessary, water spraying system to prevent materials for wind-blown or being washed away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	On-site sorting of all C&D materials to inert or non-inert.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	The panels have hold legible red English words and Chinese characters "CHEMMICAL WASTE" "化學廢物" note less than 60mm high on a white background.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Section 5: Landscape & Visual							
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Section 6: Culture Heritage							
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.02	Install ground settlement makers, tilting monitor makers and vibration monitoring points during the active construction period and obtain readings at a daily interval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.04	Reserve clearance distance, 600mm, between the proposed soil nails at Feature No. 11SW-A/R94 and the Annex Block (including the columns in front of the masonry wall).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
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Section 7: Others

7.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?

Remarks

Item (A) Wastewater and runoff is collected and pumped to storage tanks for reuse on the site. Suction truck will be arranged to collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above measures, no effluent discharge license is required.

Follow-up Observation(s)

Item "1" Sandbags have added at the slope toe and the storage area of Feature No. 11SW-A/R94 to prevent surface runoff. [closed]

Item "2" The Contractor has added a lock to ensure the door of the noise enclosure structure near Feature No. 11SW-A/FR218 is securely closed. [closed]

~~Client~~

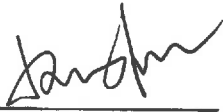
ER


ENPO/IEC

~~ET~~

Contractor

()


(Mr. Tommy Poon)


(Ms. Gigi Lam)

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(Mr. Francis Bao)

Project: Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels
Inspection Date: 17 August 2017
Time: 16:00 pm
Inspection Area: Feature No. 11SW-A/R94
 Feature No. 11SW-A/R218
 HKMMS & its Annex Block

Inspected by
Client: CEDD
ER: AECOM
IEC: AECOM
ET: N/A
Contractor: Geotech Engineering Ltd.

PART A: GENERAL INFORMATION

Weather: Sunny Fine Cloudy Rainy
Temperature: ~ 30 °C
Humidity: High Moderate Low
Wind: Strong Breezy Light Calm

PART B: SITE AUDIT

Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
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Section 1: Water Quality

1.01	Obtained an effluent discharge license.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Item (A)
1.02	Provision of sedimentation tank.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "1"
1.04	Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "2"
1.05	Good site practices should be adopted to remove rubbish and litter from construction site so as to prevent the rubbish and litter from spreading the site area. And, it is would be cleaned the construction sites on a regular basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.06	Manholes are adequately covered and temporarily sealed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Some procedures and equipment for rainstorm protection are provided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"Item 3"
1.08	Measures to prevent leaked oil from entering the drainage system are provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Section 2: Air Quality

2.01	Use of regular watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Use of frequent watering for particularly dusty static construction area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Hoarding are not less than 2.4m tall provided at areas with public access.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Public road around the site entrance should be kept clean and free from dust.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Mechanical covers of all dump trucks entering or leaving the site are in good services conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Dark smoke emission from plant/equipment should be avoided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks	
Section 3: Noise							
3.01	All plants are well maintained and in good operating condition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	All the plants should be serviced regularly during the construction program.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Use of noise enclosure for static PME.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Idle equipment should be turned off or throttled down.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Where possible, quieter PME should be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Section 4: Waste/Chemical Management							
4.01	Training of site personnel in site cleanliness and proper waste management.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Provision of sufficient waste disposal point and regular collection of waste.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Regular cleaning and maintenance for drainage systems.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Storage area should be provided with covers and, if necessary, water spraying system to prevent materials for wind-blown or being washed away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	On-site sorting of all C&D materials to inert or non-inert.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	The panels have hold legible red English words and Chinese characters "CHEMMICAL WASTE" "化學廢物" note less than 60mm high on a white background.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Section 5: Landscape & Visual							
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Section 6: Culture Heritage							
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.02	Install ground settlement makers, tilting monitor makers and vibration monitoring points during the active construction period and obtain readings at a daily interval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.04	Reserve clearance distance, 600mm, between the proposed soil nails at Feature No. 11SW-A/R94 and the Annex Block (including the columns in front of the masonry wall).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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Section 7: Others

7.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?

Remarks

Item (A) Wastewater and runoff is collected and pumped to storage tanks for reuse on the site. Suction truck will be arranged to collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above measures, no effluent discharge license is required.

Follow-up Observation(s)

Item "1" Sandbags along the site boundary of Feature No. 11SW-A/FR218, facing Silver Jubilee Mansion, were found to be broken. Requested the Contractor to replace those broken sandbags immediately.

Item "2" Tarpaulin should be provided for the packaged waste material temporarily placed at Feature No. 11SW-A/R94.

Item "3" A short section of drain near the staircase of 11SW-A/FR218 was covered incompletely, reminded the Contractor to well cover it.

~~Client~~

ER

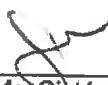
~~ENPO/IEC~~

~~ET~~

Contractor



(Mr. Tommy Poon)



(Ms. Gigi Lam)



(Mr. Francis Bao)

Project: Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels
Inspection Date: 25 August 2017
Time: 15:40 pm
Inspection Area: Feature No. 11SW-A/R94
 Feature No. 11SW-A/R218
 HKMMS & its Annex Block

Inspected by: _____
Client: CEDD
ER: AECOM
IEC: AECOM
ET: N/A
Contractor: Geotech Engineering Ltd.

PART A: GENERAL INFORMATION

Weather: Sunny Fine Cloudy Rainy
Temperature: ~ 30 °C
Humidity: High Moderate Low
Wind: Strong Breezy Light Calm

PART B: SITE AUDIT

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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Section 1: Water Quality

1.01	Obtained an effluent discharge license.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Item (A)
1.02	Provision of sedimentation tank.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "1"
1.04	Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "2"
1.05	Good site practices should be adopted to remove rubbish and litter from construction site so as to prevent the rubbish and litter from spreading the site area. And, it is would be cleaned the construction sites on a regular basis.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Manholes are adequately covered and temporarily sealed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Some procedures and equipment for rainstorm protection are provided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Item "3"
1.08	Measures to prevent leaked oil from entering the drainage system are provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Section 2: Air Quality

2.01	Use of regular watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Use of frequent watering for particularly dusty static construction area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Hoarding are not less than 2.4m tall provided at areas with public access.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Public road around the site entrance should be kept clean and free from dust.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Mechanical covers of all dump trucks entering or leaving the site are in good services conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Dark smoke emission from plant/equipment should be avoided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
Section 3: Noise						
3.01	All plants are well maintained and in good operating condition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.02	All the plants should be serviced regularly during the construction program.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.03	Use of noise enclosure for static PME.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.06	Idle equipment should be turned off or throttled down.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.07	Where possible, quieter PME should be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Section 4: Waste/Chemical Management						
4.01	Training of site personnel in site cleanliness and proper waste management.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.02	Provision of sufficient waste disposal point and regular collection of waste.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.03	Regular cleaning and maintenance for drainage systems.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.05	Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.07	Storage area should be provided with covers and, if necessary, water spraying system to prevent materials for wind-blown or being washed away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.09	On-site sorting of all C&D materials to inert or non-inert.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.10	The panels have hold legible red English words and Chinese characters "CHEMMICAL WASTE" "化學廢物" note less than 60mm high on a white background.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Section 5: Landscape & Visual						
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section 6: Culture Heritage						
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.02	Install ground settlement makers, tilting monitor makers and vibration monitoring points during the active construction period and obtain readings at a daily interval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.04	Reserve clearance distance, 600mm, between the proposed soil nails at Feature No. 11SW-A/R94 and the Annex Block (including the columns in front of the masonry wall).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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Section 7: Others

7.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?

Remarks

Item (A) Wastewater and runoff is collected and pumped to storage tanks for reuse on the site. Suction truck will be arranged to collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above measures, no effluent discharge license is required.

Follow-up Observation(s)

Item "1" Those broken sandbags observed in the last audit were replaced and protected by a layer of concrete. However, a sandbag along the site boundary of Feature No. 11SW-A/FR218, facing the staircase, was found to be broken. Requested the Contractor to replace it immediately.

Item "2" Observed that some packaged waste material still have not been well covered by tarpaulin. Reminded the Contractor to cover it.

Item "3" The short section of drain near the staircase of 11SW-A/FR218 was well covered. [closed]

~~Client~~

ER

~~ENPO/IEC~~

~~ET~~

Contractor



(Mr. Tommy Poon)



(Ms. Gigi Lam)



(Mr. Francis Bao)