

**AUES PROJECT No.: TCS/00814/15**



**EP-502/2015/A**

**OPERATION OF THE EXISTING TAI LAM EXPLOSIVES  
MAGAZINE AT TAI SHU HA, YUEN LONG FOR  
LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL  
POINT PROJECT**

**FINAL ENVIRONMENTAL MONITORING AND AUDIT  
(EM&A) SUMMARY REPORT**

**PREPARED FOR  
DRAGAGES HONG KONG LIMITED**

**Quality Index**

<b>Date</b>	<b>Reference No.</b>	<b>Prepared By</b>	<b>Approved By</b>
22 July 2020	TCS00684/13/600/R0089v7	 Ben Tam (Environmental Consultant)	 Tam Tak Wing (Environmental Team Leader)

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1	29 August 2019	First submission
2	4 September 2019	Amended against the IEC's comments on 3 September 2019
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6	20 July 2020	Updated against the joint site inspection with EPD on May 2020
7	22 July 2020	Amended against the IEC's comments on 22 July 2020

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Your reference:

Our reference: HKDHL01/50/106658

Date: 22 July 2020

Attention: Mr Simon Wong

**BY EMAIL & POST**

**(email:**

**simon.wong@dragageshk.com)**

Dear Sirs

Contract No.: CV/2012/08  
Liantang / Heung Yuen Wai Boundary Control Point  
Site Formation and Infrastructure Works – Contract 2  
Consultancy Agreement No. CV/2012/08-CA031 – Independent Environmental Checker Services  
for Explosives Magazine at Tai Shu Ha  
Final EM&A Summary Report (Version 7)

We refer to emails of 21 and 22 July 2020 attaching a Final EM&A Summary Report (Version 7) prepared by the Environmental Team (ET) for the captioned project.

We have no further comment and hereby verify the captioned report in accordance with Clause 3.2 of the Environmental Permit no. EP-502/2015/A.

Please do not hesitate to contact the undersigned on 2618 2831 should you have any queries.

Yours faithfully  
ANEWR CONSULTING LIMITED



Adi Lee

Independent Environmental Checker

LYMA/lhnh

cc AUES – Mr Ben Tam (email: bentam@fordbusiness.com)

## EXECUTIVE SUMMARY

- ES.01. The existing Tai Lam Explosives Magazine (TLEM) has been licensed and was in used by the MTR Corporation Limited (MTRC) for the construction of the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) until end of February 2016, under Environmental Permit No. EP-349/2009/L, being used by the MTR XRL 824 Contractor.
- ES.02. The TLEM was handed over to Dragages Hong Kong Limited (hereinafter referred as Dragages or “permit holder”) in early March 2016 and start operating for storage the explosives for tunnel works of CEDD Contract CV/2012/08 - Liantang/Heung Yuen Wai Boundary Control Point and Associated Works Contract 2 (hereinafter referred as “the Project”). Operation of TLEM is a Designated Project to be implemented under Environmental Permit number EP-502/2015/A (hereinafter referred as “the EP-502/2015/A” or “the EP”).
- ES.03. Dragages Hong Kong Limited (DHK) has appointed Action-United Environmental Services and Consulting (AUES) as the independent Environmental Team (ET) to implement the relevant EM&A program.
- ES.04. There are three phases in this project, operation, decommissioning and completion of project phase. During the operation phase no noise, air quality, water quality and ecological monitoring is required according to the EP requirement.
- ES.05. The TLEM was started operate by DHK on March 2016 and the blasting work for Liantang/Heung Yuen Wai Boundary Control Point Project – Contract 2 was completed on 15 August 2017. The Tai Shu Ha Magazine was closed after 17 August 2017. Decommissioning phase was commenced in mid of November 2017. But due to the construction programme arrangement, the decommission works was idled until 21 January 2018 and completed at the end of March 2018.
- ES.06. After the decommission works of TLEM was completed, reinstatement planting works was commenced on **23 April 2018** according to the *XRL EIA Vegetation Survey Report for Tai Shu Ha Road West* and the *Tree Planting and Landscape Plan TLP-10: Works in Yuen Long District (Tai Shu Ha)* (Completion of Project Phase). All reinstatement planting works was completed in July 2019 and the Tai Shu Ha Magazine had been handover to Land’s Department on 24 July 2019.
- ES.07. This is the Final EM&A Summary Report for the Operation of Existing TLEM under EP-502/2015/A which presents the EM&A works throughout the three phases of the project between 1<sup>st</sup> March 2016 and 23<sup>rd</sup> July 2019 and one year maintenance period between 24<sup>th</sup> July 2019 to 23<sup>rd</sup> July 2020.
- ES.08. The EM&A Programme was undertaken in accordance with the relevant EM&A Manual. A summary of the monitoring activities in all phases is listed in the following table:

**Table ES-1 Environmental Monitoring Activities throughout the Construction Phase**

Issues	Environmental Monitoring Parameters / Inspection	Occasions
Inspection / Audit	ET Regular Environmental Site Inspection	<b>60 Events</b>
	IEC Monthly Environmental Site Audit	<b>53 Events</b>

- ES.09. Throughout the operation, decommissioning, completion of project phase and maintenance period, no environmental complaint was received. Also, there were no documented notifications of summons and successful prosecutions received during three phases. Thus, no associated mitigation action was needed.
- ES.10. The joint site inspection had been carried out with EPD, IEC and ET on 6 May 2020, some deficiencies were observed during the inspection. Therefore, the EM&A programme were carried on until the deficiencies had been rectified. According to the site inspection with IEC and the Main Contractor (Permit Holder) on 20 July 2020, all the deficiencies had been rectified and the reinstatement condition of the TLEM is general satisfactory.

- ES.11. In general, audit results indicated that the implemented environmental mitigation measures were effective to alleviate adverse environmental impacts generated from the Project, confirming that the EIA predictions on the environmental impacts and the associated recommendations on the environmental mitigation measures were precise.
- ES.12. According to the approved EIA Report, operation of the existing facility will remain similar to the existing operation as described in the XRL EIA and the decommissioning works will only affect the existing TLEM which classified as developed areas of negligible ecological value, and therefore is not considered to cause any direct ecological impacts to habitats including streams or to species.
- ES.13. The current Project extends the operating time of the TLEM, it cause the reinstatement planting needed to be postponed by three years. The reinstatement of the TLEM is principally in order to restore the habitat back to borrow area reinstatement plantation and relative to the whole borrow area reinstatement plantation, it is a very small area. With regard to the impact of postponing the reinstatement planting by three years on habitat, this time period is relatively small with regards to vegetation succession and establishment of soils. Therefore, no adverse impact is expected on habitats.
- ES.14. Overall, the environmental protection performance of the operation, decommissioning and reinstatement planting works under the Project was in general satisfactory.

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## 1 INTRODUCTION

### *Project Background*

- 1.01 The existing Tai Lam Explosives Magazine (TLEM) has been licensed and was in used by the MTR Corporation Limited (MTRC) for the construction of the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) until end of February 2016, under Environmental Permit No. EP-349/2009/L, being used by the MTR XRL 824 Contractor.
- 1.02 The TLEM was handed over to Dragages Hong Kong Limited (hereinafter referred as Dragages or “permit holder”) in early March 2016 and start operating for storage the explosives for tunnel works of CEDD Contract CV/2012/08 - Liantang/Heung Yuen Wai Boundary Control Point and Associated Works Contract 2 (hereinafter referred as “the Project”). Operation of TLEM is a Designated Project to be implemented under Environmental Permit number EP-502/2015/A issued on 21 September 2016 (hereinafter referred as “the EP-502/2015/A” or “the EP”).
- 1.03 The Project is located at the existing TLEM in Tai Shu Ha (Land Allocation GLA-TYL 1288), Yuen Long District, New Territories. The location and site plan of the Project are shown in [Appendix A](#). The existing TLEM is composed of the following components:
- Two stores each with a capacity of 400 kg explosives;
  - Secure fence;
  - CCTV system;
  - Guard house; and
  - Street fire hydrant water tank (245 m<sup>3</sup>) and 2 pumps.
- 1.04 Action-United Environmental Services & Consulting (hereinafter referred as “AUES”) was appointed by Dragages as an Environmental Team (hereinafter referred as “the ET”) to implement the relevant EM&A program in accordance with the EM&A Manual, as well as the associated duties.
- 1.05 According to the EP-502/2015/A. There are three phases in this project, operation, decommissioning and completion of project phase. During the operation phase no noise, air quality, water quality and ecological monitoring is required according to the EP requirement. When decommissioning phase was commenced, audit of implementation of general good site practice including for disposal of waste, control of water quality and noise should be undertaken for the project. After the decommissioning works was completed and the TLEM has been removed, audit of implementation of recommended mitigation measures for ecology (and landscape) will be undertaken as determined in the EIA and to meet the re-instatement planting requirements for this site in XRLs EP- 349/2009/L.
- 1.06 The TLEM was started operated by Dragages at March 2016 and the blasting work for Liantang/Heung Yuen Wai Boundary Control Point Project – Contract 2 was completed on 15 August 2017. The TLEM was closed after 17 August 2017. Decommissioning phase was commenced in mid of November 2017. But due to the construction programme arrangement, the decommission works was idled until 21 January 2018 and completed at the end of March 2018. The letter to Mines Division to return the license and stock book is shown in [Appendix E](#).
- 1.07 After the decommission works of TLEM was completed, reinstatement planting works was commenced on 23 April 2018 according to the *XRL EIA Vegetation Survey Report for Tai Shu Ha Road West* and the *Tree Planting and Landscape Plan TLP-10: Works in Yuen Long District (Tai Shu Ha)* (Completion of Project Phase). All reinstatement planting works was completed in July 2019 and the Tai Shu Ha Magazine had been handover to Land’s Department on 24 July 2019.
- 1.08 This is the Final EM&A Summary Report for the Operation of Existing TLEM under EP-502/2015/A which presents the EM&A works throughout the three phases of the project between 1<sup>st</sup> March 2016 and 23<sup>rd</sup> July 2019 and one year maintenance period between 24<sup>th</sup> July 2019 to 23<sup>rd</sup> July 2020. The checklist of the Final EM&A Summary Report according to the requirement of the latest EM&A programme for Liantang / Heung Yuen Wai Boundary Control point Project is shown in [Appendix I](#).

## 2 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

### *Project Organization and Management Structure*

- 2.01 Organization structure of relevant parties involved in the EM&A process and the organizational structure of the organizations responsible for implementing the EM&A program are shown in [Appendix B](#).

### *Works Undertaken During the Operation Phase*

- 2.02 In the operation Phase, the major activity conducted under the Contract is summarized in below.
- Operate the TLEM
  - Implement the mitigation measures in Hazard to Life under EMIS requirement

### *Works Undertaken During the Decommissioning Phase*

- 2.03 In the decommissioning Phase, the major activity conducted under the Contract is summarized in below.
- Dismantle and remove E&M, fire services, CCTV and lighting installed for the two explosive stores;
  - Demolish the earth bunds and the two explosive stores;
  - Frame cut the re-bar and remove the concrete debris;
  - Remove all fire service facilities and all ground services including guard house, road furniture and lighting;
  - Remove fire hydrant water tank (245m<sup>3</sup>);
  - Remove the container guard house and any temporary steel works; and
  - Demolish the paved road for reinstatement of planting.

### *Works Undertaken During the Completion of Project Phase*

- 2.04 In the completion of project Phase, the major activity conducted under the Contract is summarized in below.
- Reinstatement planting works

### *Summary of Environmental Submissions*

- 2.05 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project is presented in [Table 2-1](#).

**Table 2-1 Status of Environmental Licenses and Permits**

Item	Description	License/Permit Status
1	Environmental permit (EP: EP-502/2015/A)	Application date: 26/08/2016 Date approved: 21/9/2016
2	Air pollution Control (Construction Dust) Regulation	Ref No.: 430503
3	Discharge License	Nil
4	Registered chemical waste producer	Nil
5	Billing Account for Disposal of Construction Waste	Account No. 7019105

- 2.06 In accordance with the EP No. EP-502/2015/A Condition 3.1, Project Environmental Monitoring and Audit (EM&A) Manual has been submitted to EPD before the commencement of using the magazine.



### 3 SUMMARY OF IMPACT MONITORING REQUIREMENTS

#### *General*

- 3.01 The Environmental Monitoring and Audit requirements are set out in the EM&A manual. Environmental issue such as hazard to life, general good site practice, ecological impact, disposal of waste, control of water quality and noise control was identified as the key issues.
- 3.02 According to the approved EIA report, there is no adverse air and noise impact to the identified sensitive receiver. Therefore, no air or noise monitoring is required during the three phases of the Project. The identified air and noise sensitive receiver are listed in *Table 3-1* and illustrated in *Appendix C*.

**Table 3-1 Air and Noise Sensitive Receiver Identified in the EIA Report**

<b>Identified Air Sensitive Receiver in EIA Report</b>				
<b>ID</b>	<b>Description</b>	<b>Type</b>	<b>Distance from TLEM</b>	<b>No. of Storey</b>
TSA1	Village House next to Tai Shu Ha Road West	Residential	54 m	1
HKMEC	Hong Kong Model Engineering Club	Recreational	200 m	N/A
NHT1	Temple at Nam Hang Tsuen	Temple	338 m	1
NHT2	Village House at Nam Hang Tsuen	Residential	332 m	1
<b>Identified Noise Sensitive Receiver in EIA Report</b>				
<b>ID</b>	<b>Description</b>	<b>Type</b>	<b>Distance from TLEM</b>	<b>No. of Storey</b>
TS1	Village House next to Tai Shu Ha Road West	Residential	297 m	1

- 3.03 Moreover, regular site inspection for the whole period was carried out to ensure the mitigation measure in the ISEMM had been implemented.

#### *Monitoring Parameters*

- 3.04 The EM&A programmes of three phases shall cover the following environmental issues:
- Hazard to life;
  - General good site practice;
  - Disposal of waste;
  - Control of water quality;
  - Noise control measure; and
  - Ecological impact.

3.05 A summary of the monitoring parameters is presented in *Table 3-1* as below.

**Table 3-2 Summary of EM&A Impact Monitoring Requirements**

Environmental Issue	Parameters
Hazard to life and General good site practice	<ul style="list-style-type: none"> <li>• undertake site inspections of on-site practices and procedures each month</li> </ul>
Disposal of waste	<ul style="list-style-type: none"> <li>• undertake site inspections of on-site practices and procedures each week</li> </ul>
Control of water quality	<ul style="list-style-type: none"> <li>• undertake site inspections of on-site practices and procedures each week to ensure comply with WPCO requirement</li> </ul>
Noise control measure	<ul style="list-style-type: none"> <li>• undertake site inspections of on-site practices and procedures each week to ensure good site practices are adopted and noise generation minimized during decommissioning</li> </ul>
Ecological impact	<ul style="list-style-type: none"> <li>• To restore the habitat back to borrow area reinstatement plantation, as it was prior to the construction of the TLEM for the MTRC's use.</li> <li>• To ensure the proposed mitigation recommended in the approved XRL EIA for loss of green areas affected by the XRL Project, is implemented.</li> </ul>

## 4 WASTE MANAGEMENT

### General Waste Management

4.01 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time. The effective management of waste arising during the decommissioning phase will be monitored through the site audit programme. The aims of the waste audit are:

- To ensure the waste arising from the works are handled, stored, collected, transferred and disposed of in an environmentally acceptable manner; and
- To encourage the reuse and recycling of material.

4.02 In addition to the site inspections, the ET shall review the documentation procedures prepared by the Waste Coordinator once a month to ensure proper records are being maintained and procedures undertaken in accordance with the Waste Management Plan.

### Records of Waste Quantities

4.03 All types of waste arising from the construction work are classified into the following:

- Construction & Demolition (C&D) material;
- Chemical waste;
- General refuse; and
- Excavated soil.

4.04 Where possible, construction materials should be reused on-site as far as practicable to reduce the construction waste, which should then be sorted or classified on site for proper recycling and disposal as recommended in the Environmental Management Plan and the associated Waste Management Plan.

4.05 The quantities of wastes generated under the Contract in this Reporting Period are summarized in [Tables 4-1](#) and [4-2](#) and the Monthly Summary Waste Flow Table is shown in [Appendix H](#). Whenever possible, materials were reused on-site as far as practicable.

**Table 4-1 Summary of Quantities of Inert C&D Materials**

Type of Waste	Quantity						Disposal Location
	2016	2017	2018	2019	Jul 2020	Total	
Reused in this Contract (Inert) ('000m <sup>3</sup> )	0	0	0	0	0	0	-
Reused in other Projects (Inert) ('000m <sup>3</sup> )	0	0	0	0	0	0	-
Disposal as Public Fill (Inert) ('000m <sup>3</sup> )	0	0	1.0267	0	0	1.0267	TM38

**Table 4-2 Summary of Quantities of C&D Wastes**

Type of Waste	Quantity						Disposal Location
	2016	2017	2018	2019	Jul 2020	Total	
Metals ('000kg)	0	0	0	0	0	0	-
Paper / Cardboard Packing ('000kg)	0	0	0	0	0	0	-
Plastics ('000kg)	0	0	0	0	0	0	-
Chemical Wastes ('000kg)	0	0	0	0	0	0	-
General Refuses ('000m <sup>3</sup> )	0	0	0.3269	0	0	0.3269	Landfill Site

- 4.06 For the project of Operation of the Existing TLEM, there only small amount of C&D and general refuse generated at the decommissioning phase. During the operation and completion of project phase, there only very small amount of domestic general refuse created. The small amount of the general refuse will be disposed to the nearby public refuse collection point everyday by the site staff.

## 5 SITE INSPECTIONS

- 5.01 According to the EM&A Manual, the environmental site inspection shall be formulation by ET Leader. Monthly environmental site inspections during operation and completion of project phase and Weekly environmental site inspections during decommissioning phase should carry out to confirm the environmental performance.
- 5.02 The areas of inspection included the pollution control and mitigation measures within TLEM. Waste management and landscape and visual aspects were covered.
- 5.03 During the three phases, total 48 events of environmental site inspections were undertaken by the ET to evaluate the site environmental performance. No adverse environmental impacts were registered, indicating that mitigation measures implemented were effective and sufficient for the construction activities undertaken. Minor deficiencies found during site inspections and audit was rectified by specified deadlines. The site inspection checklists can be found in their relevant EM&A monthly reports. A statistical summary of the frequency of reminders and deficiencies observed is shown in **Table 5-1**.

**Table 5-1 Summary of the number of findings/deficiencies observed in the Project**

Number of Findings in the Month	2016											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	NA	Operation Phase (OP)										
-	-	0	0	0	0	0	0	0	0	0	0	0
Number of Findings in the Month	2017											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Operation Phase (OP)											
0	0	0	0	0	0	0	0	0	1	0	0	0
Number of Findings in the Month	2018											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	OP	DP		Completion of Project Phase								
0	2	2	1	0	1	0	0	0	0	0	0	0
Number of Findings in the Month	2019											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Completion of Project Phase							Maintenance Period				
0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Findings in the Month	2020											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Maintenance Period							NA				
0	2	0	0	1	3	0	0	0	0	0	0	0

Remark: OP (Operation Phase), DP (Decommissioning Phase), NA (Not Applicable)

- 5.04 For the whole period of the project, 13 observations were recorded during the site inspections. Most of the findings/deficiencies were observed during the Maintenance Period (6 observations), only 1 observation was recorded during the Operation Phase, 4 observations were recorded during the Completion of Project Phase and 2 observations were recorded during the Completion of Project Phase. The findings/deficiencies observed in the Project are shown in **Table 5-2**.

**Table 5-2 Details of findings/deficiencies observed during site inspection**

Project Phase	Inspection Date	Findings / Deficiencies	Follow-Up Status
Operation Phase	22 September 2017	<ul style="list-style-type: none"> <li>During the inspection, free standing chemical containers without drip tray were observed.</li> </ul>	<ul style="list-style-type: none"> <li>Chemical containers without drip tray was removed and drip tray had been provided for future chemical storage on-site.</li> </ul>
Decommissioning	2 February	<ul style="list-style-type: none"> <li>EP should be displayed properly at the site</li> </ul>	<ul style="list-style-type: none"> <li>EP was properly display at the site</li> </ul>

Project Phase	Inspection Date	Findings / Deficiencies	Follow-Up Status
Phase	2018	entrance.	entrance.
	9 February 2018	<ul style="list-style-type: none"> <li>Construction waste or material should be stored apart from the retaining tree.</li> </ul>	<ul style="list-style-type: none"> <li>Construction waste or material storage near the retaining tree was removed. Also tree protection zone had been set up for the existing tree area.</li> </ul>
	2 March 2018	<ul style="list-style-type: none"> <li>Dust mitigation measure should be provided for stockpile storage on-site to prevent dust generation.</li> </ul>	<ul style="list-style-type: none"> <li>Stockpile storage on-site was removed.</li> </ul>
	23 March 2018	<ul style="list-style-type: none"> <li>Dust emitted from excavation works was observed, dust mitigation measures should be provided to reduce dust generation.</li> </ul>	<ul style="list-style-type: none"> <li>Dust mitigation had been provided during the excavation works. All excavation work was completed during the next inspection and no dust generation was observed.</li> </ul>
Completion of Project Phase	25 April 2018	<ul style="list-style-type: none"> <li>EP should be displayed properly at the site exit.</li> </ul>	<ul style="list-style-type: none"> <li>EP was displayed properly at the site exit.</li> </ul>
	29 June 2018	<ul style="list-style-type: none"> <li>Sand and mud cumulated inside the existing manhole and u-channel should be cleared.</li> </ul>	<ul style="list-style-type: none"> <li>Sand and mud cumulated inside the existing manhole and u-channel was cleared</li> </ul>
Maintenance Period	25 February 2020	<ul style="list-style-type: none"> <li>General refuse scatted within the TLEM site area was observed.</li> </ul>	<ul style="list-style-type: none"> <li>General refuse scatted within the TLEM site area was cleaned.</li> </ul>
		<ul style="list-style-type: none"> <li>Several reinstatement planting tree were fallen down and chopped. The contractor should be taken the following action according to the Tree Planting and Landscape Plan for XRL – TLP-10: Works In Yuen Long District (Tai Shu Ha) (Revision 1) requirement.</li> </ul>	<ul style="list-style-type: none"> <li>Fallen down and chopped reinstatement planting tree had been replaced. (Rectified on early of July 2020)</li> </ul>
	6 May 2020	<ul style="list-style-type: none"> <li>Suspected stockpile of planting soil cumulated at the nearby natural stream was observed. The stockpile of soil should be removed to prevent disturbing the existing natural</li> </ul>	<ul style="list-style-type: none"> <li>Suspected stockpile of planting soil cumulated at the nearby natural stream was removed.</li> </ul>

Project Phase	Inspection Date	Findings / Deficiencies	Follow-Up Status
		environment.	
	30 June 2020	<ul style="list-style-type: none"> <li>Some retained tree seem to be dead and leaned. Further advise of the tree status should be required by the tree specialist.</li> </ul>	<ul style="list-style-type: none"> <li>Inspection was undertaken by the tree specialist on early of July 2020. Follow-up action had been taken by the specialist.</li> </ul>
		<ul style="list-style-type: none"> <li>Water tube for irrigation using should be removed after the process is completed.</li> </ul>	<ul style="list-style-type: none"> <li>Water tube for irrigation was removed.</li> </ul>
		<ul style="list-style-type: none"> <li>A suspected of planting soil flushing into the stream and on the boulders was observed. Moreover, some concrete blocks instead of natural boulder/rock in the stream were found. The contract should clean those belongings to avoid any adverse impact on the natural stream nearby the site.</li> </ul>	<ul style="list-style-type: none"> <li>Reported by the tree specialist, a suspected of planting soil flushing into the stream is coming from the upstream during the rainstorm. The concrete blocks found in the stream were removed.</li> </ul>

- 5.05 According to **Table 5-1**, the average findings/deficiencies observed in the three phases was 0.245 per month. Minor deficiencies found in the site inspections were in general rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.
- 5.06 Termination proposal had been submitted by the permit holder to EPD in the early of April 2020. After then, the joint site inspection had been formulated by EPD, IEC and ET on 6 May 2020. During the site inspection some deficiencies had been identified, therefore the EM&A programme cannot be ceased until the deficiencies had been rectified.
- 5.07 All the deficiencies had been rectified in the early of July 2020. The joint site inspection had been formulated by the main contractor (Permit Holder), IEC and ET on 20 July 2020 to confirm that the reinstatement condition of the TLEM is general satisfactory. The follow-up and the overview photo taken on 20 July 2020 is shown in **Appendix J**.

## 6 REINSTATEMENT PLANTING WORKS FOR THE TLEM

- 6.01 After the decommission works was completed, reinstatement planting works was undertaken according to the *XRL EIA Vegetation Survey Report for Tai Shu Ha Road West and the Tree Planting and Landscape Plan TLP-10: Works in Yuen Long District (Tai Shu Ha)* (Completion of Project Phase) to restore the habitat back to borrow area reinstatement plantation, as it was prior to the construction of the TLEM for the MTRC's use.
- 6.02 Reinstatement planting works was commenced on **23 April 2018** and one of the particular species for reinstatement plant in the approved *Tree Planting and Landscape Plan TLP-10 C*. *Parthenoxylon* (黃樟) is rarely selected for cultivation both in Mainland China and Hong Kong. Therefore the Independent Tree Specialist (ITS) proposed to substitute it with other native species *C. camphora* (樟樹).
- 6.03 The substitute proposal was no commented from EPD and the reinstatement plant works was completed in July 2019 and the Tai Shu Ha Magazine site had been handover to Land's Department on 24 July 2019. The approval letter from EPD and the substitute proposal to change the species for reinstatement plant is shown in [Appendix F](#). The layout plan for reinstatement planting and photo record which taken on-site is shown in [Appendix G](#). The total no. of reinstatement planting was summarised in [Table 6-1](#).

**Table 6-1 Summary of the number of reinstatement planting**

Type: Tree		
Botanical Name	Chinese Name	Quantity
<i>Reevesia Thyrsoides</i>	梭羅樹	41
<i>Schima Superba</i>	木荷	41
<i>Cinnamomum Camphora</i>	樟樹	41
<i>Mallotus Paniculatus</i>	白楸	41
<i>Gordonia Axillaris</i>	大頭茶	41
<i>Viburnum Odoratissimum</i>	珊瑚樹	44
<i>Bischofia Javanica</i>	重陽木	41
<i>Elaeocarpus Sylvestris</i>	山杜英	41
<i>Celtis Sinensis</i>	朴樹	41
<i>Castanopsis Fissa</i>	裂斗錐栗	41
<i>Schefflera Heptaphylla</i>	鴨腳木	41
Type: Shrub		
Botanical Name	Chinese Name	Quantity
<i>Melastoma Sanguineum</i>	毛檢	328
<i>Psychotria Asiatica</i>	九節	9000
<i>Litsea Rotundifolia</i>	豺皮樟	2183
<i>Rhodomyrtus Tomentosa</i>	桃金娘	300



## 7 NON-COMPLIANCE, ENVIRONMENTAL COMPLAINT, NOTIFICATIONS OF SUMMONS AND PROSECUTION

### NON-COMPLIANCE

- 7.01 No non-compliance was identified during regular site inspection and environmental audit. No associated remedial actions were recommended.

### ENVIRONMENTAL COMPLAINT

- 7.02 During the three phases and one year maintenance period, no environmental complaint was received. Summary of environmental complaint is presented in *Table 7-1* below.

**Table 7-1 Statistical Summary of Environmental Complaints**

Time Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
2016	0	0	N/A
2017	0	0	N/A
2018	0	0	N/A
2019	0	0	N/A
Jul 2020	0	0	N/A

### NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

- 7.03 No notifications of summons and successful prosecutions were recorded during the three phases and one year maintenance period. No associated remedial actions were recommended. Summary of environmental summons and prosecutions are presented in *Table 7-2 & 7-3* below.

**Table 7-2 Statistical Summary of Environmental Summons**

Time Period	Environmental Summons Statistics		
	Frequency	Cumulative	Complaint Nature
2016	0	0	N/A
2017	0	0	N/A
2018	0	0	N/A
2019	0	0	N/A
Jul 2020	0	0	N/A

**Table 7-3 Statistical Summary of Environmental Prosecution**

Time Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Complaint Nature
2016	0	0	N/A
2017	0	0	N/A
2018	0	0	N/A
2019	0	0	N/A
Jul 2020	0	0	N/A

## 8 IMPLEMENTATION STATUS OF MITIGATION MEASURES

### General Requirements

- 8.01 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the EP and the EM&A Manual covered the issues of document submission, ecological, noise, water, hazard to life and waste and they are concluded and summarized presented in [Appendix D](#).
- 8.02 The Permit Holder under the Project shall be implementing the required environmental mitigation measures according to the EM&A Manual as subject to the site condition. Environmental mitigation measures generally implemented by the Permit Holder are summarized in [Table 8-1](#).

**Table 8-1 Environmental Mitigation Measures**

Issues	Environmental Mitigation Measures
Hazard to Life	<ul style="list-style-type: none"> <li>• Security plan addresses different alert security levels.</li> <li>• Followed the emergency plan</li> <li>• Magazine kept locked all the time and provided with proper security measures</li> <li>• No delivery vehicles remained within the site secured fence off magazine store area</li> </ul>
Ecological	<ul style="list-style-type: none"> <li>• Protect the existing tree near the magazine site</li> <li>• To restore the habitat back to borrow area reinstatement plantation, as it was prior to the construction of the TLEM for the MTRC's use.</li> <li>• To ensure the proposed mitigation recommended in the approved XRL EIA for loss of green areas affected by the XRL Project, is implemented.</li> </ul>
Noise Impact	<ul style="list-style-type: none"> <li>• To ensure good site practices are adopted</li> <li>• Noise generation minimized during decommissioning</li> </ul>
Waste Management	<ul style="list-style-type: none"> <li>• Avoid adverse environmental impacts related to handling and disposal of waste</li> </ul>
Water quality	<ul style="list-style-type: none"> <li>• Minimize construction site runoff during decommissioning</li> </ul>

- 8.03 Based on site inspection, it is considered that the environmental mitigation measures implemented by the Permit Holder are effective.

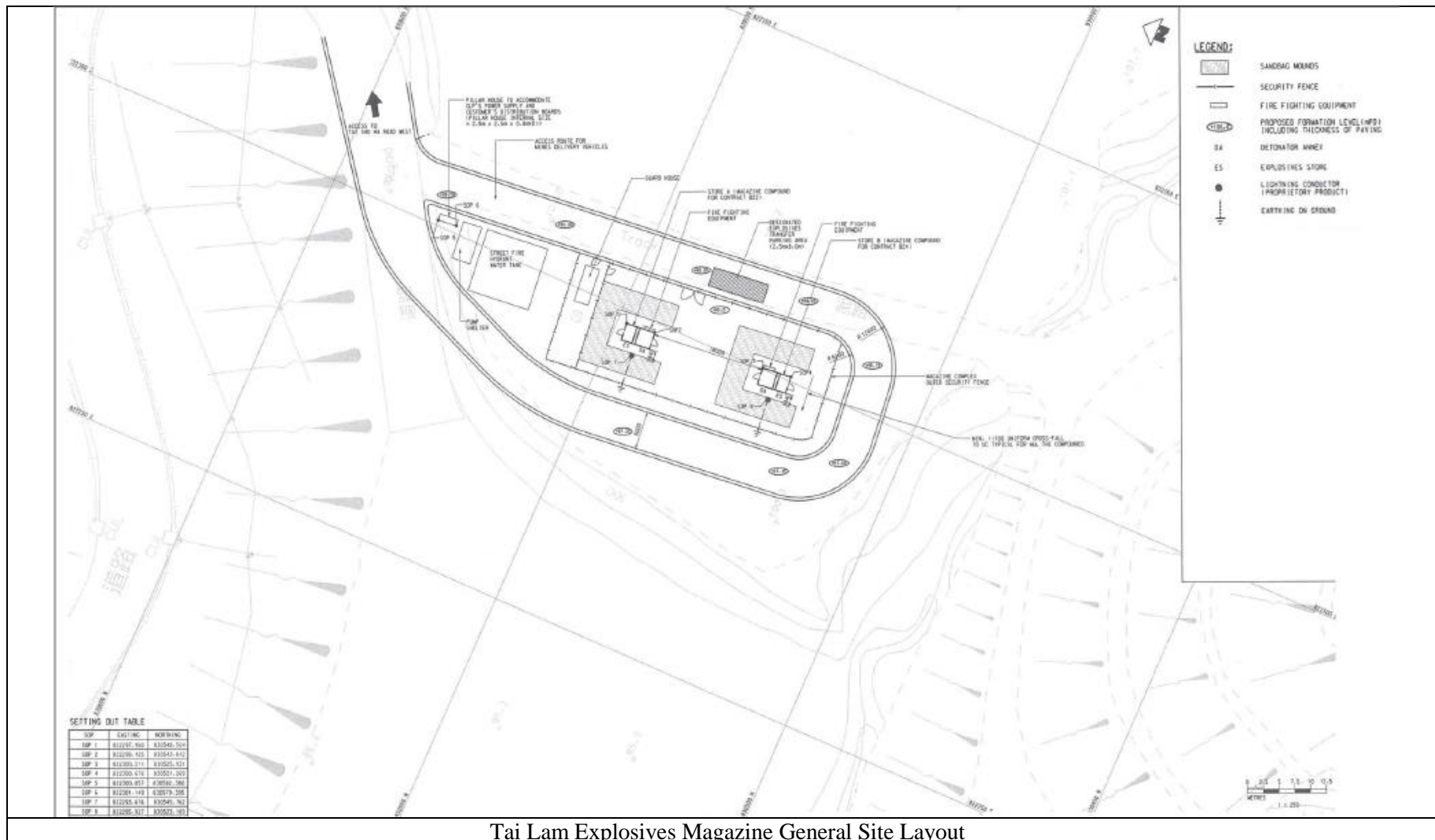
## **9 CONCLUSIONS**

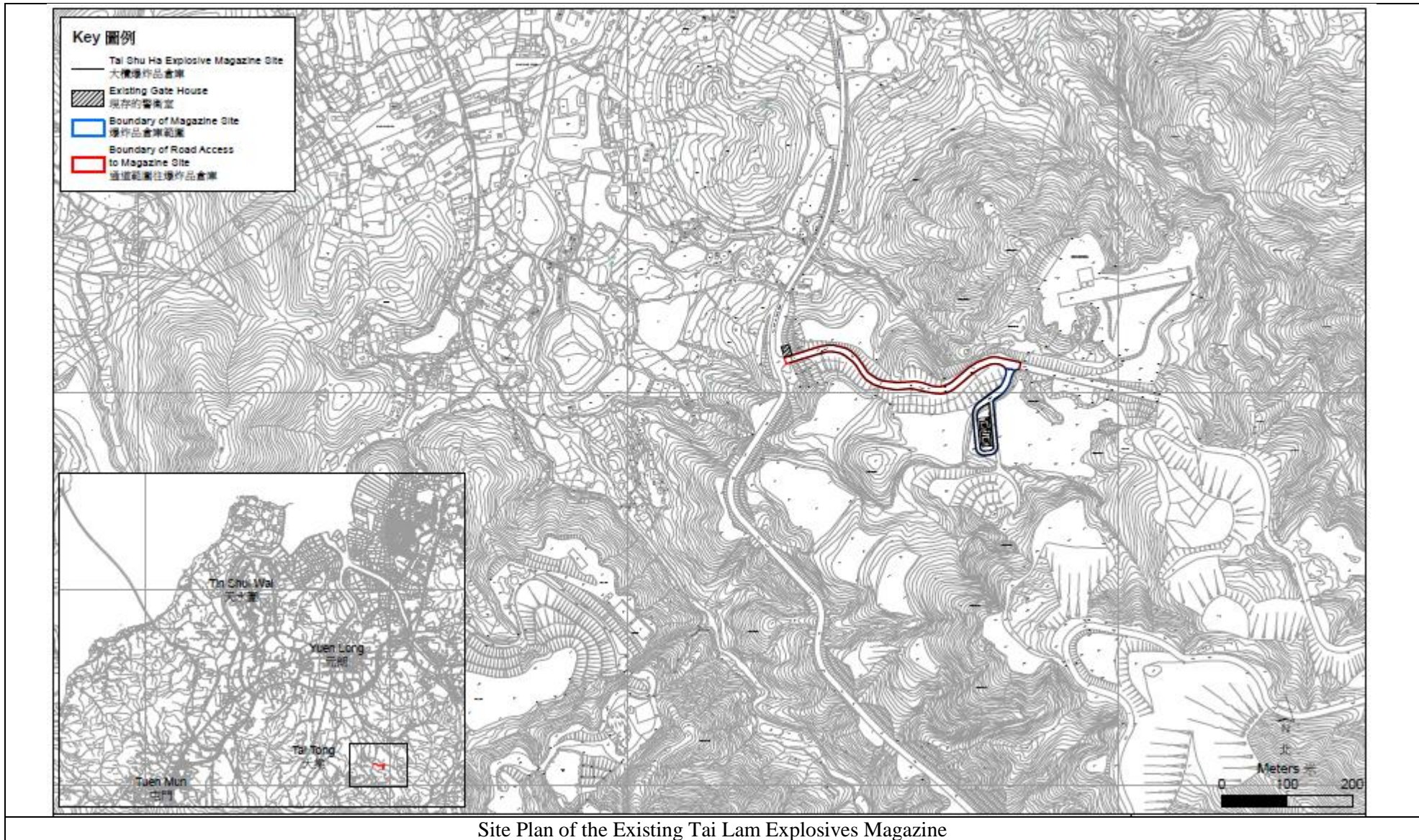
- 9.01 The TLEM was started operated by Dragages at March 2016 and closed after 17 August 2017 due to the blasting work for Liantang/Heung Yuen Wai Boundary Control Point Project – Contract 2 was completed. The decommissioning phase for TLEM was scheduled in Mid of November 2017. However, due to the contractor arrangement, decommission of the magazine was idled until 21 January 2018. The actual decommission works of TLEM was commenced on 22 January 2018 and completed on 28 March 2018.
- 9.02 According to the approved EIA Report, operation of the existing facility will remain similar to the existing operation as described in the XRL EIA and the decommissioning works will only affect the existing TLEM which classified as developed areas of negligible ecological value, and therefore is not considered to cause any direct ecological impacts to habitats including streams or to species.
- 9.03 After the decommission works was completed, reinstatement planting works was undertaken according to the *XRL EIA Vegetation Survey Report for Tai Shu Ha Road West and the Tree Planting and Landscape Plan TLP-10: Works in Yuen Long District (Tai Shu Ha)* (Completion of Project Phase) to restore the habitat back to borrow area reinstatement plantation, as it was prior to the construction of the TLEM for the MTRC's use.
- 9.04 Reinstatement planting works was commenced on 23 April 2018 and completed in July 2019 and the TLEM site had been handover to Land's Department on 24 July 2019.
- 9.05 The current Project extends the operating time of the TLEM, it cause the reinstatement planting needed to be postponed by three years. The reinstatement of the TLEM is principally in order to restore the habitat back to borrow area reinstatement plantation and relative to the whole borrow area reinstatement plantation, it is a very small area. With regard to the impact of postponing the reinstatement planting by three years on habitat, this time period is relatively small with regards to vegetation succession and establishment of soils. Therefore, no adverse impact is expected on habitats.
- 9.06 During the operation, decommissioning, completion of project phase and maintenance period, 60 events of environmental site inspections were undertaken by the ET to evaluate the site environmental performance and there were no incidences of non-compliance recorded. Observations of minor deficiencies were found during regular site inspections or monthly site audits. The average deficiencies per month is 0.245. All deficiencies were generally rectified within the specified deadlines.
- 9.07 During the operation, decommissioning, completion of project phase and maintenance period, there were no notifications of summons and successful prosecutions and no public concern/environmental complaint received by the EPD.
- 9.08 The joint site inspection had been carried out with EPD, IEC and ET on 6 May 2020, some deficiencies were observed during the inspection. Therefore, the EM&A programme were carried on until the deficiencies had been rectified. According to the site inspection with IEC and the Main Contractor (Permit Holder) on 20 July 2020, all the deficiencies had been rectified and the reinstatement condition of the TLEM is general satisfactory.
- 9.09 Although the reinstatement planting works was completed, the EM&A programme will be ongoing. The EM&A programme will be ceased after satisfactory completion of the Final EM&A Report, agreement with the IEC and approval from EPD.

**END OF TEXT**

## **Appendix A**

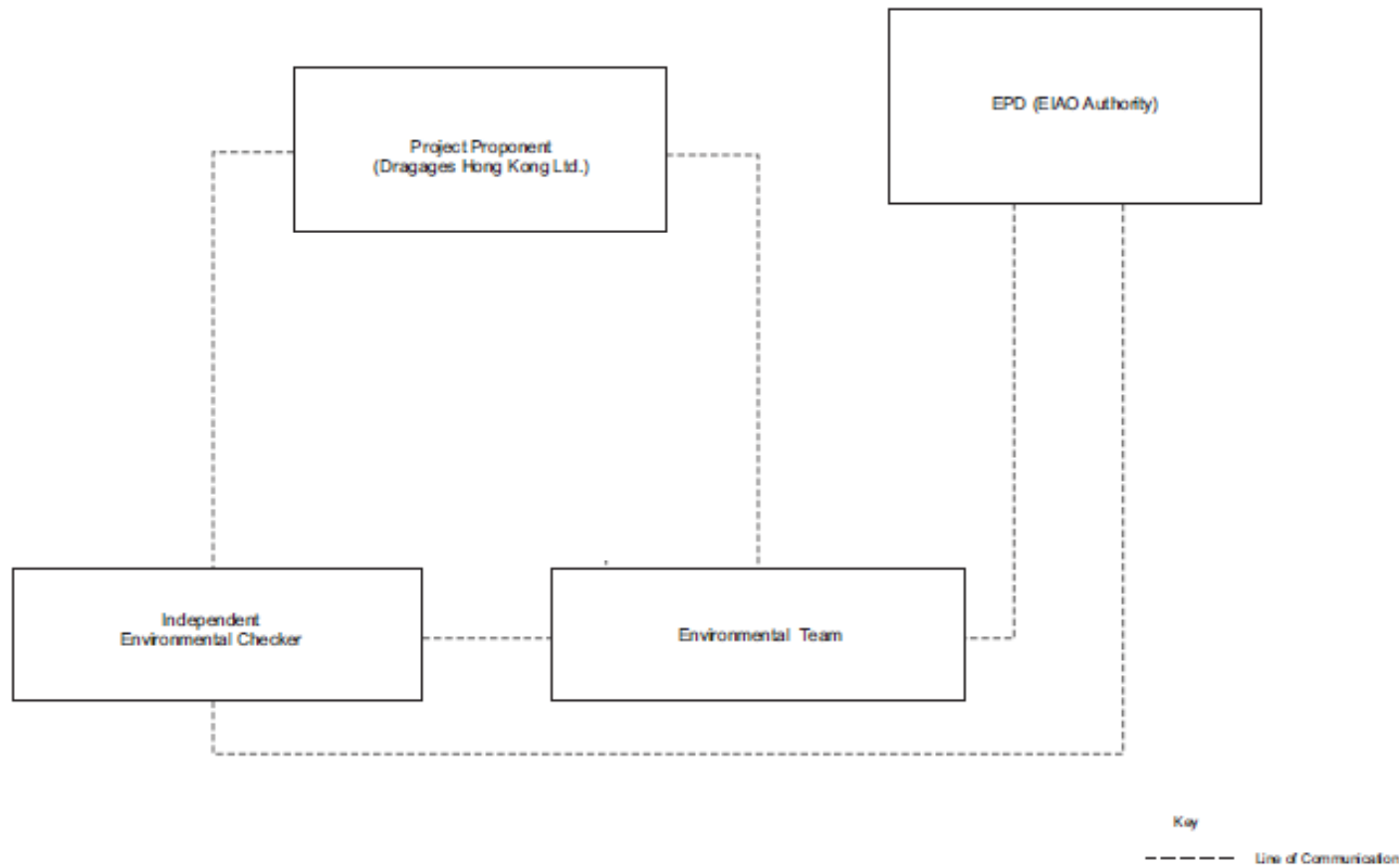
### **LOCATION AND SITE PLAN OF THE TLEM**





## **Appendix B**

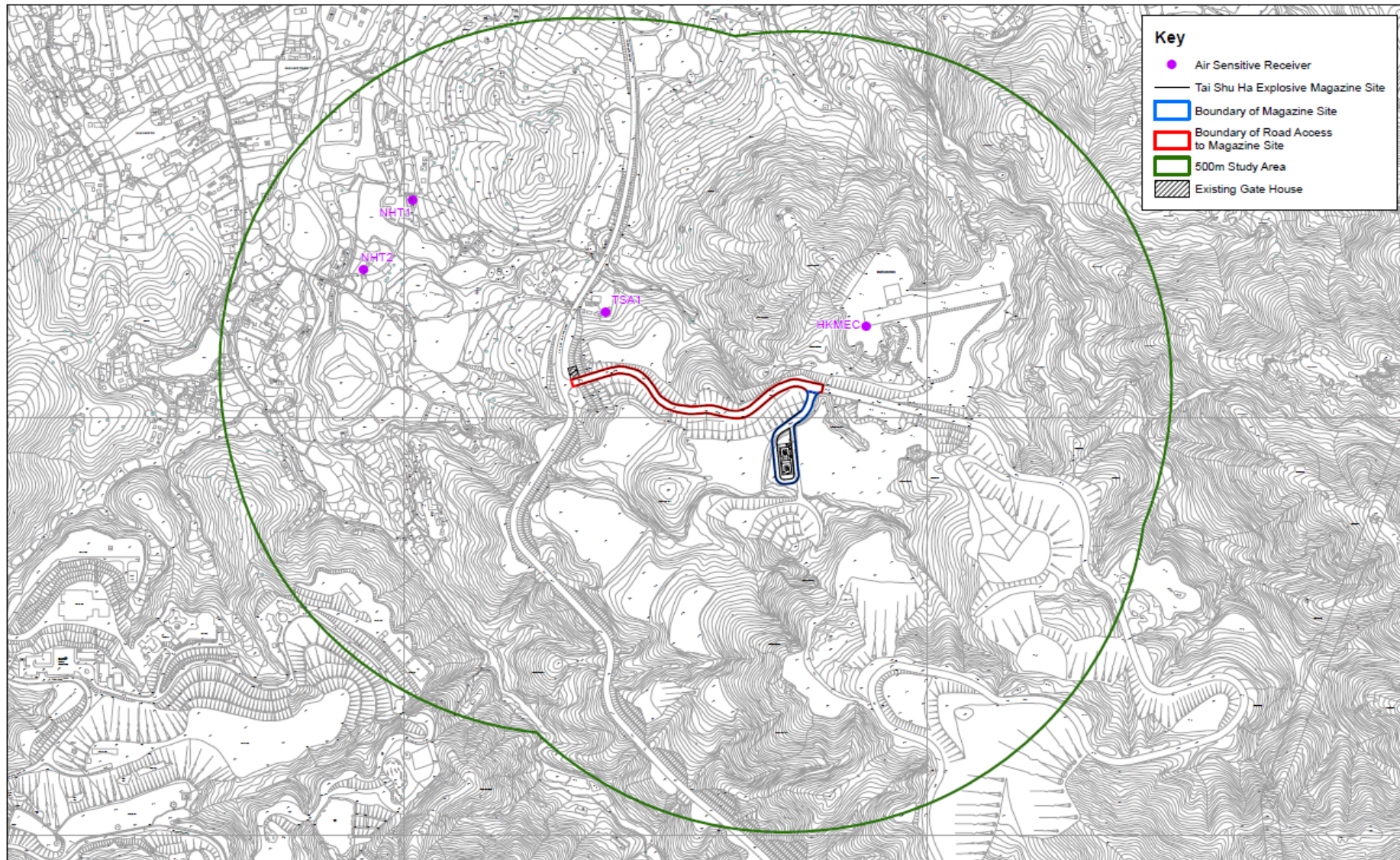
### **ORGANIZATION STRUCTURE**



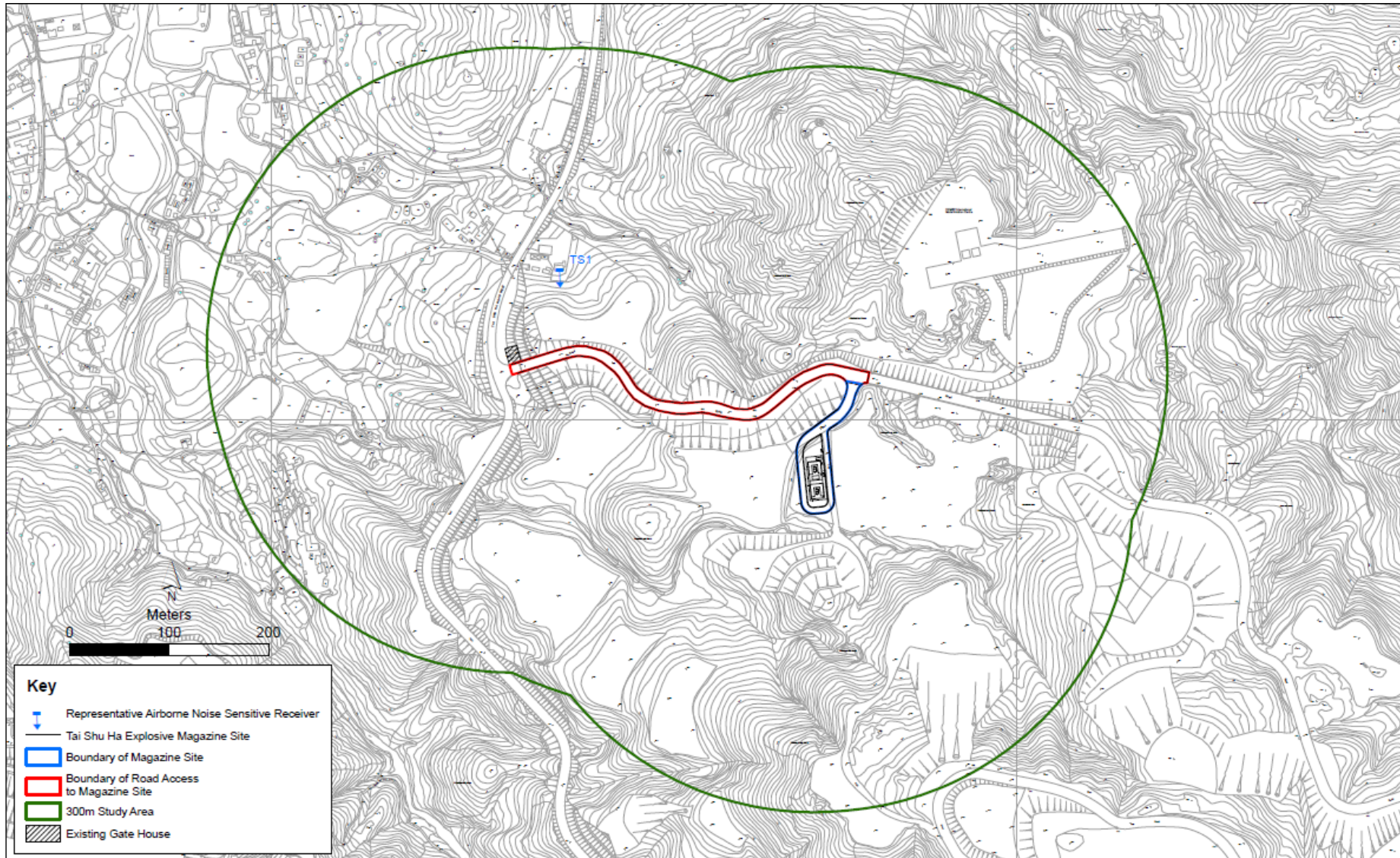


## **Appendix C**

### **IDENTIFIED AIR AND NOISE SENSITIVE RECEIVER IN THE EIA REPORT**



### Identified Air Sensitive Receiver in the EIA Report



### Identified Noise Sensitive Receiver in the EIA Report

## **Appendix D**

### **IMPLEMENTATION SCHEDULE FOR ENVIRONMENTAL MITIGATION MEASURES (ISEMM)**

## Implementation Schedule of Recommended Mitigation Measures

DRAGAGES HK LTD

**Note:** Chapters 1 to 2 of the EIA report present the background information of the Project and Project Description. Chapters 3 to 8 of the EIA report present the EIA findings and mitigation measures, as described below with cross-reference to the EIA report. Chapters 9 & 10 summarize the environmental monitoring and audit requirements and provide a conclusion along with a summary of the environmental outcomes of the EIA.

\* O = Operation; D = Decommissioning of the TLEM; CoP = Completion of Project

EP Requirement			
EP Ref.	Description	Implementation Stage (O, D, CoP*)?	Implementation Status
1.5	Display conspicuously a copy of EP at all vehicular site entrances/exits or at a convenient location for public's information at all times.	O, D, CoP	✓
1.12	The Permit Holder shall notify the Director of EPD in writing the commencement date of operation and decommission of the Project.	O, D	✓ (commencement date of operation : March 2016) (decommission date of the Project : mid of November 2017)
2.1 & 2.2	Employment of EM&A Personnel.	O, D, CoP	✓ Employed project ET & IEC at March 2016

2.3	Only the routes shown in the EP are allowed for delivery of explosives from the magazine to the worksite.	O	✓
2.4	No explosive stored at the explosives magazine before commencement and during the course of the decommissioning works.	D	✓
2.5	Implement reinstatement planting upon completion of operation of the magazine as per the Approved Tree Planting and Landscape Plan for XRL-TLP10 : Works in Yuen Long District (Tai Shu Ha) (Rev.1) in Annex 3B of the EIA Report (Register No.: AEIAR-193/2015).	CoP	✓
3.2	Submit Project EM&A Report Monthly	O, D	✓ 1 <sup>st</sup> report is March 2016 and will be submitted monthly until with EPD approval to terminate the EM&A programme for the project
4.2	Setup the Project web site for public access	O, D	✓ Web site will be maintain at least 3 years after decommission (Until April 2021)

EIA Ref	EM&A Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location/ Duration of the measure	Implementation Stage (O, D, CoP*)?	Relevant Legislation & Guidelines	Implementation Status
<i>Ecological Impact (Operation &amp; Completion of Project)</i>								
S3.5		<ul style="list-style-type: none"> <li>■ Reinstatement planting should be carried out at the site according to the <i>XRL EIA Vegetation Survey Report for Tai Shu Ha Road West</i> and the <i>Tree Planting and Landscape Plan TLP-10: Works in Yuen Long District (Tai Shu Ha) (hereafter TLP)</i>.</li> </ul>	<p>To restore the habitat back to borrow area reinstatement plantation, as it was prior to the construction of the TLEM for the MTRC's use.</p> <p>To ensure the proposed mitigation recommended in the approved XRL EIA for loss of green areas affected by the XRL Project, is implemented.</p>	<p>The reinstatement planting will be implemented by DHK. The maintenance agent will be LO as confirmed in the TLP.</p>	<p>Tai Lam Explosives Magazine (TLEM) site/ During – site restoration prior to mitigation planting, Planting &amp; Establishment period of at least 12 months.</p>	CoP	<p><i>XRL EIA Vegetation Survey Report for Tai Shu Ha Road West Tree Planting and Landscape Plan TLP-10: Works in Yuen Long District (Tai Shu Ha)</i></p> <p><i>DEVB TCW No. 10/2013 – Tree Preservation (supersedes ETWB TC(W) No. 3/2006 )</i></p>	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Reinstatement planting works was completed at the end of July 2019 and the TLEM site was handed over to Lands Department on 24 July 2019</b></p>

<b>Noise Impact (Operation and Decommissioning)</b>								
S4.4.1		No adverse impacts anticipated. <ul style="list-style-type: none"> <li>▪ For good practice, adopt general noise control measures, as listed in Recommended Clauses for Construction Contracts – Section 3 – Noise Control during decommissioning</li> </ul>	To ensure good site practices are adopted and noise generation minimized during decommissioning	Contractor for DHK	Approximately one month during decommissioning of the TLEM	D	<i>Recommended Clauses for Construction Contracts – Section 3 - Noise Control</i>	✓ <b>Properly implement during Operation and Decommissioning Phases</b>
<b>Air Quality (Operation and Decommissioning)</b>								
S5		Not applicable (n/a) – no adverse impacts anticipated.	n/a	n/a	n/a	n/a	n/a	NA
<b>Waste Management (Operation and Decommissioning)</b>								
S6.5		<ul style="list-style-type: none"> <li>▪ Good site management practice will be adopted by the contractors of the Project and waste on-site will be properly segregated to increase the potential for reuse and recycling.</li> </ul>	Avoid adverse environmental impacts related to handling and disposal of waste.	DHK	Tai Lam Explosives Magazine (TLEM) site/ During operation of TLEM & approximately one month during	O, D	<i>Waste Disposal Ordinance (WDO) (Cap 354); Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap</i>	✓ <b>Properly implement during Operation and Decommissioning Phases</b>



		<ul style="list-style-type: none"> <li>General refuse is removed from the Project Site regularly (i.e. once per day).</li> </ul>			decommissioning of the TLEM		<i>354N); Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C); Land (Miscellaneous Provisions) Ordinance (Cap 28); and Public Health and Municipal Services Ordinance (Cap 132) - Public Cleansing and Prevention of Nuisances Regulation.</i>	
S6.5		<ul style="list-style-type: none"> <li>Chemical refuse will be properly stored and disposed of separately to general waste.</li> </ul>	Avoid contamination by chemical waste.	Licensed Chemical Waste Collector for DHK	Tai Lam Explosives Magazine (TLEM) site/ During operation	O, D	<i>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes (1992), EPD,</i>	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation and Decommissioning</b></p>

					of TLEM & approximately one month during decommissioning of the TLEM		Hong Kong Government	<b>Phases</b>
<b><i>Other (Operation and Decommissioning)</i></b>								
S7.1		<p>No adverse impacts anticipated. For good measure adopt the following good practice measures:</p> <ul style="list-style-type: none"> <li>▪ Surface run-off from construction site should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct</li> </ul>	Minimize construction site runoff during decommissioning	Contractor for DHK	TLEM site /Approximately one month during decommissioning of the TLEM	D	<i>Practice Note for Professional Persons on Construction Site Drainage (ProPECC PNI/94)</i>	<p>✓</p> <p><b>Properly implement during Decommissioning Phase</b></p>

		<p>stormwater to such silt removal facilities.</p> <p>Perimeter channels at site boundaries should be provided where necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks</p>						
S7.1	<ul style="list-style-type: none"> <li>▪ Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning</li> </ul>	Minimize construction site runoff during decommissioning	Contractor for DHK	TLEM site /Approximately one month during decommissioning of the TLEM	D	<i>Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN1/94)</i>	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Decommissioning Phase</b></p>	

		properly at all times.						
S7.1		<ul style="list-style-type: none"> <li>▪ Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.</li> </ul>	Minimize construction site runoff during decommissioning	Contractor for DHK	TLEM site /Approximately one month during Decommissioning of the TLEM	D	<i>Practice Note for Professional Persons on Construction Site Drainage (ProPECC PNI/94)</i>	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Decommissioning Phase</b></p>
S7.1		<ul style="list-style-type: none"> <li>▪ Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or</li> </ul>	Minimize construction site runoff during decommissioning	Contractor for DHK	TLEM site /Approximately one month during Decommissioning of the TLEM	D	<i>Practice Note for Professional Persons on Construction Site Drainage (ProPECC PNI/94)</i>	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Decommissioning Phase</b></p>

		debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.						
S7.1		<ul style="list-style-type: none"> <li>Precautions and actions, as stipulated in Appendix A2 of ProPECC PN1/94, should be taken at any time of year when rainstorms are likely, when a rainstorm is imminent or forecast, or during and after rainstorms.</li> </ul>	Minimize construction site runoff during decommissioning	Contractor for DHK	TLEM site /Approximately one month during Decommissioning of the TLEM	D	<i>Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN1/94)</i>	✓ <b>Properly implement during Decommissioning Phase</b>
S7.1		<ul style="list-style-type: none"> <li>To minimize erosion of exposed soil in between</li> </ul>	Minimize construction site runoff and soil	Contractor for DHK	TLEM site /Approximately	D	-	✓ <b>Properly implement</b>

		the removal of paved area and the re-vegetation / plantation, exposed soil should be covered with geotextile promptly after the removal works.	erosion during decommissioning		one month during Decommissioning of the TLEM			<b>during Decommissioning Phase</b>
<b>Hazard to Life (Operation – Storage)</b>								
S8.9.1		<ul style="list-style-type: none"> <li>Ensure the security plan addresses different alert security levels. The corresponding security procedure should be implemented with respect to prevailing security alert status announced by the Government.</li> </ul>	Reduce opportunity for arson/ deliberate initiation of explosives.	DHK	TLEM site / Throughout operation of the Project	O	-	<p>✓</p> <p><b>Properly implement during Operation Phase</b></p>
S8.9.1 & S8.9.2 & S8.9.3		<ul style="list-style-type: none"> <li>Emergency plan (i.e. magazine operational manual) shall be followed and amended if necessary to address uncontrolled fire in magazine area and</li> </ul>	Minimize risk of uncontrolled fire in TLEM and along transport route	DHK	For TLEM site and Transport route / Throughout operation of the Project	O	-	<p>✓</p>

		transport. The case of fire near an explosive carrying truck in jammed traffic should also be covered. Drill of the emergency plan should be carried out at regular intervals.						
S8.9.1		<ul style="list-style-type: none"> <li>▪ Adverse weather working guideline should be followed and amended if necessary to clearly define procedure for transport explosives during thunderstorm.</li> </ul>	Minimize explosive truck accident frequency.	DHK	TLEM site / Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>
S8.9.1		<ul style="list-style-type: none"> <li>▪ The Magazine storage quantities need to be reported on a monthly basis</li> </ul>	Ensure that the two day storage capacity is not exceeded	Contractor for DHK	TLEM site / Throughout operation of the Project	O	Dangerous Goods Ordinance	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>
S8.9.2		<ul style="list-style-type: none"> <li>▪ A suitable work control system should be followed and amended if</li> </ul>	Ensure work activities undertaken during the operation of the Magazine	DHK	For TLEM site / Throughout operation of the	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation</b></p>

		necessary, such as an operational manual including Permit-to-Work system	are properly controlled.		Project			<b>Phase</b>
S8.9.2		<ul style="list-style-type: none"> <li>▪ Good house-keeping within the Magazine</li> </ul>	Ensure combustible materials are not allowed to accumulate.	Contractor for DHK	For TLEM site / Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>
S8.9.2		<ul style="list-style-type: none"> <li>▪ Good housekeeping outside the Magazine stores to be followed</li> </ul>	To ensure combustibles (including vegetation) are removed and reduce risk and severity of any accidental fire onsite.	Contractor for DHK	For TLEM site / Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>
S8.9.2		<ul style="list-style-type: none"> <li>▪ The Magazine shall be without open drains, traps, pits or pockets into which any molten ammonium nitrate could flow and be confined in the event of a fire.</li> </ul>	Reduce risk of severity of accidental fire and contamination of site.	DHK	For TLEM site / Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>
S8.9.2		<ul style="list-style-type: none"> <li>▪ The Magazine building shall be regularly checked</li> </ul>	Ensure explosives being stored remain dry.	Contractor for DHK	For TLEM site / Throughout	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement</b></p>



		for water seepage through the roof, walls or floor.			operation of the Project			<b>during Operation Phase</b>
S8.9.2		<ul style="list-style-type: none"> <li>▪ Caked explosives shall be disposed of in an appropriate manner.</li> </ul>	Ensure general safe practice	Contractor for DHK	For TLEM site / Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <b>Properly implement during Operation Phase</b>
S8.9.3		<ul style="list-style-type: none"> <li>▪ If disposal is required for small quantities, it should be made in a controlled and safe manner by a Registered Shotfirer.</li> </ul>	To reduce the risk during explosives transport	Registered Shotfirer for DHK	For TLEM site / Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <b>Properly implement during Operation Phase</b>
S8.9.2		<ul style="list-style-type: none"> <li>▪ Delivery vehicles shall not be permitted to remain within the secured fenced off magazine store area</li> </ul>	Avoid accidents involving vehicles within the site boundary.	Contractor for DHK	For TLEM site / Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <b>Properly implement during Operation Phase</b>
S8.9.2		<ul style="list-style-type: none"> <li>▪ A speed limit within the magazine area should be enforced</li> </ul>	Reduce the risk of a vehicle impact or incident within the Magazine area.	Contractor for DHK	For TLEM site / Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <b>Properly implement during Operation Phase</b>
S8.9.2		<ul style="list-style-type: none"> <li>▪ Traffic Management should be implemented</li> </ul>	Avoid accidents involving multiple vehicles within	Contractor for DHK	For TLEM site / Throughout	O	-	<p style="text-align: center;">✓</p> <b>Properly implement</b>

		within the Magazine site, to ensure that no more than one (1) vehicle will be loaded at any time.	the site boundary.		operation of the Project			<b>during Operation Phase</b>
<b><i>Hazard to Life (Operation - Transport)</i></b>								
S8.9.1		<ul style="list-style-type: none"> <li>▪ Truck design should comply with the Requirements for Approval of an Explosives Delivery Vehicle (CEDD 2) and limit the amount of combustibles in the cabin. The fuel carried in the fuel tank should also be minimised to reduce the duration of any fire.</li> </ul>	Ensure delivery vehicle is as safe as possible.	Contractor for DHK	Transport vehicle/ Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>
S8.9.1		<ul style="list-style-type: none"> <li>▪ Implement a dedicated training programme for both the driver and his attendants, including regular briefing sessions,</li> </ul>	Minimize explosive truck accident frequency.	DHK	Vehicle driver & attendants for Transport route/ Throughout operation of the	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>

		implementation of a defensive driving attitude.			Project			
S8.9.1		<ul style="list-style-type: none"> <li>▪ As far as practicable combine explosive deliveries for a given work area</li> </ul>	Reduce number of journeys required	Contractor for DHK	Transport route/ Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>
S8.9.1		<ul style="list-style-type: none"> <li>▪ Only the required quantity of explosives for a particular blast should be transported.</li> </ul>	Avoid the return of unused explosives to the Magazine.	Contractor for DHK	Transport route/ Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>
S8.9.1		<ul style="list-style-type: none"> <li>▪ Whenever practicable, a minimum headway between two consecutive truck convoys of 10 minutes is recommended and separation of vehicles should be maintained during the whole trip.</li> </ul>	Minimize explosive truck accident severity.	Contractor for DHK	Transport route/ Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>
S8.9.1		<ul style="list-style-type: none"> <li>▪ Implement a better emergency response and training to make sure the adequate fire</li> </ul>	Minimize explosive truck fire involvement frequency.	Contractor for DHK	Transport route/ Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>

		<p>extinguishers are used and attempt is made to evacuate the area of the incident or securing the explosive load if possible.</p> <ul style="list-style-type: none"> <li>All explosive vehicles should be equipped with the required amount and type of fire extinguishers and shall be agreed with Mines Division.</li> </ul>						
S8.9.3		<ul style="list-style-type: none"> <li>Detonators shall not be transported in the same vehicle with other Class 1 explosives and separation of vehicles should be maintained during the trip.</li> </ul>	Minimize explosive truck accident frequency.	Contractor for DHK	Transport route/ Throughout operation of the Project	O	-	<p>✓</p> <p><b>Properly implement during Operation Phase</b></p>
S8.9.3		Location for stopping and unloading from truck to be provided as close as possible to shaft, free from dropped loads,	To ensure that the risks from the proposed explosives storage and transport would not be	Contractor for DHK	End of Transport route/ Throughout operation of the	O	-	<p>✓</p> <p><b>Properly implement during Operation Phase</b></p>

		hot work, etc. during time of unloading.	unacceptable		Project			
S8.9.3		Develop procedure to ensure that parking space on the site is available for the explosive truck. Confirmation of parking space should be communicated to truck drivers before delivery. If parking space on site cannot be secure, delivery should not commence.	To ensure that the risks from the proposed explosives storage and transport would not be unacceptable	Contractor for DHK	End of Transport route/ Throughout operation of the Project	○	-	✓ <b>Properly implement during Operation Phase</b>
S8.9.3		Ensure lining is provided within the transportation box on the vehicle and in good condition before transportation.		Contractor for DHK	Transport route/ Throughout operation of the Project	○	-	✓ <b>Properly implement during Operation Phase</b>
S8.9.3		Ensure that packaging of detonators remains intact until handed over at blasting site.	To meet the ALARP requirement.	Contractor for DHK	End of Transport route/ Throughout operation of the Project	○	-	✓ <b>Properly implement during Operation Phase</b>
S8.9.3		Emergency plan to include activation of	Prevent fire spreading and reducing likelihood of	Contractor for DHK	Transport route/ Throughout	○	-	✓ <b>Properly implement</b>

		fuel and battery isolation switches on vehicle when fire breaks out.	prolonged fire leading to explosion.		operation of the Project			<b>during Operation Phase</b>
S8.9.3		<ul style="list-style-type: none"> <li>▪ Ensure that cartridged emulsion packages are damage free before every trip.</li> </ul>	To meet the ALARP requirement.	Contractor for DHK	Transport route/ Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <b>Properly implement during Operation Phase</b>
S8.9.3		<ul style="list-style-type: none"> <li>▪ Ensure that explosives will be offloaded and stored away from the railway protection area according to the MTRCL railway protection area plan.</li> </ul>	To meet the ALARP requirement.	Contractor for DHK	The three worksites (i.e. Mid-Ventilation Adit, North Portal and South Portal)/ Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <b>Properly implement during Operation Phase</b>
S8.9.3		<p>Vehicles should meet Licenced Vehicle Safety Requirements including:</p> <ul style="list-style-type: none"> <li>▪ Battery isolation switch;</li> <li>▪ Front mounted exhaust with spark arrestor;</li> </ul>	Prevent fire spreading and reducing likelihood of prolonged fire leading to explosion.	Contractor for DHK	Transport vehicle/ Throughout operation of the Project	O	<i>CEDD's Guidance Note on Requirements for Approval of an Explosive Delivery Vehicle</i>	<p style="text-align: center;">✓</p> <b>Properly implement during Operation Phase</b>

		<ul style="list-style-type: none"><li>▪ Fuel level should be kept as far as possible to the minimum level required for the transport of explosives;</li><li>▪ Minimum 1 × 9 kg water based AFFF fire extinguisher to be provided;</li><li>▪ Minimum 1 × 9 kg dry chemical powder fire extinguisher to be provided;</li><li>▪ Horizontal fire screen on cargo deck and vertical fire screen mounted at least 150mm behind the drivers cab and 100mm from the steel cargo compartment, the vertical screen shall protrude 150mm in excess of all three (3) sides of the steel cargo compartment;</li></ul>						
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		<ul style="list-style-type: none"> <li>▪ Cigarette lighter removed;</li> <li>▪ Two (2) battery powered torches for night deliveries.</li> </ul>						
S8.9.3		<p>Vehicles shall be dedicated explosive transport vehicles and should be maintained in good operating condition;</p> <ul style="list-style-type: none"> <li>▪ Daily checks on tyres and vehicle integrity.</li> <li>▪ Regular monthly vehicle inspections for fuel system, exhaust system, brakes, electrics, battery, cooling system and engine oil leaks.</li> <li>▪ Vehicle log book in which monthly inspections and maintenance requirements are recorded</li> </ul>	Ensure vehicle remains as safe as possible	Contractor for DHK	Transport vehicle/ Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>
S8.9.3		<ul style="list-style-type: none"> <li>▪ Drivers should be selected based on good</li> </ul>	Minimize explosive truck accident frequency and/ or	Contractor for DHK	Vehicle driver for Transport route /	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement</b></p>



		<p>safety record, and medical checks. Use only experienced driver(s) with good safety record.</p> <ul style="list-style-type: none"> <li>It is recommended that drivers be registered by the Commissioner of Mines; over the age of 25 years with proven accident free record; have more than seven (7) year driving experience without suspension; .hold a Driving License for the class of vehicle for at least one (1) year; adopt a safe driving practice including having attended a defensive driving course; pass a medical check and are assessed as fit to drive explosives vehicles; and are not</li> </ul>	severity.		Throughout operation of the Project			<b>during Operation Phase</b>
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		<p>dependent on banned substances.</p> <ul style="list-style-type: none"><li>▪ Drivers should attend relevant training courses recognized by the Commissioner of Mines, including but not limited to: the laws and Regulations relating to the transport of explosives: and Security and safe handling during the transport of explosives.</li><li>▪ Drivers should attend training courses provided by the explosives manufacturer or distributor, covering:<ul style="list-style-type: none"><li>- explosives identification;</li><li>- explosion hazards; and</li><li>- explosives sensitivity;</li><li>- dangers which could be</li></ul></li></ul>						
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		<p>caused by the types of explosives;</p> <ul style="list-style-type: none"> <li>- packaging, labelling and characteristics of the types of explosives;</li> <li>- the use of fire extinguishers and firefighting procedures; and</li> <li>- emergency response procedures in case of accidents.</li> </ul>						
S8.9.3		<ul style="list-style-type: none"> <li>▪ The Driver will also be responsible for various matters as listed in the EIA, including having a full set of Material Safety Data Sheets (MSDS) for each individual explosive aboard the vehicle and for the particular journey, etc.</li> <li>▪ The MSDS and Removal</li> </ul>	Minimize explosive truck accident frequency and/ or severity.	Contractor for DHK	Vehicle driver for Transport route/ Throughout operation of the Project	O	-	<p style="text-align: center;">✓</p> <p style="text-align: center;"><b>Properly implement during Operation Phase</b></p>

		Permit (where applicable) shall be produced to any officer of the Minds Division of CEDD upon request.						
S8.9.3		Explosive Vehicle Attendants shall: - Be the assistant to the driver in normal working conditions and in case of any emergency - Be conversant with the emergency response procedures - Be competent to use the fire extinguishers and the vehicle emergency cut-off switches - At least one of the vehicle attendant(s) should be equipped with a mobile phone and the relevant MSDS and emergency response plan	Reduce number of journeys required	Contractor for DHK	Vehicle driver for Transport route/ Throughout operation of the Project	O	-	✓ <b>Properly implement during Operation Phase</b>
S8.9.3		For explosive selection, the	To meet the ALARP	Contractor for	For TLEM site	O	-	✓

		following should be considered: <ul style="list-style-type: none"> <li>▪ Cartridged Emulsions with perchlorate formulation should be avoided</li> <li>▪ Cartridged Emulsions with high water content should be preferred.</li> </ul>	requirement.	DHK	and Transport route / Throughout operation of the Project			<b>Properly implement during Operation Phase</b>
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\* O = Operation; D = Decommissioning of the TLEM; CoP = Completion of Project

## **Appendix E**

### **LETTER TO MINES DIVISION TO RETURN LICENSE AND STOCK BOOK**

Your Ref.:

Our Ref.: LTH/CEDD/L/13049/Tkh

Date: 17<sup>th</sup> August 2017

Chief Geotechnical Engineer/Mines  
Mines Division,  
Geotechnical Engineering Office  
Civil Engineering and Development Department  
25/F, 410 Kwun Tong Road  
Kowloon, Hong Kong

**Attn: Mr. Wing-Hung Lee (Explosive Officer B)**

Dear Sirs,

**Contract No. CV/2012/08**

**Liantang / Heung Yuen Wai Boundary Control Point**

**Site Formation and Infrastructure Works – Contract 2**

**Return Tai Shu Ha Magazine (Purple 131) Licence and Stock Book (Blasting Explosives Register)**

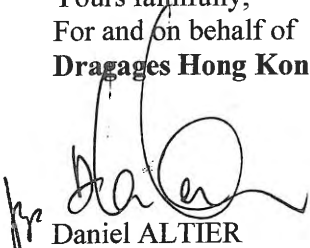
Due to our South Tunnel blasting work finished on 15<sup>th</sup> August 2017, the Tai Shu Ha Magazine (Purple 131) will close after site inspection on 17<sup>th</sup> August 2017.

We will return the following documents as below:

- 2 Stock Books (Blasting Explosives Register)
- 2 Licences (A002180 and A002181)

Should you have any inquiry, please do not hesitate to contact Mr. Tse at 9807 5832.

Yours faithfully,  
For and on behalf of  
**Dragages Hong Kong Limited**

  
Daniel ALTIER  
Project Director

DAL/A/P/VAY/TKH

Encl.

c.c.: AECOM - Mr Francis Leong

**Dragages Hong Kong Limited**

Site Office : Junction of Sha Tau Kok Road and Wo Keng Shan Road, Fanling

Mailing Address : P.O. Box No. 541 Fanling Post Office, Hong Kong

Head Office : 3/F, Island Place Tower, 510 King's Road, North Point, Hong Kong

Tel 電話 : +852 2171 3000 Fax 傳真 : +852 2171 3299

香港寶嘉建築有限公司

工地辦事處：粉嶺沙頭角公路及禾徑山路交界

郵寄地址：粉嶺郵政局郵箱541號

總寫字樓：香港北角英皇道510號港運大廈3樓

www.dragageshk.com

**By Hand**

Confidential: Yes No		
BKL/TW (CV/2012/08)		
	ACT	INFO
PD-BAL		X
EPD		X
GCM		
TBM		
Tredi		
MV & S		
Building		X
Survey		
Plant		
Procurement		
TM		
Design		
Method		
Planning		
Geotechnical		
COM		
QSE		

**Endorsed by the AECOM**

  
Kelvin Ma  
Blasting Competent Supervisor

## **Appendix F**

### **LETTER FROM EPD TO APPROVE AND PROPOSAL TO CHANGE THE SPECIES FOR REINSTATEMENT PLANT**



本署編號  
OUR REF: EP 2/GKI/64 Pt.4  
來函編號  
YOUR REF: LTW/EPD/L/18691/JTa  
電話  
TEL. NO.: 2835 1145  
圖文傳真  
FAX NO: 2591 0558  
電子郵件  
E-MAIL:  
網址  
HOMEPAGE: <http://www.epd.gov.hk>

**Environmental Protection Department**  
**Branch Office**  
28th Floor, Southorn Centre,  
130 Hennessy Road,  
Wan Chai, Hong Kong.



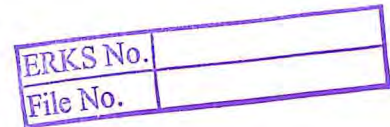
環境保護署分處  
香港灣仔  
軒尼詩道  
一百三十號  
修頓中心廿八樓



25 June 2019

By Fax (2171 3299)

Dragages Hong Kong Limited  
Site Office,  
Junction of Sha Tau Kok Road and Wo Keng Sam Road, Fanling  
P.P. Box No. 541 Fanling Post Office,  
Hong Kong  
(Attn: Mr. Alan KAM)



Dear Mr. KAM,

**Environmental Impact Assessment Ordinance, Cap. 499**

**Operation of the Existing Tai Lam Explosives Magazine at Tai Shu Ha, Yuen Long for Liantang / Heung Yuen Wai Boundary Control Point Project  
(Environmental Permit No. EP-502/2015/A)  
(Environmental Permit (EP) Condition 2.5)**

**Alternative Proposal for Reinstatement Planting at Tai Shu Ha Explosive Magazine**

I refer to your letter dated 16.5.2019, which was received by this Office dated 21.5.2019, seeking our views regarding the captioned, with certification and verification from the ET Leader and the IEC, proposing, *C. canphora* (樟樹) to substitute *C. parthenoxylon* (黃樟) for reinstatement planting at Tai Shu Ha Explosive Magazine required as per Condition 2.5 of the captioned EP.

Section 3.4.9 of the concerned Tree Planting and Landscape Plan (TPLP) indicates that the list of recommended understory vegetation species for mitigatory planting as shown in Table 3.5 of the TPLP are not exhaustive or exclusive, and landscape designers responsible for the detailed design shall be permitted to propose suitable alternative species that meet the functional requirements of the landscape design.

Having consulted with AFCD and PlanD, provided that the same number of trees will be planted in the Tai Shu Ha Magazine site, we have no comment on your proposal as both *C. canphora* (樟樹) and *C. parthenoxylon* (黃樟) serve similar functional requirements. This minor change in proposed tree species in the approved TPLP can be accommodated in the EM&A mechanism. The proposal should be covered in the monthly EM&A report of the captioned Project.

(Chris C.C. WONG)  
Assistant Environmental Protection Officer  
for Director of Environmental Protection

c.c.

CEDD (Attn: Mr. PY LU)  
 AFCD (Attn: Ms. YN CHAN)  
 PlanD (Attn: Mr. Macro YIP)  
 RDO/HyD (Attn: Mr. XIE Ting)  
 MTRCL (Attn: Mr. Raymond WONG)

fax: 3547 1659  
 fax: 2377 4427  
 fax: 2116 0752  
 fax: 2761 1508  
 fax: 2993 7577

Internal

S(SA)6, S(SA)3, S(RN)2

SE/1	E/2	SE/4		
lv	RB			

Our Ref.: LTH/EPD/L/18691/JTa

Date: 16 May 2019

Environmental Assessment Division  
Strategic Assessment Group  
Environmental Protection Department  
27/F., Southorn Centre  
130 Hennessy Road  
Wan Chai, Hong Kong

Attn: Mr. WONG Chi Chung, Chris

Dear Mr. WONG

**Contract No. CV/2012/08**  
**Liantang / Heung Yuen Wai Boundary Control Point**  
**Site Formation and Infrastructure Works – Contract 2**  
**Alternative Proposal for Reinstatement Planting at Tai Shu Ha Explosive Magazine**

We, Dragages Hong Kong Ltd, is the holder of the Environmental Permit (No.: EP-502/2015/A) for Operation of Tai Shu Ha Explosive Magazine in Yuen Long. Pursuant to condition 2.5 of the EP, reinstatement planting is required after the decommission of the Magazine.

The reinstatement planting was commenced in April 2018. According to the approved Tree Planting and Landscaping Plan for XRL-TLP10: Works in Yuen Long District (Tai Shu Ha) (Rev 1) enclosed in Annex 3B of the EIA report (Register No.: AEIAR-193/2015), 11 tree species (Total 454 trees) are required to be planted in the Magazine.

However, one particular trees species (Total 41nos), namely *C. parthenoxylon* (黃樟) was found not available in the market, notwithstanding our landscaping contractor has made every endeavor to source this native species from various nurseries both in Mainland China and Hong Kong in the past 12 months. Consequently, the Independent Tree Specialist (ITS) appointed by the CEDD Liantang Contract, proposed another native species, *C. camphora* (樟樹) substituting for *C. parthenoxylon* (黃樟).

The subject was discussed between your goodself and the IEC (Mr. Adi Lee) in early February 2019. In this connection, we would like to submit herewith an alternative planting proposal endorsed by the ETL and IEC for your consideration and acceptance.

At present, all landscaping works in the Magazine has been completed except for the planting of the remaining 41nos. of *C. camphora* (樟樹), provided that our proposal is accepted. We wish the reinstatement planting works can be completed in May 2019 and followed by the undertaking of the maintenance period as requested by the CEDD. In this regard, your early response on your view with respect to the captioned proposal is highly appreciated.

Should you have any query, please do not hesitate to contact the Project IEC (Mr. Adi LEE) at 2618 2831 or our QSE Manager (Mr. Y.T SO) at 9307 8728.

Thank you for your time considering our proposal.

Remarks:		Dragages Hong Kong Limited
Confidential: Yes		Site Office : Junction of Sha Tau Kok Road and Wo Keng Shan Road, Fanling
HKLTH (CV/2012/08)		Mailing Address : P.O. Box No. 541 Fanling Post Office, Hong Kong
PD	ACT	Head Office : 3/F Island Place Tower, 510 King's Road, North Point, Hong Kong
DPD	TELEPHONE	Telephone : +852 2171 3000 Fax 傳真 : +852 2171 3299
GC		香港寶嘉建築有限公司
Work		工程地址 : 粉嶺沙頭角公路及禾徑山路交界
Plant		郵寄地址 : 粉嶺郵政局郵箱541號
Procurement		樓宇字號 : 香港北角英皇道510號港運大廈3樓
EM		www.dragageshk.com
Design		
Method		
Planning		
Geotechnical		
AGF		
COM		
QSE		

By Hand

Our Ref.: LTH/EPD/L/18691/JTa

Date: 16 May 2019

Yours faithfully,  
For and on behalf of  
**Dragages Hong Kong Limited**



Alan KAM  
**Project Director**

AKA/VAY/YTS/JTa

*Encl.*

cc: AUES - Mr TW TAM (ETL)  
ANEWR - Mr. Adi LEE (IEC)  
Muni - Mr. Mike LEUNG (ITS)



Liantang/ Heung Yuen Wai Boundary Control Point  
Site Formation and Infrastructure Works – Contract 2  
Contract No. CV/2012/08

**Dragages Hong Kong Ltd.**

**Liantang/ Heung Yuen Wai Boundary Control Point  
Site Formation and Infrastructure Works – Contract 2  
Contract No. CV/2012/08**

**Alternative Proposal for Reinstatement Planting at Tai Shu Ha  
Explosive Magazine**

**Pursuant to Condition 2.5 of the Environmental Permit  
No.: EP-502/2015/A**

**(Rev.2)**

Prepared By:  Joshua TAM Environmental Officer Date: 16 May 2019	Reviewed By:  Y.T. SO QSE Manager Date: 16 May 2019	Endorsed By:  Alan KAM Project Director Date: 16/5/2019
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## Contents

1. Synopsis
2. Alternative proposal by Independent Tree Specialist (ITS)
3. Endorsement for the alternative proposal by ETL and IEC
4. Existing status for reinstatement planting
5. Final inspection

## Annex

- Annex A Landscape plan
- Annex B ITS's alternative proposal for substitution of tree species *C. pathenoxylon* with *C. camphora*
- Annex C Correspondence for sourcing the tree species *C. camphora*
- Annex D Endorsement from the ETL and IEC
- Annex E Photographic records for the existing status of reinstatement planting at TSH explosive magazine

## 1. Synopsis

Pursuant to Condition 2.5 of the Environmental Permit (No.: EP-502/2015/A), DHK is obliged to implement reinstatement planting upon completion of operation of the magazine as per the Approved Tree Planting and Landscaping Plan for XRL-TP-10: Works in Yuen Long District (Tai Shu Ha) (Revision 1). The relevant information extracted from the Approved Tree Planting and Landscape Plan is enclosed in Annex A for easy reference.

The reinstatement planting was commenced in April 2018. In the meantime, the landscaping contractor (Muni Arborist Ltd.) has made every endeavor to source the tree species delineated in the Landscape Plan. However, one particular species, *C. Parthenoxylon* (黃樟) is rarely selected for cultivation both in Mainland China and Hong Kong. The species is not available in the market and thus causing the reinstatement planting works cannot be completed on schedule.

In this regard, the Independent Tree Specialist (ITS) appointed by the CEDD Liantang Project, Mr. Mike Leung hereby advises an alternative planting proposal for EPD's consideration.

## 2. Alternative proposal

With respect to unavailable source of the tree species *C. Parthenoxylon* (黃樟), the ITS proposes to substitute it with another native species *C. camphora* (樟樹). Practically, both native species are evergreen broadleaved and have similar flowering and fruiting time. The physical characteristic and ecological value of the two species are similar. An explanatory proposal from the ITS and the photo of the proposed species *C. camphora* (樟樹) is enclosed in Annex B for reference.

On the other hand, all correspondences in sourcing the tree species *C. Parthenoxylon* (黃樟) from other landscaping contractor and nursery site are enclosed in Annex C for reference.

### 3. Endorsement for the alternative proposal

DHK solicited professional advices from the ETL (Mr. TW Tam) and the IEC (Mr. Adi Lee) with respect to the alternative proposal. Both ETL and IEC opine that the alternative proposal is feasible for implementation. Respective endorsement letters from the ETL and IEC are enclosed in Annex D for reference.

### 4. Existing status for reinstatement planting

The reinstatement planting for the magazine site has been implementing in accordance with the CEDD General Specification for landscaping works. All evidences such as (1) Test reports for soil mix and soil conditioner, (2) Specification of mulch material, (3) Photographic records for tree and shrub, are well documented.

At present, all landscaping works have been completed except for the planting of the required species *C. Parthenoxylon* (黃樟). Photographic records for the existing magazine site are enclosed in Annex E for information.

### 5. Final inspection

Upon the EPD's approval for the alternative proposal, planting for *C. camphora* (樟樹) shall be commenced and followed by a final joint inspection.

The final joint inspection will be carried out by the ETL, IEC, ITS and DHK. In the case that the ETL and IEC verified the reinstatement planting works are completed in compliance with the approved Landscape Plan, DHK will have fulfilled the obligation for implementing the reinstatement planting (Condition 2.5 of the Environmental Permit). Subsequently, DHK will surrender the Environmental Permit for this Project in due course.

[ End of the Proposal ]



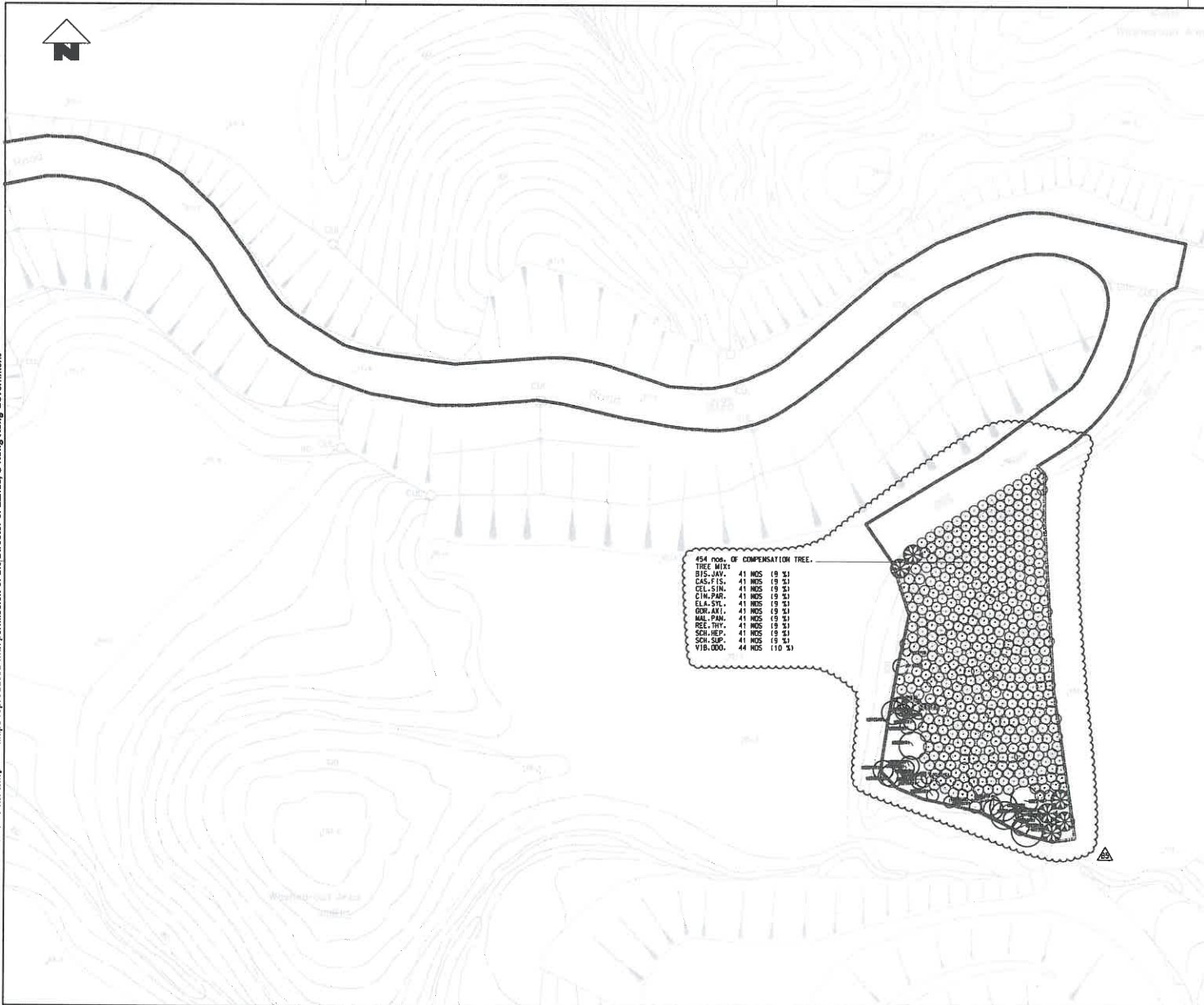
## **Annex A**

Landscape plan

(Extracted from Appendix III of the Approved Tree Planting and Landscape Plan for XRL-TLP10)

Maps reproduced with permission of the Director of Lands, © Hong Kong Government

FILENAME: C:\p\06\1\PHV\A58\_84385.DGN DATE: 2009/12/23 10:58:53 AM USER: DLS\A58\_84385.DGN

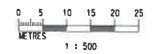


454 nos. OF COMPENSATION TREE.

TREE MIX	NO.	SIZE
BIS. JAV.	41 NOS	(8 'S)
CAS. FIS.	41 NOS	(8 'S)
CEL. SM.	41 NOS	(8 'S)
CIN. PAR.	41 NOS	(8 'S)
ELA. SYL.	41 NOS	(8 'S)
GOR. AXI.	41 NOS	(8 'S)
MAL. PAN.	41 NOS	(8 'S)
REC. THY.	41 NOS	(8 'S)
SCH. SUP.	41 NOS	(8 'S)
VIB. OOO.	44 NOS	(10 'S)

LEGEND:

Type	Botanical Name	Chinese Name	Standard	Spacing	Size (HxSPxDA)	Quantity
樹種	樹名	樹名	樹種	間距	樹種	樹種
TREE						
BIS. JAV.	BISCHOFIA JAVANICA	魚尾木	STANDARD	2.5M	3.5Mx2.5Mx0.05M	41
CAS. FIS.	CASTANOPSIS FISSA	銀耳銀葉	STANDARD	2.5M	4Mx2.5Mx0.05M	41
CEL. SM.	CELIS SINENSIS	朴樹	STANDARD	2.5M	3.5Mx2.5Mx0.05M	41
CIN. PAR.	CINNAMOMUM PARTHENDYCTION	肉桂	STANDARD	2.5M	3.5Mx2.5Mx0.05M	41
ELA. SYL.	ELAEODENDRUM SYLVESTRE	山桂葉	STANDARD	2.5M	3.5Mx2.5Mx0.05M	41
GOR. AXI.	GORDONIA AXILLARIS	大葉榿	STANDARD	2.5M	3.5Mx2.5Mx0.05M	41
MAL. PAN.	MALLOTUS PANICULATUS	牛樟	STANDARD	2.5M	3.5Mx2.5Mx0.05M	41
REC. THY.	REEVESIA THYRSODEA	地盤樹	STANDARD	2.5M	3.5Mx2.5Mx0.05M	41
SCH. SUP.	SCHIEFLERA HEPTAPHYLLA	鴨腳木	STANDARD	2.5M	4Mx2.5Mx0.05M	41
SCH. SUP.	SCHIMM SUPERSA	木荷	STANDARD	2.5M	3.5Mx2.5Mx0.05M	41
VIB. OOO.	VIBURNUM ODRATESMUM	珊瑚樹	STANDARD	2.5M	3.5Mx2.5Mx0.05M	44



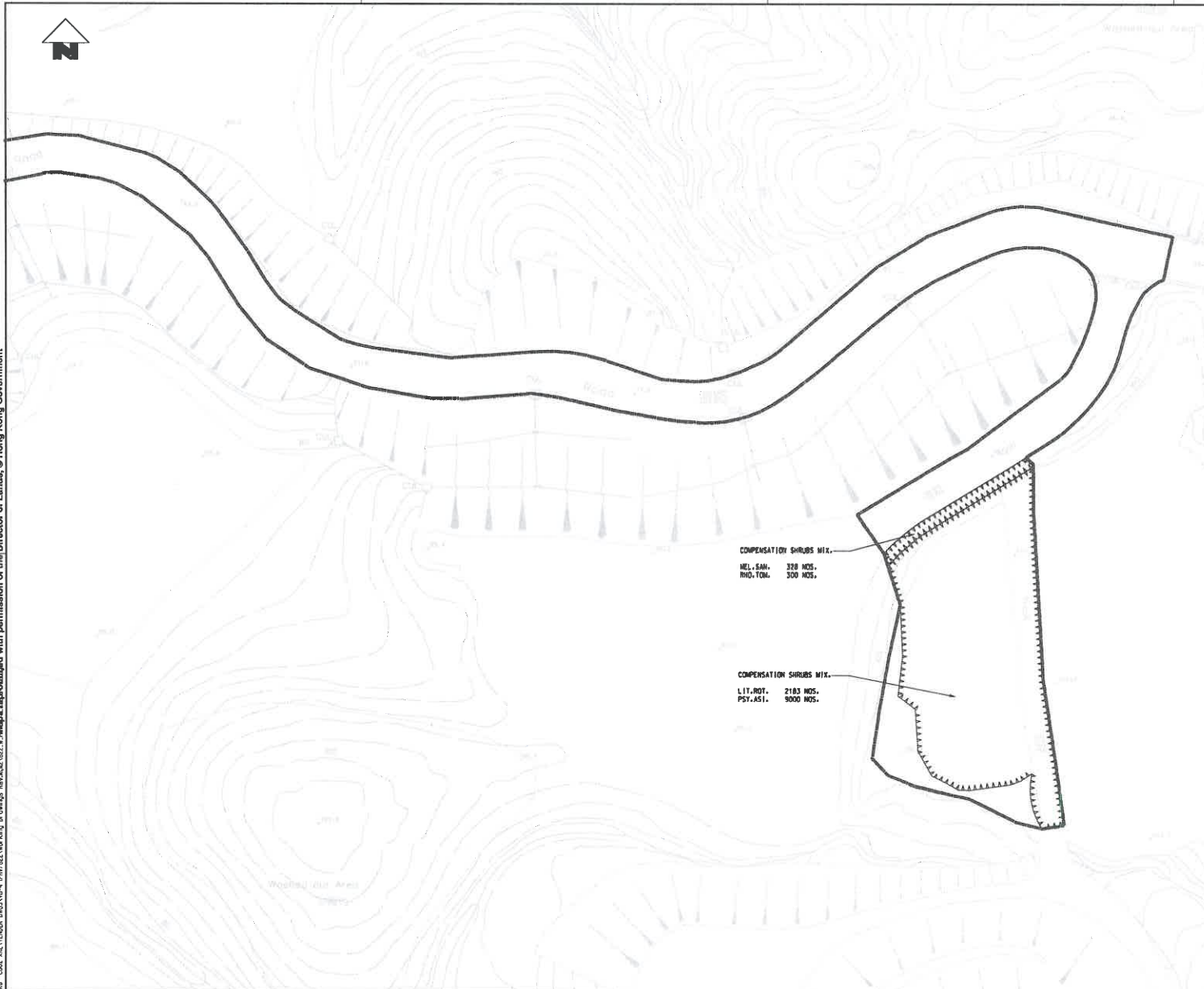
REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED
B5	REVISION TO PLANTING SCHEDULE	AC	JUL10	TM	DESIGNED	SH			
B4	REVISION TO PLANTING SCHEDULE	AC	JUN10	TM	CHECKED	KN			
B3	REVISION TO PLANTING SCHEDULE	AC	MAY10	TM	APPROVED	TM			
B2	REVISION TO PLANTING SCHEDULE	AC	MAR10	TM	DATE	DEC/2009			
B1	REVISION TO PLANTING SCHEDULE	AC	FEB10	TM					
A	WORKING DRAWING ISSUE	AC	MAR10	TM					

**EXPRESS RAIL LINK**  
 ORIGINATOR  

 Supported by  
 Anup, TFP, Farrells, DLS  
 Knight Frank, BMT, Kenneth Ng  
 CADD REF.  
 822\_W\_PHV\_ATK\_A58\_84385.DGN

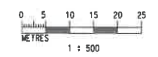
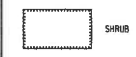
<b>CONTRACT 822</b> <b>TSE UK TSUEN TO SHEK YAM TUNNELS</b> <b>TAI SHU HA (YUEN LONG) MAGAZINE SITE</b> <b>LANDSCAPE PLAN</b>	
SCALE 1 : 500 (A1)	DRAWING NO. 822/W/PHV/ATK/A58/843
REV.	B5

MTR Logo: MTR Corporation Limited  
 Project: TSE UK TSUEN TO SHEK YAM TUNNELS  
 Drawing: SHRUB PLANTING PLAN  
 Date: 2010/03/20  
 Scale: 1:500  
 Author: [Name]  
 Checker: [Name]  
 Approver: [Name]



LEGEND:

Type	Botanical Name	Chinese Name	Spacing	Standard	Quantity
種類	學名	中文名稱	株距	規格	數量
SHRUB	LITSEA ROTUNDIFOLIA	欖欖	500 mm	300H x 250S	2183
	MELASTOMA SANGUINELUM	紫花茄	500 mm	400H x 300S	328
	PSYCHOTRIA ASIATICA	九里	500 mm	500H x 400S	9000
	RHOCHORTUS TOMENTOSA	桃金娘	500 mm	300H x 250S	300



**CONTRACT 822**  
**TSE UK TSUEN TO SHEK YAM TUNNELS**  
**TAI SHU HA (YUEN LONG) MAGAZINE SITE**  
**SHRUB PLANTING PLAN**

SCALE: 1 : 500 (A1)  
 DRAWING NO.: 822/W/PHV/ATK/A58/847  
 REV: A-3

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED
A3	WORKING DRAWING ISSUE	AC	JUL10	TM	DATE	MAR/2010			
A2	WORKING DRAWING ISSUE	AC	JUN10	TM					
A1	WORKING DRAWING ISSUE	AC	MAR10	TM					

**MTR**  
**EXPRESS RAIL LINK**  
**ATKINS**  
 Supported by Arup, TFP, Farrelle, DLS, Kenneth Ng  
 CADD REF.: 822\_W\_PHV\_ATK\_A58\_847A3.DGN

### Tree Planting Schedule at Tai Shu Ha Explosive Magazine

	Type	Botanical Name	Chinese Name	Standard	Spacing	Size (H * SPR * DIA)	Quantity
Trees 樹類	BIS.JAV.	Bischofia Javanica	重陽木	Standard	2.5m	3.5m * 2.5m * 0.06m	41
Trees 樹類	CAS.FIS.	Castanopsis Fissa	裂斗錐栗	Standard	2.5m	4m * 2.5m * 0.06m	41
Trees 樹類	CEL.SIN.	Celtis Sinensis	朴樹	Standard	2.5m	3.5m * 2m * 0.06m	41
Trees 樹類	CIN.PAR.	Cinnamomum Parthenoxylon	黃樟	Standard	2.5m	3.5m * 2.5m * 0.06m	41
Trees 樹類	ELA.SYL.	Elaeocarpus Sylvestris	山杜英	Standard	2.5m	3.5m * 2.5m * 0.06m	41
Trees 樹類	GOR.AXI.	Gordonia Axillaris	大頭茶	Standard	2.5m	3.5m * 2.5m * 0.06m	41
Trees 樹類	MAL.PAN.	Mallotus Paniculatus	白揪	Standard	2.5m	3.5m * 2.5m * 0.06m	41
Trees 樹類	REE.THY.	Reevesia Thyrsoidea	梭羅樹	Standard	2.5m	3.5m * 2.5m * 0.06m	41
Trees 樹類	SCH.HEP.	Schefflera Heptaphylla	鴨腳木	Standard	2.5m	4m * 2m * 0.06m	41
Trees 樹類	SCH.SUP.	Schima Superba	木荷	Standard	2.5m	3.5m * 2.5m * 0.06m	41
Trees 樹類	VIB.ODO.	Viburnum Oboratissimum	珊瑚樹	Standard	2.5m	3.5m * 2.5m * 0.06m	44
Shrub 灌木類	LIT.ROT.	Litsea Rotundifolia	豺皮樟	-	500mm	300H * 250S	2183
Shrub 灌木類	MEL.SAN.	Melastoma Sanguineum	毛木念	-	500mm	400H * 300S	328
Shrub 灌木類	PSY.ASI.	Psychotria Asiatica	九節	-	500mm	500H * 400S	9000
Shrub 灌木類	RHO.TOM.	Rhodomyrtus Tomentosa	桃金娘	-	500mm	300H * 250S	300

## **Annex B**

- Proposal from the ITS for substitution of tree species *C. pathenoxylon* with *C. camphora*
- Photo of the proposed species *C. camphora*



Our ref: MA/C/2019/0002/DHKL02A

Dragages Hong Kong Limited  
3/F, 510 King's Road,  
Island Place Tower,  
North Point

18 February 2019  
By email only

**Attn: Mr. Simon Wong**

Dear Mr.Simon,

**Contract No. CV/2012/08**  
**Liantang/Heung Yuen Wai Boundary Control Point**  
**Site Formation and Infrastructure Works – Contract 2**  
**Reinstatement Planting at Tai Shu Ha Explosive Magazine – Pursuant to Condition**  
**2.5 of the Environmental Permit (No. EP-502/2015/A)**

Regarding the captioned project, we have strived to source the tree species *C. pathenoxylon* in the past 6 months from various nurseries in China but unfortunately there was no stock available. According to the information we gathered from the nurseries, this species is rarely planted in China and HKSAR and therefore not cultivated.

We propose to substitute the *C. pathenoxylon* with another native species *C. camphora*, which belongs to the same genus. *C. camphora* has a long history of being planted in Hong Kong as Fung Shui Tree and in countryside. According to the “Flora of Hong Kong”, both species are native and common in Hong Kong. Both of them are evergreen broadleaved species. They have similar flowering and fruiting time. Flowering and fruiting time *C. pathenoxylon* is Mar to May and Apr to Oct respectively while that of *C. camphora* is Apr to May and Aug to Nov respectively. Both species tolerate shade environment as understory tree when young while *C. camphora* is known to be more hardy in full sun exposure. The ecological value of the two species is similar and their performance in the Tai Shu Ha site is believe to be equivalent.

Z:\MUNIDHKL\DHKL02A\C - Correspondence\C1\_Client\Letter\Outgoing\MA\_C\_2019\_0002\_DHKL02A.docx

**Muni Arborist Limited 都市樹藝有限公司**

郵遞地址: 新界大埔泰亨499號

Mailing Address: No. 499 Tai Hang, Tai Po, New Territories

辦公室/苗圃地址: 新界大埔泰亨中心圍429號地段

Office / Nursery Address: Lot 429 SB RP in DD7, Tai Hang, Tai Po, New Territories

電話 Tel: 3583 3111 傳真 Fax: 3583 1411 info@muniarborist.com www.muniarborist.com





Should you have any queries regarding the above, please feel free to the undersigned at 3583-3111.

Yours sincerely,

**Mike Leung**  
**Director**

Z:\MUNI\DHKL\DHKL02A\C - Correspondence\C1\_Client\Letter\Outgoing\MA\_C\_2019\_0002\_DHKL02A.docx

**Muni Arborist Limited 都市樹藝有限公司**

郵遞地址：新界大埔泰亨499號

Mailing Address : No. 499 Tai Hang, Tai Po, New Territories

辦公室 / 苗圃地址：新界大埔泰亨中心圍429號地段

Office / Nursery Address: Lot 429 SB RP in DD7, Tai Hang, Tai Po, New Territories

電話 Tel : 3583 3111 傳真 Fax : 3583 1411 info@muniarborist.com www.muniarborist.com





Photo of *C. camphora* (樟樹)





Photo of *C. camphora* (樟樹)

## **Annex C**

Correspondence for sourcing the tree species *C. camphora*



惠山園景有限公司  
Wai Shan Gardening Co., Ltd.

Address: Rm17-18, 10/F., Landmark North, No. 39 Lung Sum Avenue, Sheung Shui, N.T.H.K.  
Telephone: 3488 0612 Fax: 3489 0223 Email: info@waishangarden.com

14 February 2019

Muni Arborist Limited  
Lot 429SB RP in DD7,  
Tai Hang, Tai Po  
New Territories,

By Email

Attn. : Mr. Mike Leung

Dear Mr. Leung,

Re: Supply of *Cinnamomum parthenoxylon*

Thank you for your enquiry regarding the quotation of supplying standard size *Cinnamomum parthenoxylon* on 2<sup>nd</sup> July 2018. Unfortunately, we have continued asking all our suppliers in Hong Kong and China in the past 6 months and cannot find the stock you are looking for.

We look forward to work with you in future.

Yours sincerely,

For and on Behalf of  
Wai Shan Gardening Co., Ltd.


CHAN Ming Tak  
Director

MTC/sl



YY Garden Company

**Date: 3<sup>th</sup> January 2019**  
To: Muni Arborist Limited  
Attn: Mr. Mike Leung

**Re: Supply of *Cinnamomum parthenoxylon***

Thank you for your enquiry for sourcing the *C. parthenoxylon* standard size trees from our company. Over the past few months, we have sources the nurseries in China but unfortunately can not find the necessary stock you are looking for. There is no supply of such species in China as this species is not a landscape species currently use in China and Hong Kong. We recommend you to change the species and ask our company to quote again in future.

Yours sincerely.



---

Mr. K. F. Lee

日期: 2018 年 12 月 3 日

致: 都市樹藝有限公司  
收信人: 梁永先生

關於: 提供黃樟樹事宜

感謝你的報價邀請, 我可在過去半年來問了所有我們有聯絡的中國內地苗場, 但仍未找到 貴司需要的黃樟樹, 內地苗場回覆此品種在香港及國內少有合約要求種植, 故此苗場都不會培植這個品種.

此致



張先生

**Postal Address: P.O.BOX306,FANLING,N.T.**

**Main Garden: D.D.7LOT 239,TAI HANG,TAI PO.N.T. Auxiliary Garden: D.D.7LOT 426,TAI HANG,TAI PO.N.T.**

**E-mil: kdh@biznetvigator.com**

**Tel: 2650 3851, 2528 6598 Fax : 2650 3852, 2650 3187**

## **Annex D**

Endorsement from the ETL and IEC for the alternative proposal



Dragages Hong Kong Limited  
3/F, Island Place Tower  
510 King's Road  
North Point  
Hong Kong

Your reference:

Our reference: HKDHL01/50/105762

Date: 15 May 2019

Attention: Mr Joshua Tam

**BY EMAIL & POST**  
**(email:**  
**joshua.tam@dragageshk.com)**

Dear Sirs

Contract No.: CV/2012/08  
Liantang / Heung Yuen Wai Boundary Control Point  
Site Formation and Infrastructure Works – Contract 2  
Consultancy Agreement No. CV/2012/08-CA031 – Independent Environmental Checker Services  
for Explosives Magazine at Tai Shu Ha  
Alternative Proposal for Reinstatement Planting at Tai Shu Ha Explosive Magazine (Rev.2)

We refer to email of 14 May 2019 attaching an Alternative Proposal for Reinstatement Planting at Tai Shu Ha Explosive Magazine (Rev.2) for the captioned project.

Please be advised that we have no objection to the proposal and the implementation of the alternation proposal for reinstatement planting shall be subject to the EPD's agreement.

Please do not hesitate to contact the undersigned on 2618 2831 should you have any queries.

Yours faithfully  
ANEWR CONSULTING LIMITED

Adi Lee  
Independent Environmental Checker

LYMA/csym

cc AUES – Mr Ben Tam (email: bentam@fordbusiness.com)

**ANewR Consulting Limited**  
Unit 517, 5/F, Tower A, Regent Centre  
63 Wo Yi Hop Road, Kwai Chung, Hong Kong  
Tel: (852) 2618 2831 Fax: (852) 3007 8648  
Email: info@anewr.com  
Web: www.anewr.com



Our Ref: TCS/00814/15/300/L0081

**Dragages Hong Kong Limited**  
3/F, Island Place Tower,  
510 King's Road,  
North Point, Hong Kong

**Attn: Mr. Joshua Tam**

**16 May 2019**  
By email and by Post

Dear Mr. Tam,

**Re: Operation of the Existing Tai Lam Explosives Magazine at Tai Shu Ha, Yuen Long for Liantang/Heung Yuen Wai Boundary Control Point Project  
Alternative Proposal for Reinstatement Planting at Tai Shu Ha Explosive Magazine (Rev. 2)**

---

With reference to the Alternative Proposal for Reinstatement Planting at Tai Shu Ha Explosive Magazine (Rev. 2) submitted on 15 May 2019, please note that we have no objection to the proposal and implementation for reinstatement planting.

Should you have any queries or need further information, please do not hesitate to contact the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours sincerely,  
For and on Behalf of  
**Action-United Environmental Services & Consulting (AUES)**



T. W. Tam  
Environmental Team Leader  
TW/bt



## **Annex E**

Photographic records for the existing reinstatement planting at  
TSH explosive magazine



General view of the reinstatement planting



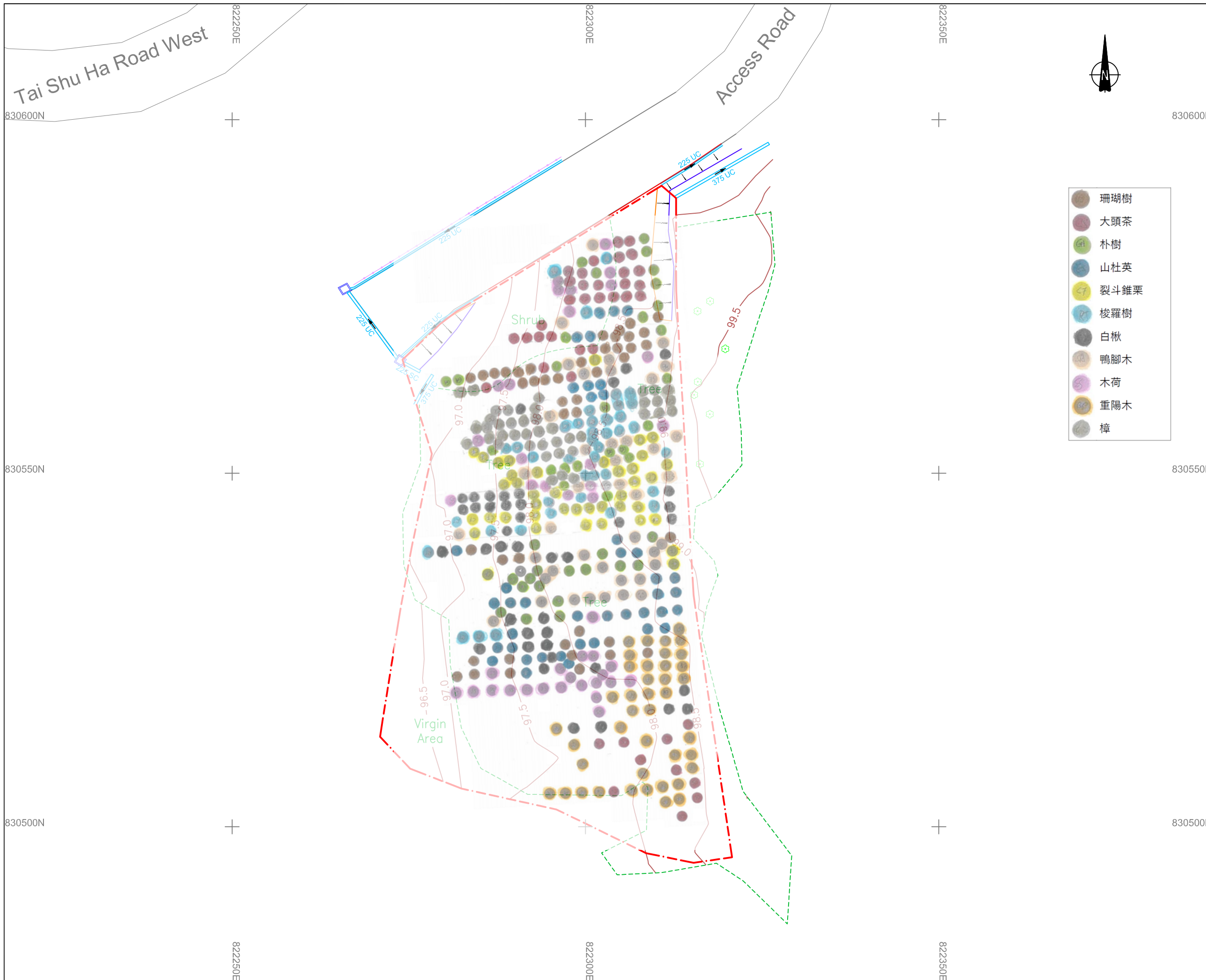
Each new tree is planted with spacing (Minimum 2.5m)



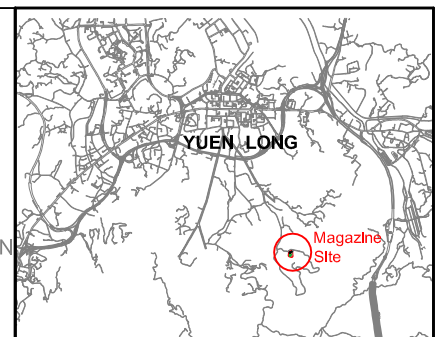
Organic mulch is applied to improve the soil condition

## **Appendix G**

### **LAYOUT PLAN FOR REINSTATEMENT PLANTING**



- 珊瑚樹
- 大頭茶
- 朴樹
- 山杜英
- 裂斗錐栗
- 梭羅樹
- 白楸
- 鴨腳木
- 木荷
- 重陽木
- 樟



KEY PLAN  
N.T.S.

- NOTES:**
- ALL LEVELS SHOWN ARE IN METRES REFER TO HONG KONG PRINCIPAL DATUM (mPD) UNLESS OTHERWISE STATED.
  - GRID LINES ARE IN H.K. METRIC GRID 1980 DATUM.
  - RED CROSS IS THE SURVEYED POSITION OF SURVEYED POINT.
  - JOINT FINAL RECORD SURVEY WAS CARRIED OUT ON 5 JUN 2018 & 5 SEP 2018.
  - SOME SPOT LEVELS ARE NOT SHOWN FOR CLARITY - FULL SET OF DATA IS ATTACHED IN CD SOFT COPY.
  - SITE BOUNDARY IS SCALED FROM DLO PLAN YLM8703-PO.
  - NO FENCES ON BOUNDARY.

- LEGEND:**
- SITE BOUNDARY
  - CONTOUR
  - CORRUGATE BEAM BARRIER
  - EXISTING TREE
  - CATCH PIT
  - FILL SLOPE
  - SPOT LEVEL
  - U-CHANNEL
  - VEG. BOUNDARY

REV.	DESCRIPTION	DATE
B	MINOR CHANGE	10/09/2018
A	FIRST FORMAL ISSUE	08/08/2018
-	FIRST ISSUE AS FOR COMMENT	10/07/2018

AECOM ASIA CO. LTD		DRAGAGES HONG KONG	
NAME: GARY MCAUSLAN	DESIGNATION: SR. RESIDENT LAND SURVEYOR	NAME: GEOFF CHOI	DESIGNATION: SITE SURVEYOR
SIGNATURE:		SIGNATURE:	
DATE:		DATE:	
NAME: EDWIN CHING	DESIGNATION: ENGINEER'S REPRESENTATIVE	NAME: ALEXANDRE PELLARIN	DESIGNATION: PROJECT DIRECTOR
SIGNATURE:		SIGNATURE:	
DATE:		DATE:	

CLIENT:  
 土木工程拓展署  
 Civil Engineering and Development Department

CONSULTANT:

LIANTANG / HEUNG YUEN WAI  
 BOUNDARY CONTROL POINT SITE FORMATION AND INFRASTRUCTURE WORKS - CONTRACT 2

CONTRACTOR:

TITLE:  
 Survey for Reinstatement planting of Tai Shu Ha Magazine Site TGLA No TYL2231

DRG. NO.		REV.	B
CONTRACT NO.	CV/2012/08	SCALE	1:500
CHECKED BY	YHC	DRAWN BY	HKH
		STATUS	FINAL
DIM. ARE IN	METRES	PAPER SIZE	A3
		SHEET	1

**PHOTO RECORD OF REINSTATEMENT PLANTING AT TMEL**



**REEVESIA THYRSOIDEA 梭羅樹**



**SCHIMA SUPERBA 木荷**



**CINNAMOMUM CAMPHORA 樟樹**



**MALLOTUS PANICULATUS 白楸**



**GORDONIA AXILLARIS 大頭茶**



**VIBURNUM ODORATISSIMUM 珊瑚樹**



**BISCHOFIA JAVANICA 重陽木**



**ELAEOCARPUS SYLVESTRIS 山杜英**



**CELTIS SINENSIS 朴樹**



**CASTANOPSIS FISSA 裂斗錐栗**



**SCHEFFLERA HEPTAPHYLLA 鴨腳木**



**MELASTOMA SANGUINEUM 毛檢  
(SHRUB)**





**PSYCHOTRIA ASIATICA 九節**  
**(SHRUB)**



**LITSEA ROTUNDIFOLIA 豺皮樟**  
**(SHRUB)**



**RHODOMYRTUS TOMENTOSA**  
**桃金娘 (SHRUB)**



**Full view of the reinstatement planting area**

## **Appendix H**

### **MONTHLY SUMMARY WASTE FLOW TABLE**

**APPENDIX G: MONTHLY SUMMARY WASTE FLOW TABLE-TLEM**

**FOR: 2018**

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill*	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse#
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000m <sup>3</sup> )
Jan	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Feb	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1875
Mar	1.0267	0.0000	0.0000	0.0000	1.0267	0.0000	0.0000	0.0000	0.0000	0.0000	0.1313
Apr	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
May	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0081
June	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Sub-total</b>	<b>1.0267</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0267</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.3269</b>
July	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Aug	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sep	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Oct	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nov	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Dec	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Sub-total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>
<b>Total</b>	<b>1.0267</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0267</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.3269</b>

Assumption: 1m<sup>3</sup> of inert material weight 2.2 tonne

1m<sup>3</sup> of non-inert material weight 1.6 tonne

1m<sup>3</sup> of chemical waste weight 0.88 tonne

**MONTHLY SUMMARY WASTE FLOW TABLE - TLEM**

**FOR: 2019**

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill*	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse#
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000m <sup>3</sup> )
Jan	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Feb	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mar	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Apr	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
May	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
June	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sub-total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
July	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Aug											
Sep											
Oct											
Nov											
Dec											
Sub-total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Assumption: 1m<sup>3</sup> of inert material weight 2.2 tonne    1m<sup>3</sup> of non-inert material weight 1.6 tonne    1m<sup>3</sup> of chemical waste weight 0.88 tonne

## **Appendix I**

### **CHECKLIST OF THE CONTENT OF THE FINAL EM&A SUMMARY REPORT**

<b>Checklist of the Content of the Final EM&amp;A Summary Report</b>		
<b>Item</b>	<b>Description (Relative Section in the Report)</b>	<b>Status</b>
1	An executive summary	Included
2	Basic project information including a synopsis of the project organisation and programme, contacts of key management, and a synopsis of work undertaken during the entire construction period. <b>(Section 2 &amp; Appendix B)</b>	Included
3	A brief summary of EM&A requirements including: <ul style="list-style-type: none"> <li>Monitoring parameters <b>(Section 3)</b></li> <li>Environmental quality performance limits (Action and Limit levels) <b>(Section 5)</b></li> <li>Environmental mitigation measures, as recommended in the project EIA study final report <b>(Section 8)</b></li> </ul>	Included
4	Drawings showing the project area, any environmental sensitive receivers and the locations of the monitoring and control stations <b>(Appendix C)</b>	Included
5	Advice on the implementation status of environmental and pollution control/mitigation measures, as recommended in the project EIA study final report, summarised in the updated implementation status proformas <b>(Appendix D)</b>	Included
6	Graphical plots of the monitored parameters over the construction period for representative monitoring stations, including the post-project monitoring annotated against.	Not Applicable (No monitoring was required for the project)
7	Compare the EM&A data with the EIA	Not Applicable (No monitoring was required for the project)
8	Effectiveness of the solid and liquid waste management <b>(Section 4)</b>	Included
9	A summary of non-compliance (exceedances) of the environmental quality performance limits (Action and Limit levels) <b>(Section 7)</b>	Included
10	A brief account of the reasons the noncompliance including a review of pollution sources and working procedures	Not Applicable (No noncompliance was recorded for the project)
11	A summary of the actions taken against the non-compliance	Not Applicable (No noncompliance was recorded for the project)
12	A summary of all complaints received (written or verbal) for each media, liaison and consultation undertaken, actions and follow-up procedures taken <b>(Section 7)</b>	Included
13	A review of the monitoring methodology adopted and with the benefit of hindsight, comment its effectiveness (including cost effectiveness)	Not Applicable (No monitoring was required for the project)
14	A summary of notifications of summons and successful prosecutions for breaches of the current environmental protection/pollution control legislations, locations and nature of the breaches, investigation, follow-up actions taken and results <b>(Section 7)</b>	Included
15	A review of the practicality and effectiveness of the EM&A programme (e.g. effectiveness and efficiency of the mitigation measures), and recommendation on any improvement in the EM&A programme <b>(Section 8)</b>	Included
16	A conclusion to state the return of ambient and/or the predicted scenario as per EIA findings <b>(Section 9)</b>	Included

## **Appendix J**

### **FOLLOW-UP AND THE OVERVIEW PHOTO TAKEN ON 20 JULY 2020**



Deficiencies identified on 6 May 2020	Follow-up Photo (Taken on 20 July 2020)
 <p data-bbox="188 1133 807 1164">Several reinstatement planting trees had fallen down.</p>	 <p data-bbox="938 1133 1362 1164">All fallen trees had been re-planted.</p>
 <p data-bbox="204 1621 793 1680">Suspected stockpile of planting soil cumulated at the nearby natural stream was observed.</p>	 <p data-bbox="853 1621 1442 1680">Suspected stockpile of planting soil cumulated at the nearby natural stream was removed.</p>



Water tube for irrigation using should be removed.



Water tube for irrigation had been removed.

Overview Photo Taken on 20 July 2020



