



# Installation of Proposed Cable Route from Cheung Sha to Tung Chung

## Updated Vegetation Survey Report (3rd Batch for Sections 7 and 13)

PREPARED FOR



CLP Power Hong Kong

DATE

2 August 2024

REFERENCE

0656103



## DOCUMENT DETAILS

DOCUMENT TITLE	Installation of Proposed Cable Route from Cheung Sha to Tung Chung
DOCUMENT SUBTITLE	Updated Vegetation Survey Report (3rd Batch for Sections 7 and 13)
PROJECT NUMBER	0656103
DATE	2 August 2024
VERSION	0
AUTHOR	Yuihong Chiu
CLIENT NAME	CLP Power Hong Kong

## DOCUMENT HISTORY

				ERM APPROVAL TO ISSUE		
VERSION	REVISION	AUTHOR	REVIEWED BY	NAME	DATE	COMMENTS
Version	0	Yuihong Chiu	Mandy To	Terence Fong	2 Aug 2024	-

SIGNATURE PAGE

# Installation of Proposed Cable Route from Cheung Sha to Tung Chung

## Updated Vegetation Survey Report (3rd Batch for Sections 7 and 13)

0656103



---

**Terence Fong**

Partner

ERM-Hong Kong, Limited  
2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hung Hom, Kowloon  
Hong Kong

© Copyright 2024 by The ERM International Group Limited and/or its affiliates ('ERM'). All Rights Reserved.  
No part of this work may be reproduced or transmitted in any form or by any means, without prior written permission of ERM.



## Environmental Permit No. EP-611/2022

### Installation of Proposed Cable Route from Cheung Sha to Tung Chung

#### Certification and Verification

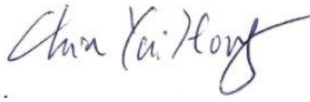
##### Reference Document/Plan

Document/Plan to be Certified/ Verified:	Updated Vegetation Survey Report (3 <sup>rd</sup> Batch for Sections 7 and 13)
Date of Report:	2 August 2024


##### Reference EP Condition

Environmental Permit Condition:	2.2 and 2.3
<p>2.2 An ecologist shall be employed by the Permit Holder before commencement of construction of the Project. The ecologist shall conduct vegetation and fauna surveys as specified under Conditions 2.3 and 2.4 of this Permit, and certify the submissions under Conditions 2.3 and 2.4 of this Permit. The ecologist shall be a person who has at least 3 years of relevant experience. The qualification and experience of the ecologist shall be verified by the IEC.</p> <p>2.3 Before commencement of site clearance works at the concerned works areas, updated vegetation survey(s) along the proposed cable route within country park shall be conducted by the qualified ecologist appointed under Condition 2.2 above to confirm presence of any newly colonised flora species of conservation importance within and in the vicinity of the concerned works area. The Permit Holder shall, no later than 1 month before commencement of site clearance works at the concerned works areas, deposit with the Director 4 hard copies and 1 electronic copy of Updated Vegetation Survey Report(s) (UVSR(s)) prepared by the qualified ecologist appointed under Condition 2.2 above, and verified by the IEC. The UVSR(s) shall provide details and findings of the updated vegetation survey(s) including details of the mitigation measures required. The UVSR(s) shall include an implementation schedule in table form to clearly list out the mitigation measures to be implemented, the implementation party, location and timing. The mitigation measures recommended and requirements specified in the UVSR(s) shall be fully implemented.</p>	

##### Certification by Qualified Ecologist

I hereby certify that the above referenced <del>document</del> /plan complies with the above referenced conditions of EP-611/2022.	
	Date: <u>2 August 2024</u>
<u>Mr Yuihong Chiu</u> Qualified Ecologist	

##### Verification by Independent Environmental Checker

I hereby verify that the above referenced <del>document</del> /plan complies with the above referenced conditions of EP-611/2022.	
	Date: <u>2 August 2024</u>
<u>Mr. Mike Pang</u> Independent Environmental Checker	

## CONTENTS

1.	INTRODUCTION	1
1.1	BACKGROUND	1
1.2	OBJECTIVE AND SCOPE OF THE PLAN	2
2.	SURVEY METHODOLOGY	3
2.1	UPDATED VEGETATION SURVEY	3
3.	RESULTS OF THE UPDATED VEGETATION SURVEY	4
3.1	UPDATED VEGETATION SURVEY	4
4.	REVIEW OF PROTECTIVE MEASURES	5
5.	IMPLEMENTATION SCHEDULE	7

## LIST OF TABLES

TABLE 3.1	SUMMARY OF SURVEY RESULTS	4
-----------	---------------------------	---

## LIST OF FIGURES

FIGURE 1.1	INSTALLATION OF PROPOSED CABLE ROUTE FROM CHEUNG SHA TO TUNG CHUNG TOWN
FIGURE 2.1	FLORA SPECIES OF CONSERVATION IMPORTANCE RECORDED ALONG THE PROJECT SITE
FIGURE 2.2	FLORA SPECIES OF CONSERVATION IMPORTANCE RECORDED ALONG THE PROJECT SITE

## ANNEXES

ANNEX 1	REPRESENTATIVE PHOTOS OF THE NEWLY RECORDED SPECIES OF CONSERVATION IMPORTANCE
ANNEX 2A	ROBUST FENCING TO BE ADOPTED
ANNEX 2B	EXAMPLE ILLUSTRATING THE SET-UP OF FENCING AND THE WORK EXCLUSION ZONE
ANNEX 2C	AREA NEEDED TO BE SET UP OF FENCING AND THE WORK EXCLUSION ZONE AT SECTION 7
ANNEX 3	CURRICULUM VITAE OF ECOLOGIST



# 1. INTRODUCTION

## 1.1 BACKGROUND

In order to reinforce the electricity supply security at South Lantau Area and meet the future loading growth, CLP proposes to install an additional underground 132kV 150MVA cable circuit connecting the existing Cheung Sha substation to the existing Tung Chung Town substation.

A Project Profile (PP-641/2022) was prepared in support of the Application for permission to apply directly (DIR) for an environmental permit (EP) for the Project under the provisions of Section 5(11) of the EIAO. The application was submitted to EPD in April 2022 with DIR permission (DIR-290/2022) and EP (EP-611/2022) granted by EPD on 17 May 2022 and 20 June 2022 respectively.

The alignment of the proposed cable route is shown in **Figure 1.1** and as indicated, part of the proposed cable route is located within the Lantau South Country Park, Lantau North Country Park and Lantau North Country Park (Extension) i.e. Sections 4-13, and part of it is outside the Country Parks (i.e. S1-S3 and S14-S22).

In accordance with the EP Conditions 2.2 and 2.3, updated vegetation survey(s) along the proposed cable route within country park shall be conducted by the qualified ecologist appointed under EP Condition 2.2 to confirm presence of any newly colonised flora species of conservation importance within and in the vicinity of the concerned works area. The Permit Holder shall, no later than 1 month before commencement of site clearance works at the concerned works areas.

### *EP Condition 2.2:*

*"An ecologist shall be employed by the Permit Holder before commencement of construction of the Project. The ecologist shall conduct vegetation and fauna surveys as specified under Conditions 2.3 and 2.4 of this Permit, and certify the submissions under Conditions 2.3 and 2.4 of this Permit. The ecologist shall be a person who has at least 3 years of relevant experience. The qualification and experience of the ecologist shall be verified by the IEC."*

### *EP Condition 2.3:*

*"Before commencement of site clearance works at the concerned works areas, updated vegetation survey(s) along the proposed cable route within country park shall be conducted by the qualified ecologist appointed under Condition 2.2 above to confirm presence of any newly colonised flora species of conservation importance within and in the vicinity of the concerned works area. The Permit Holder shall, no later than 1 month before commencement of site clearance works at the concerned works areas, deposit with the Director 4 hard copies and 1 electronic copy of Updated Vegetation Survey Report(s) (UVSR(s)) prepared by the qualified ecologist appointed under Condition 2.2 above, and verified by the IEC. The UVSR(s) shall provide details and findings of the updated vegetation survey(s) including details of the mitigation measures required. The UVSR(s) shall include an implementation schedule in table form to clearly list out the mitigation measures to be implemented, the implementation party, location and timing. The mitigation measures recommended and requirements specified in the UVSR(s) shall be fully implemented."*



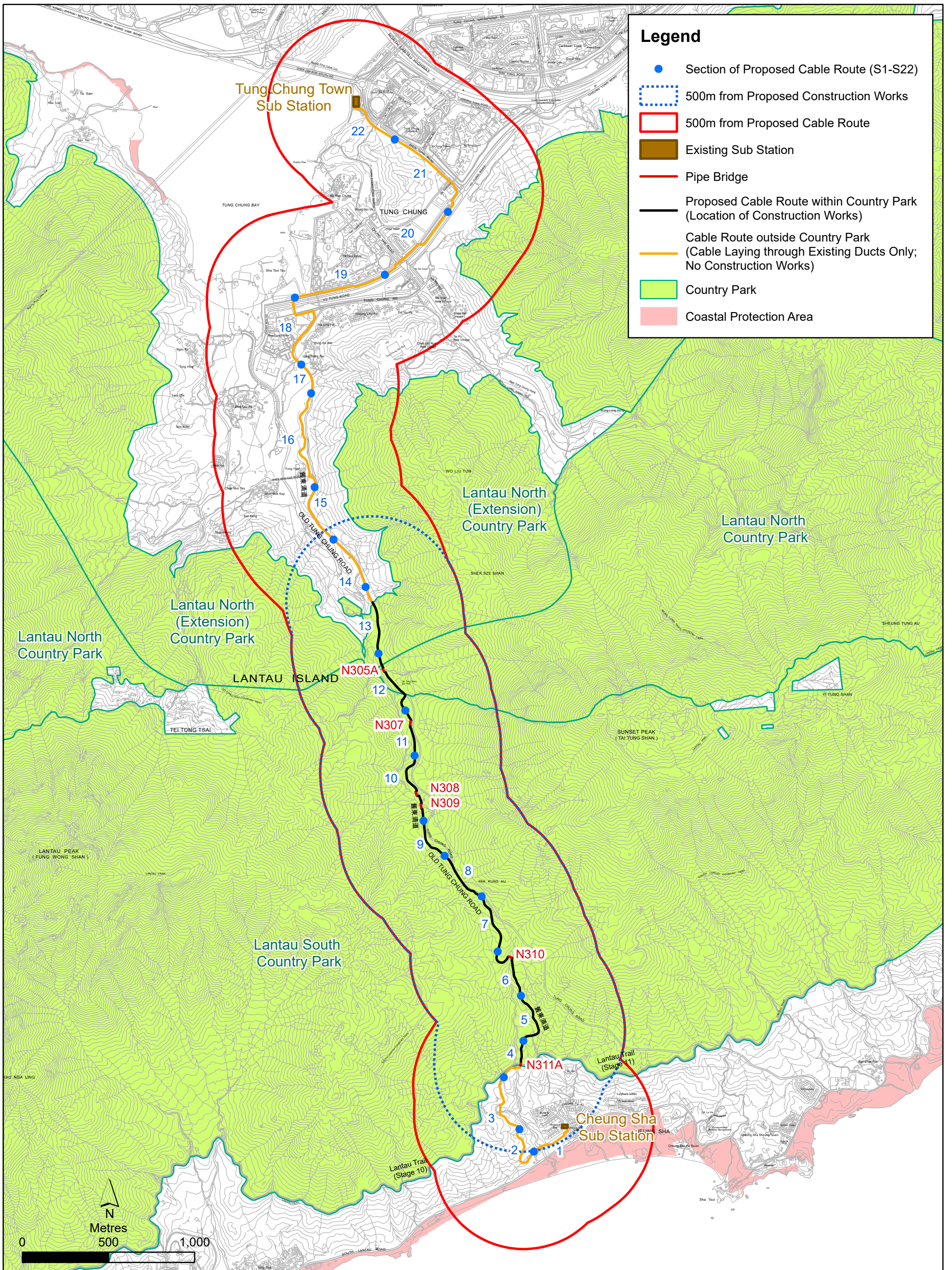


Figure 1.1

Installation of Proposed Cable Route from Cheung Sha to Tung Chung Town





The appointed qualified ecologist Mr. Yuihong Chiu has over 4 years of experience in the ecology field and has extensive experience in conducting field surveys for key flora and fauna groups. Relevant experience and qualifications of the qualified ecologist are presented in his brief CV attached in **Annex 3**. The qualification and experience of the qualified ecologist have been verified by the IEC.

## 1.2 OBJECTIVE AND SCOPE OF THE PLAN

The construction works of the proposed cable route located within the Lantau South Country Park, Lantau North Country Park and Lantau North Country Park (Extension) i.e. Sections S4-S13 will be conducted by phases. Sections 7 and 13 are included in the third phase of construction works. The updated vegetation survey along the proposed cable route including Sections 7 and 13 within country park (**Figure 1.1**) was conducted on 29 May 2024 by the qualified ecologist as specified in Condition 2.3 of the EP No. EP-611/2022. This Updated Vegetation Survey Report (UVSR) is prepared for Sections 7 and 13 (3<sup>rd</sup> Batch) by the qualified ecologist appointed under Condition 2.2 of the EP No. EP-611/2022. The UVSR provided details and findings of the updated vegetation survey including details of the mitigation measures required. Subject to the findings of the survey, the ecological preventive and mitigation measures proposed in the PP have been reviewed and updated as necessary.



## 2. SURVEY METHODOLOGY

Updated vegetation survey was carried out along the proposed cable route at Sections 7 and 13 within country park (**Figure 1.1**) on 29 May 2024. Details of the survey methods are provided in **Section 2.1**. The results and of the updated vegetation survey and the review of protective measures are given in **Sections 3** and **4**.

### 2.1 UPDATED VEGETATION SURVEY

Updated vegetation survey was conducted by walking through the proposed cable route including Sections 7 and 13 within country park (**Figure 1.1**). The survey particularly focused on confirming any newly colonised flora species of conservation importance within and in the vicinity of the concerned works area. Should any new flora species of conservation importance be identified during the survey, avoidance and/or, if not practicable, similar means of protective measures should be applied to minimise potential damage on the plant(s).

### 3. RESULTS OF THE UPDATED VEGETATION SURVEY

#### 3.1 UPDATED VEGETATION SURVEY

Based on the updated vegetation survey records, only one flora species of conservation importance *Pavetta hongkongensis*, was recorded in plantation and shrubland that is located outside the proposed cable route along Section 7 (**Figure 2.1**). As the proposed cable route will be constructed on the existing paved road and thus the newly recorded flora species of conservation importance are not subject to any direct impact from the proposed works. While no flora species of conservation concern were recorded along Section 13 (**Figure 2.2**). Representative photos of the recorded species of conservation importance are provided in **Annex 1**. A table summarising the survey result along each surveyed section is presented in **Table 3.1**.

An individual of *Aquilaria sinensis* recorded in PP at Section 7 was not recorded during updated vegetation survey (**Figure 2.1**).

TABLE 3.1 SUMMARY OF SURVEY RESULTS

Sections	Survey Result
7 ( <b>Figure 2.1</b> )	Total of five new individuals and two small patches of <i>Pavetta hongkongensis</i> were recorded in plantation and shrubland alongside the proposed cable route. An individual of <i>Aquilaria sinensis</i> found in PP at this section was not recorded during updated vegetation survey. No flora species of conservation importance will be affected.
13 ( <b>Figure 2.2</b> )	No flora species of conservation importance was newly recorded at this Section. No flora species of conservation importance will be affected.



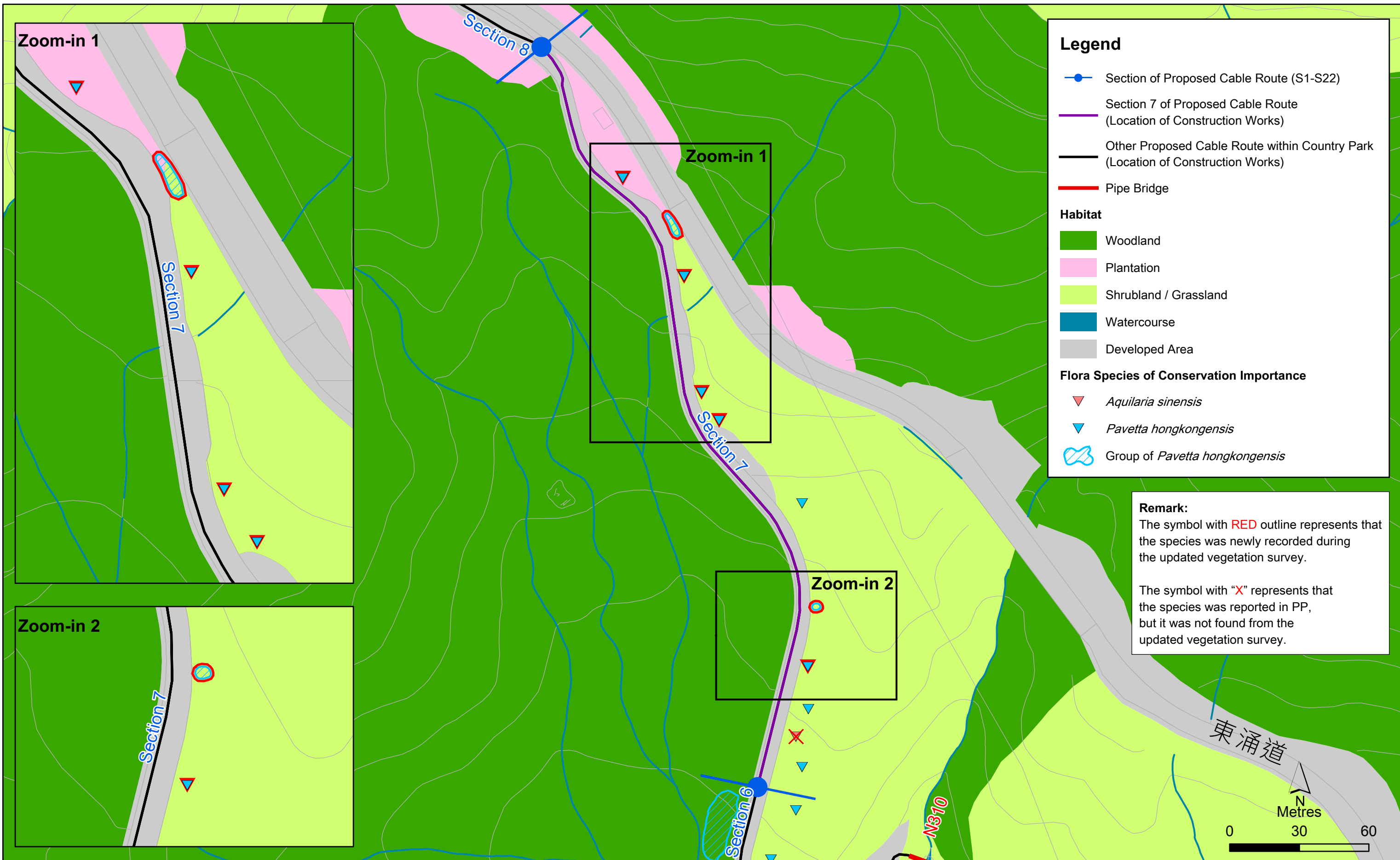


Figure 2.1

Flora Species of Conservation Importance Recorded along the Project Site



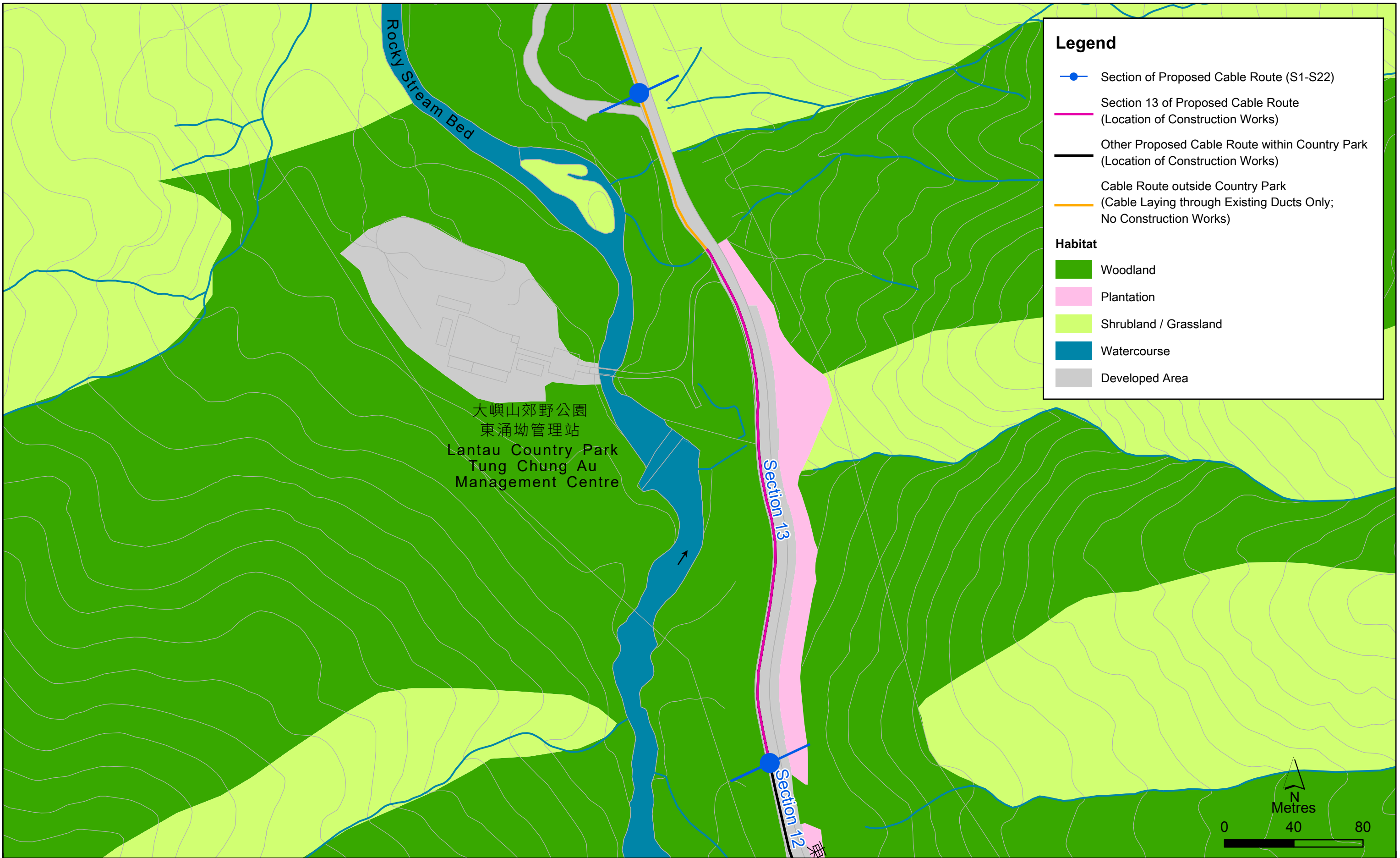


Figure 2.2

Flora Species of Conservation Importance Recorded along the Project Site





## 4. REVIEW OF PROTECTIVE MEASURES

Updated vegetation survey has been conducted to further confirm if newly recorded species will be affected under this Project. It should be noted that all of the identified individuals of flora species of conservation importance are located outside the Construction Works area. Therefore, no flora species of conservation importance is expected to be affected by the Construction Works directly. Protective/precautionary measures of direct impact on flora of conservation importance is considered not necessary.

However, considering some individuals of the flora species of conservation importance, *Pavetta hongkongensis*, were recorded near vicinity of the proposed cable route (**Figure 2.1**), trampling by workers and indirect disturbance (e.g. dust caused by the construction activities) during trenching works may affect these individuals, if uncontrolled. In order to avoid such impacts, temporary works areas, storage areas and excessive human activities associated with the construction works should be away from these plants (if any), to avoid loss of or damage to these individuals due to the construction works. Robust fencing will be used to define the works exclusion zone by surrounding sections of works area near the vicinity of any flora species of conservation importance identified to ensure works will not encroach onto these areas. The type of robust fencing to be used, locations of robust fencing to be adopted, as well as example illustrating the robust fencing and the works exclusion zone, are shown in **Annexes 2A-C**. The robust fencing will be also provided with warning sign to alert the workers. The fencing will be removed upon completion of works.

Apart from that, good site/ construction practice and housekeeping measures proposed in Section 5.1.5 of PP shall be adopted in order to minimise the potential disturbances to the surrounding natural/ semi-natural habitats (e.g. woodland and streams) and associated vegetation and wildlife arising from the project. Specific mitigation measures and good construction practices for minimising disturbances to the vegetation in the vicinity are recommended below.

- Disturbance to adjacent natural streams and the riparian woodland or shrubland/ grassland habitats will be avoided, as the construction activities will be strictly restrained in the works areas;
- Prevent runoff to be generated from the construction works. In the event of rain or at any time when rainstorms are likely to happen, exposed surfaces should be covered by tarpaulin or by other means;
- Prohibit filling and dumping to the surrounding natural habitats and especially those within the Country Park;
- Regularly check the work site boundaries to ensure that they are not breached and that no damage occurs to surrounding areas/ Country Park, particularly any identified flora of conservation importance nearby;
- Prohibit and prevent open fires within the site boundary during in the work areas;
- Works site should be kept tidy at all times. Accumulation of construction waste and general refuse should not be allowed;
- Reinstate temporary work sites/ disturbed areas, immediately after completion of the construction works; and

- Good site practice should be enforced and effective mitigation measures are required. In particular, the Practice Note for Professional Persons (ProPECC Note PN2/23) on Construction Site Drainage provides guidelines for the handling and disposal of construction discharges. It should be followed strictly to control site runoff and wastewater generated during the construction phase.



## 5. IMPLEMENTATION SCHEDULE

Under EP condition 2.1, an Independent Environmental Checker (IEC) will be employed by the Permit Holder before commencement of construction of the Project. The IEC will audit the implementation of all mitigation measures recommended in the PP and required under the EP and to confirm full compliance of the mitigation measures through a monthly audit report.

An implementation schedule is presented in **Table 5.1** to clearly list out the mitigation measures to be implemented as specified in the PP, EP and **Section 4**, and by whom, when, where and what requirement. All mitigation measures recommended and requirements specified in this UVSR and the implementation schedule will be fully implemented.

**TABLE 5.1 IMPLEMENTATION SCHEDULE OF RECOMMENDED MITIGATION MEASURES DURING INSTALLATION OF PROPOSED CABLE ROUTE (SECTIONS 7 AND 13)**

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
<b>Ecological Mitigation Measures</b>						
PP B9.1	Measure to Minimise Disturbances to Adjacent Habitats and Associated Flora of Conservation Importance					
EP condition 2.3	<p><u>Submission of Updated Vegetation Survey Report</u></p> <ul style="list-style-type: none"> <li>Before commencement of site clearance works at the concerned works areas, updated vegetation survey(s) along the proposed cable route within country park shall be conducted by the qualified ecologist appointed under EP Condition 2.2 to confirm presence of any newly colonised flora species of conservation importance within and in the vicinity of the concerned works area. The Permit Holder shall, no later than 1 month before commencement of site clearance works at the concerned works areas. The UVSR shall provide details and findings of the updated vegetation survey(s) including details of the mitigation measures required. The UVSR shall include an implementation schedule in table form to clearly list out the mitigation measures to be implemented, the implementation party, location and timing. The mitigation measures recommended and requirements specified in the UVSR shall be fully implemented.</li> </ul>	To avoid impact on flora species of conservation importance within and in the vicinity of the concerned works area	Project Proponent	-	No later than 1 month before commencement of site clearance works at the concerned works areas.	EP condition 2.2
S.5.1.5 of PP, Section 4 of this report and EP condition 2.3	<p><u>Measure to Minimise Disturbances to Adjacent Habitats and Associated Vegetation</u></p> <ul style="list-style-type: none"> <li>Temporary works areas, storage areas and excessive human activities associated with the construction works should be away from these plants (if any), to avoid loss of or damage to these individuals due to the construction works. Robust fencing will be used to define the works exclusion zone by surrounding sections of works area near the vicinity of any flora species of conservation importance identified to ensure</li> </ul>	to Minimise Disturbances to Adjacent Habitats and Associated Vegetation	Contractor	Construction Works Area	During construction	EP condition 2.3

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
	<p>works will not encroach onto these areas.</p> <ul style="list-style-type: none"> <li>• Disturbance to adjacent natural streams and the riparian woodland or shrubland/ grassland habitats will be avoided, as the construction activities will be strictly restrained in the works areas;</li> <li>• Prevent runoff to be generated from the construction works. In the event of rain or at any time when rainstorms are likely to happen, exposed surfaces should be covered by tarpaulin or by other means;</li> <li>• Prohibit filling and dumping to the surrounding natural habitats and especially those within the Country Park;</li> <li>• Regularly check the work site boundaries to ensure that they are not breached and that no damage occurs to surrounding areas/ Country Park, particularly any identified flora of conservation importance nearby;</li> <li>• Prohibit and prevent open fires within the site boundary during in the work areas;</li> <li>• Works site should be kept tidy at all times. Accumulation of construction waste and general refuse should not be allowed;</li> <li>• Reinstatement temporary work sites/ disturbed areas, immediately after completion of the construction works; and</li> <li>• Good site practice should be enforced, and effective mitigation measures are required. In particular, the Practice Note for Professional Persons (ProPECC Note PN2/23) on Construction Site Drainage provides guidelines for the handling and disposal of construction discharges. It should be followed strictly to control site runoff and wastewater generated during the construction phase.</li> </ul>					

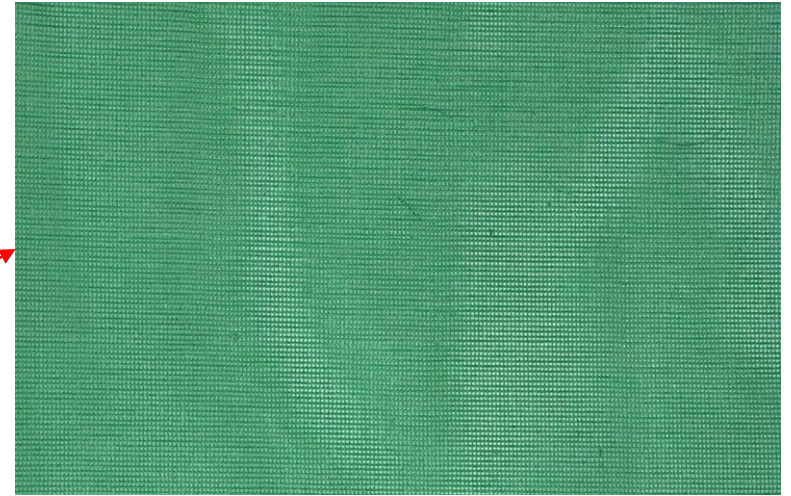




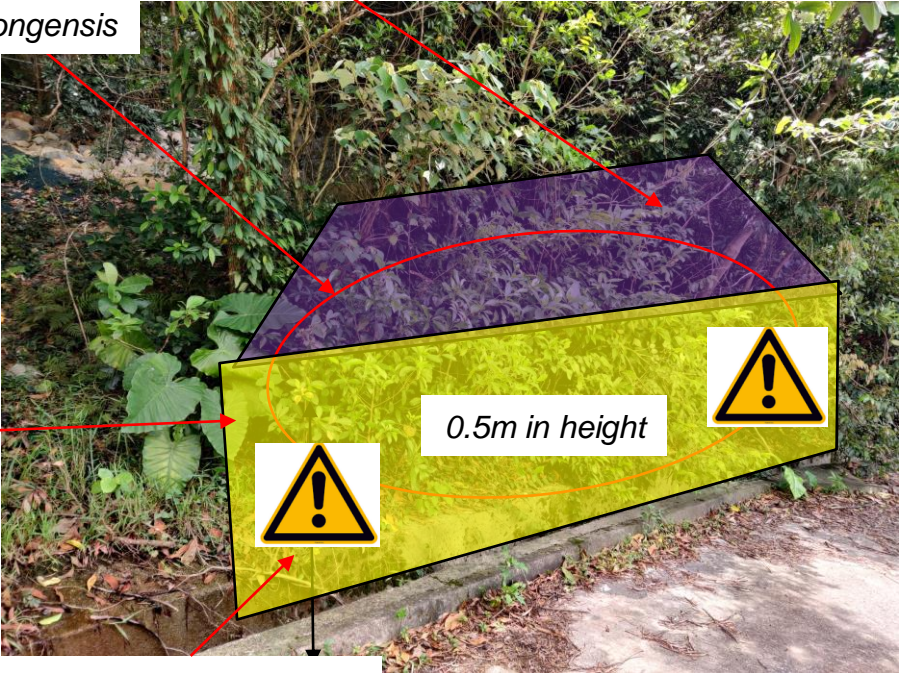
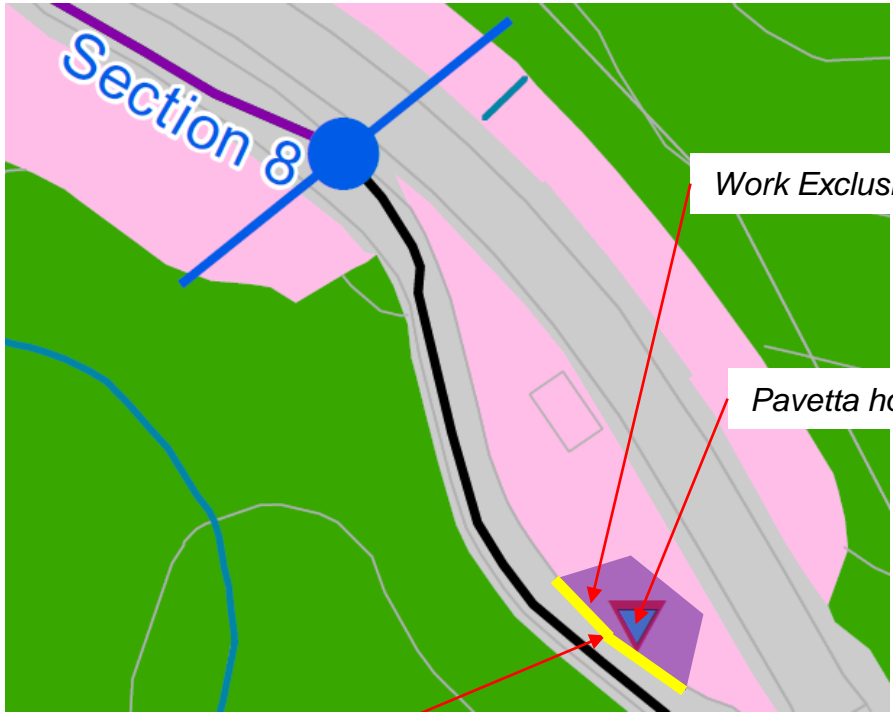
ANNEXES



*Pavetta hongkongensis*







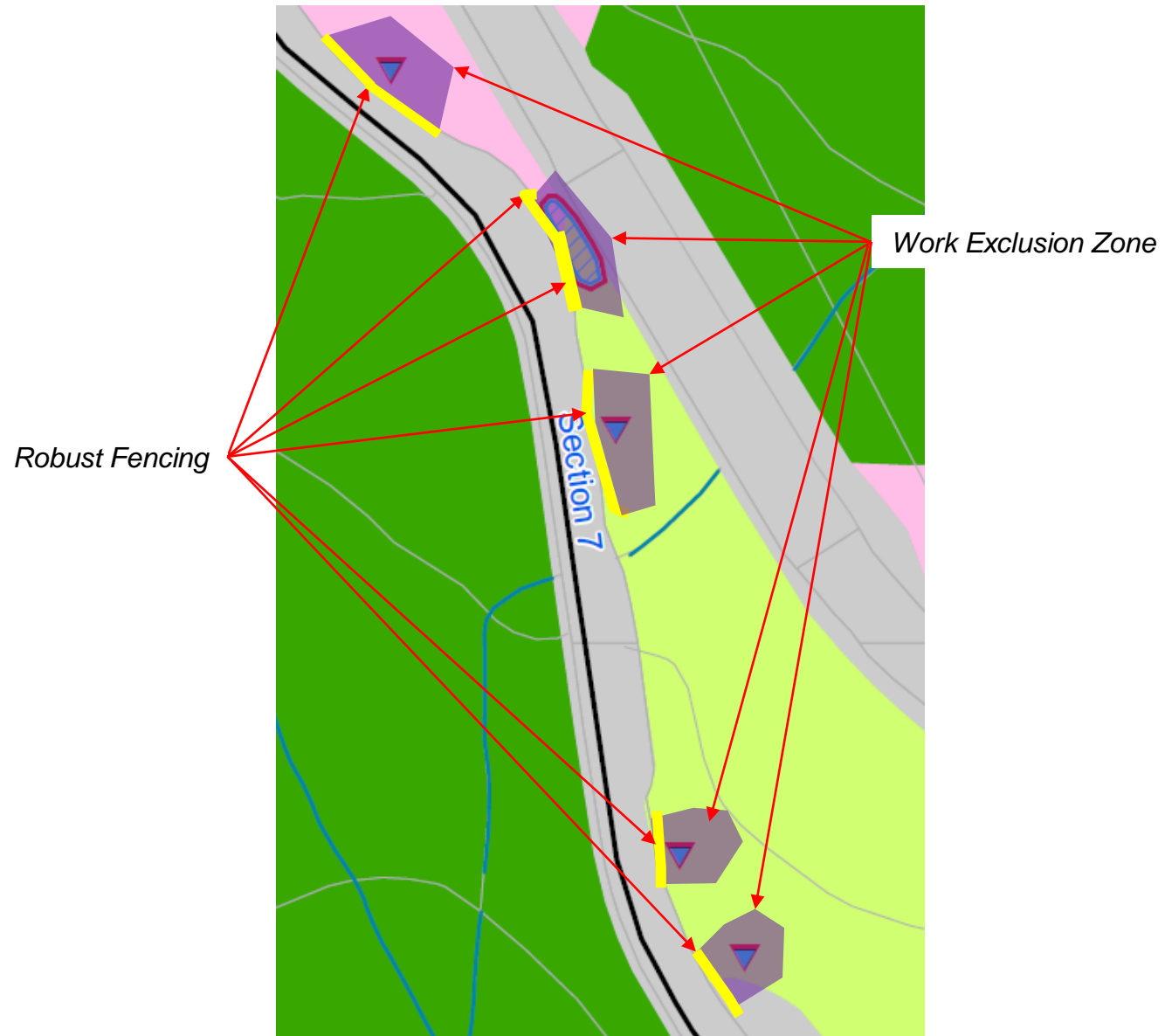
Robust Fencing

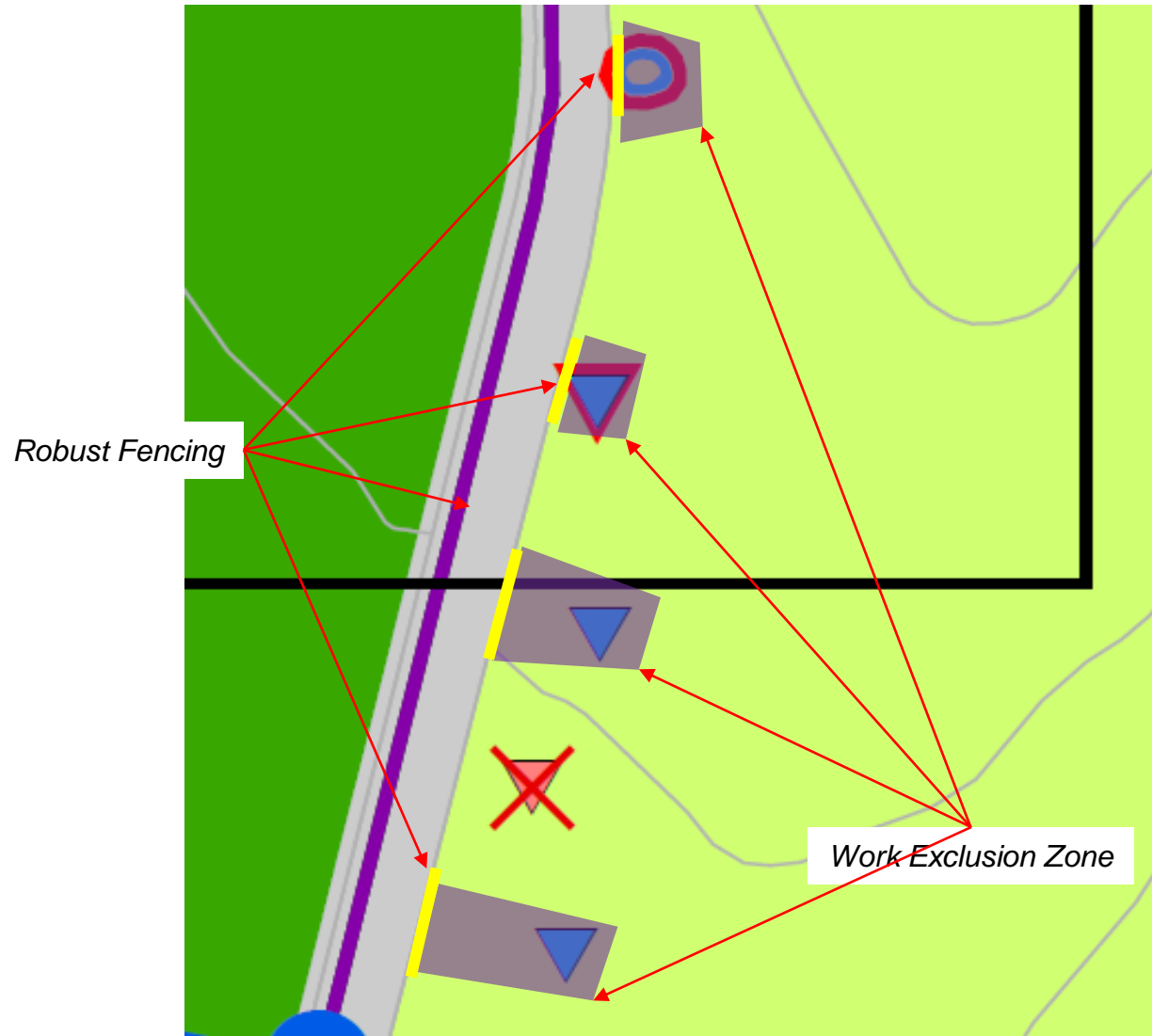
Work Exclusion Zone

Pavetta hongkongensis

0.5m in height

Warning Sign to be put on







ANNEX 3

CURRICULUM VITAE OF ECOLOGIST





# Yui Hong Chiu

## Ecologist

Yui Hong is a Consultant at ERM and is an ecologist specialising in terrestrial ecology. He has gained experience working on ecological monitoring of flora and various fauna groups during multiple environmental impact assessment projects and through his previous post at an environmental NGO which included the co-ordination of plant surveys of Fung Shui Woods in the New Territories and Hong Kong Island as well as performing regular monthly biodiversity surveys of different taxonomic groups such as Herpetofauna and Lepidoptera.

---

**EXPERIENCE:** Over four years of experience in conducting ecological surveys (flora and fauna)

**EMAIL:** [yuihong.chiu@erm.com](mailto:yuihong.chiu@erm.com)

### EDUCATION

- BSc (Hons) Environmental Management and Technology, Hong Kong University of Science and Technology, 2020

### LANGUAGES

- English
- Chinese (Cantonese, Mandarin)

### FIELDS OF COMPETENCE

- Terrestrial Ecology

### KEY PROJECTS

#### **Agreement No. CE 22/2022 (CE) Engineering Study for Ma Liu Shui Reclamation - Feasibility Study (on-going)**

He acted as a field team member to conduct baseline ecological survey of terrestrial flora and fauna groups and was involved in the terrestrial ecological impact assessment.

#### **Boundary Crossing Facilities at the Hong Kong-Zhuhai-Macao Bridge Hong Kong Port – Provision of Plant Specialist and Ornithologist Consultancy Services 2022-2024 (on-going)**

He acted as a field team member to conduct bird monitoring survey. He is also responsible for data entry, data analysis and report preparation.

**Planning Application under Section 16 of Proposed Public Utility Installation and Associated Excavation and Filling of Land in “Conservation Area” Zone, Government Land in D.D. 101, Mai Po San Tsuen, Mai Po, Yuen Long (2023)**

He acted as a field team member to conduct ecological impact assessment. He is also responsible for data entry, data analysis and report preparation.

**Agreement No. CE 65/2021 (HY) Tuen Mun Bypass – Investigation (2022 - 2023)**

He acted as a field team member to conduct baseline ecological survey of terrestrial flora and fauna groups and was involved in the terrestrial ecological impact assessment.

**Contract No. SLO 30/2021 & Contract No. SLO 5/2022 Ecological Survey for Road P1 (Tai Ho - Sunny Bay Section), Lantau (2021 - 2023)**

He acted as a field team member to conduct baseline ecological survey of terrestrial flora and fauna groups including habitat and vegetation, avifauna, butterflies, odonates, herpetofauna, mammals, and freshwater species record abundance as well as assisted in the preparation of reports.

**Agreement No. CE 60/2017 (EP): Environmental Team for Tung Chung New Town Extension (East) - Design and Construction (on-going since 2021)**

He acted as a field team member to conduct soft shore ecological monitoring to record abundance and diversity of organisms at three shore heights and conducted active searching of horseshoe crabs and seagrass.

**ECF – Fung Shui Wood Knowledge and Education Resources Development through Citizen Science (2020 - 2021).**

He acted as the Assistant Project Officer and was responsible for the co-ordination and implementation of public engagement activities and plant surveys of Fung Shui Woods in the New Territories and Hong Kong Island. Besides his main project work, he was involved in performing regular monthly biodiversity surveys of different taxonomic groups such as Herpetofauna (reptiles and amphibians) and Lepidoptera (butterflies and moths).

**Hong Kong Firefly Survey Team 2020 – 2021 (One-year Practical Training Programme by the Entomological Society of Hong Kong) (2020 - 2021)**

He participated in the programme as a survey team member and was responsible for conducting firefly biodiversity surveys at multiple sites in Hong Kong along a fixed transect. Throughout the training programme he received training on firefly biology, firefly ecology, firefly morphology and anatomy, and firefly identification.

**Pocket Guide to Freshwater Species of Hong Kong (2020)**

He acted as a contributor in the development and provided descriptions of multiple freshwater species for the online app “Pocket Guide to Freshwater Species of Hong Kong”.



# ERM

ERM HAS OVER 160 OFFICES ACROSS THE FOLLOWING  
COUNTRIES AND TERRITORIES WORLDWIDE

Argentina	The Netherlands
Australia	New Zealand
Belgium	Peru
Brazil	Poland
Canada	Portugal
China	Romania
Colombia	Senegal
France	Singapore
Germany	South Africa
Ghana	South Korea
Guyana	Spain
Hong Kong	Switzerland
India	Taiwan
Indonesia	Tanzania
Ireland	Thailand
Italy	UAE
Japan	UK
Kazakhstan	US
Kenya	Vietnam
Malaysia	
Mexico	
Mozambique	

**ERM's Hong Kong Office**

2507, 25/F One Harbourfront  
18 Tak Fung Street  
Hungghom, Kowloon  
Hong Kong

T: (852) 2271 3000

F: (852) 3015 8052

**[www.erm.com](http://www.erm.com)**