MOTT MACDONALD

Installation of Proposed Cable Route from Cheung Sha to Tung Chung

Fauna Survey Report (for Cable Pipe Bridge N305A, N307, N308, N309, N310 & N311A)

November 2023

Mott MacDonald
3/F Manulife Place
348 Kwun Tong Road
Kwun Tong
Kowloon
Hong Kong

T +852 2828 5757
mottmac.hk

Installation of Proposed Cable Route from Cheung Sha to Tung Chung

Fauna Survey Report (for Cable Pipe Bridge N305A, N307, N308, N309, N310 & N311A)

November 2023

Mott MacDonald Hong Kong Limited
registered in Hong Kong no. 236497

MOTT MACDONALD

Installation of Proposed Cable Route from Cheung Sha to Tung Chung

Certification and Verification Sheet

Environmental Permit No. EP-611/2022

Reference Document /Plan

Document/~~Plan~~ to be ~~Certified~~/ Verified:	Fauna Survey Report (for Cable Pipe Bridge N305A, N307, N308, N309, N310 & N311A)
Date of Report:	8 November 2023

Reference EP Condition

Environmental Permit (EP-611/2022) Condition:

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.

Condition 2.4:
Before commencement of construction works at the proposed pipe bridges, fauna survey(s) shall be conducted at the concerned works areas by the qualified ecologist appointed under Condition 2.2 above to confirm the presence of any species of conservation importance, particularly amphibian, that could be affected by the Project. The Permit Holder shall, no later than 2 weeks after completion of the survey(s), deposit with the Director 4 hard copies and 1 electronic copy of the Fauna Survey Report(s) (FSR(s)) prepared by the qualified ecologist appointed under Condition 2.2 above, and verified by the IEC. The FSR(s) shall provide details and findings of the fauna survey(s) including details of the mitigation measures required. The FSR(s) shall include an implementation schedule in table form to clearly list out the mitigation measures implemented or to be implemented, the implementation party, location, and timing. The mitigation measures recommended and requirements specified in the FSR(s) shall be fully implemented.

Certification by the Qualified Ecologist

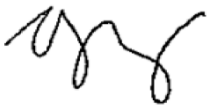
I hereby certify that the above referenced document/~~plan~~ complies with the above referenced conditions of EP-611/2022.

Ms Yusei LO,
Qualified Ecologist: 

Date: 8 November 2023

Verification by the Independent Environmental Checker

I hereby verify that the above referenced document/~~plan~~ complies with the above referenced conditions of EP-611/2022.

Ms Liz LO,
Independent Environmental Checker: 

Date: 8 November 2023

Contents

Figures

Appendices

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 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 2.4, before commencement of construction works at the proposed pipe bridges, fauna survey(s) shall be conducted at the concerned works areas by the qualified ecologist appointed under EP Condition 2.2 to confirm the presence of any species of conservation importance, particularly amphibian, that could be affected by the Project.

The Permit Holder shall, no later than 2 weeks after completion of the survey(s), deposit the Director the Fauna Survey Report(s) (FSR(s)) prepared by the qualified ecologist appointed under EP Condition 2.2, and verified by the Independent Environmental Checker (IEC). The FSR(s) shall provide details and findings of the fauna survey(s) including details of the mitigation measures required. The FSR(s) shall include an implementation schedule in table form to clearly list out the mitigation measures implemented or to be implemented, the implementation party, location, and timing. The mitigation measures recommended and requirements specified in the FSR(s) shall be fully implemented.

Mott MacDonald Hong Kong Limited (MMHK) was commissioned by CLP Power Hong Kong Limited (CLP) to provide the services of Independent Environmental Checker (IEC) for Section 10, 11 & 12 and Pipe Bridge N305A, N307, N308, N309, N310 & N311A under the Environmental Permit (EP) (EP-611/2022).

Ms. Yusei Lo has been appointed as the qualified ecologist for Section 10, 11 & 12 and Pipe Bridge N305A, N307, N308, N309, N310 & N311A, who has over 7 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 her brief CV attached in **Appendix A**. The qualification and experience of the qualified ecologist have been verified by the IEC.

1.2 Objective and Scope of the Plan

Updated fauna survey at the proposed cable pipe bridge N305A, N307, N308, N309, N310, and N311A was conducted on 25 July and 31 July 2023. This Fauna Survey Report is prepared by the qualified ecologist appointed under Condition 2.2 of the EP No. EP-611/2022. The Fauna Survey Report provides details and findings of the fauna survey including details of the mitigation measures required.

2 Survey Methodology

A set of fauna survey focusing on amphibian species of conservation importance was conducted at pipe bridge N305A, N307, N308, N309, N310 and N311A on 25 July and 31 July 2023. The works area for the proposed pipe bridges includes the footings of the pipe bridges and trench excavation for cable laying off the Old Tung Chung Road into vegetated areas to connect to the pipe bridges. Locations of the pipe bridges are shown in **Figure 1.1**.

In order to cover the active periods of amphibian species, day and night surveys were conducted at each pipe bridge. Point counting was carried out at each survey point, and 10 minutes were spent counting fauna seen or heard within 30m of the pipe bridge. All fauna species of conservation importance encountered during the surveys were recorded.

Active searching of potential breeding areas of amphibians (e.g. streams, marshes, small water pools, water channels) and suitable microhabitats (e.g. stones, pond bunds, crevices, leaf litter and debris, rotten log) were conducted whenever possible. Auditory detection of species specific mating calls was also used to survey frogs and toads. Special attention was paid to the area around the pipe bridge footings, where the proposed pipe bridge footings and a short section of cable installation would encroach the vegetated areas.

3 Survey Result

According to the Project Profile, amphibian species of conservation importance including Lesser Spiny Frog (*Quasipaa exilispinosa*) and Short-legged Toad (*Megophrys brachykolos*) were recorded in the stream near the pipe bridge footings, while Lau's Leaf-litter Toad (*Leptobrachella laui*) and Romer's Tree Frog (*Liuixalus romeri*) were recorded in other watercourse and/or woodland habitats along the old Tung Chung Road.

During the updated fauna survey, three amphibian species of conservation importance, including Lau's Leaf-litter Toad, Lesser Spiny Frog, and Short-legged Toad were recorded in the stream, woodland and developed area near the pipe bridges, but none was found in the works area of the proposed pipe bridges. No Romer's Tree Frog nor other fauna species of conservation importance was recorded at the pipe bridges.

A summary of the survey result is provided in **Table 3.1**. The location of fauna species of conservation importance recorded is shown in **Figures 3.1** to **3.2**.

Table 3.1: Summary of Species of Conservation Importance Recorded

Common Name	Scientific Name	Conservation Status	Cumulative Abundance					
			N305A	N307	N308	N309	N310	N311A
Lau's Leaf-litter Toad	*Leptobrachella laui*	LC, RLCV(VU)		1				
Lesser Spiny Frog	*Quasipaa exilispinosa*	PGC, RLCV(VU)	3	1		1		
Short-legged Toad	*Megophrys brachykolos*	PGC, IUCN(EN), RLCV(VU)	2	1	3	11	8	
Total no. of species of conservation importance recorded			**2**	**3**	**1**	**2**	**1**	**0**

Notes:

1. LC = Local Concern, PGC = Potential Global Concern (Fellowes *et al*. 2002)
2. IUCN – The IUCN Red List of Threatened Species (2021): EN = Endangered
3. RLCV – Red List of China Vertebrates (Jiang et al. 2016): VU = Vulnerable

4 Review of Protective and Precautionary Measures

Updated Fauna Survey has been conducted to confirm the presence of any species of conservation importance, particularly amphibian, that could be affected by the Project. All amphibian species of conservation importance recorded in the updated fauna survey were located in the stream or woodland near the pipe bridges, outside the works area. No other fauna species of conservation importance were recorded. Hence, no fauna species of conservation importance would be directly affected by the Project. Protective and precautionary measures of direct impact on fauna species of conservation importance is considered not necessary.

After the installation of the barrier fencing and immediately before the commencement of the works, additional fauna surveys will be conducted to confirm the absence of amphibian species of conservation importance within the works areas. If any amphibian species of conservation importance are found within the works areas, capture-and-relocation exercise will be conducted immediately to move amphibian species of conservation importance from the works area to nearby suitable recipient sites (i.e. the nearest natural stream of each works area). Details of capture and relocation of amphibian species of conservation importance is provided in **Section 5**.

Moreover, good site/ construction practice and housekeeping measures as proposed in Section 5.1.5 of the Project Profile and stated in EP Condition 2.5 should be adopted to minimise the potential disturbances to the streams at the proposed pipe bridge stream crossings, and to fauna species of conservation importance. Mitigation measures and good site/ construction practices are recommended below:

- The construction works at the stream crossing sections shall be conducted during dry season (i.e. from November to January) to avoid the breeding season of amphibian species of conservation importance;
- 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;
- Stream bed will not be disturbed under any circumstances;
- The works area (incl. the footings of the pipe bridges and trench excavation for cable laying off the Old Tung Chung Road into vegetated areas to connect to the pipe bridges) will be surrounded by two layers of sandbags and plastic banners (1-2m in height) to prevent recolonization of the amphibians, and the construction will start as soon as practicable;
- 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 PN1/94) 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 Methodology of Capture and Relocation

After the installation of the barrier fencing and immediately before the commencement of the works, the qualified ecologist should be engaged to conduct additional fauna surveys to confirm the absence of amphibian species of conservation importance within the works areas.

If any amphibian species of conservation importance are found within the works areas, the capture-and-relocation exercise should be conducted by the qualified ecologist immediately after the surveys. Relevant experience and qualifications of the qualified ecologist for the additional fauna surveys and the capture-and-relocation exercise are presented in her brief CV attached in **Appendix A**.

During the capture-and-relocation exercise, all frogs, tadpoles and eggs observed within the works area will be collected using hands and/or hand nets. Prior permissions under Cap.170 and Cap.208A from the Agriculture, Fisheries and Conservation Department are required for the use of traps (i.e. hand nets) for capturing or collecting frogs, tadpoles, and eggs, and the possession of protected wild animals during the capture-and-relocation exercise. Appropriate capture techniques should be employed to prevent injury of the amphibians. When handling the frogs, the qualified ecologist should wear gloves to protect the frogs from disease, and place one hand over the frogs to prevent escape and gently grasp it by the waist.

To prevent mortality caused by desiccation, the captured frogs, tadpoles, and eggs should be temporarily stored in plastic containers with a small amount of water. To minimise stress induced to the animals and reduce ecological impact, the principle of minimal handling would be adopted and all the captured individuals would be relocated to the nearest suitable habitat (e.g. stream section that is not impacted by the works) where they can return to their original habitat unassisted when the works are completed. The Independent Environmental Checker (IEC) shall audit the implementation of the environmental mitigation measures recommended in the Project Profile and required under the EP, which included regular site audit, to confirm full compliance of the mitigation measures (e.g. temporary exclusion). When ecological issue encountered during the construction phase, the IEC will consult the qualified ecologist and provide relevant recommendation to the Permit Holder.

The locations of the proposed recipient sites are shown in **Figures 5.1** and **5.2**.

6 Implementation Schedule

Under EP condition 2.1, an Independent Environmental Checker (IEC) shall be employed by the Permit Holder before commencement of construction of the Project. The IEC shall audit the implementation of the environmental mitigation measures recommended in the Project Profile 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 6.1** to list out the mitigation measures to be implemented, the implementation party, location and timing. All mitigation measures recommended and requirements specified in the Fauna Survey Report shall be fully implemented.

Table 6.1: Implementation Schedule of Recommended Mitigation Measures during Installation of Proposed Cable Route (for Cable Pipe Bridge N305A, N307, N308, N309, N310 & N311A)

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
PP B9.1	Measures to Minimise Disturbances to Adjacent Habitats and Associated Wildlife					
EP Condition 2.4	<u>Submission of Fauna Survey Report</u> • Before commencement of construction works at the proposed pipe bridges, fauna survey(s) shall be conducted at the concerned works areas by the qualified ecologist appointed under Condition 2.2 above to confirm the presence of any species of conservation importance, particularly amphibian, that could be affected by the Project. The Permit Holder shall, no later than 2 weeks after completion of the survey(s), deposit with the Director 4 hard copies and 1 electronic copy of the Fauna Survey Report(s) (FSR(s)) prepared by the qualified ecologist appointed under Condition 2.2 above, and verified by the IEC. • The FSR(s) shall provide details and findings of the fauna survey(s) including details of the mitigation measures required. The FSR(s) shall include an implementation schedule in table form to clearly list out the mitigation measures implemented or to be implemented, the implementation party, location, and timing. The mitigation measures recommended and requirements specified in the FSR(s) shall be fully implemented.	To avoid impact on fauna species of conservation importance within and in the vicinity of the concerned works area.	Project Proponent	-	No later than 2 weeks after completion of the survey(s)	EP Condition 2.2
S5.1.5 of the PP, Section 4 and Section 5	<u>Measures to Minimise Disturbances to Adjacent Habitats and Associated Wildlife</u> • Should any amphibian species of conservation importance be found within the works area during the additional fauna survey to be	To minimise disturbances to adjacent habitats and associated wildlife	Contractor	Construction works area	During construction	EP condition 2.5

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
of this report and EP Condition 2.5	conducted after the installation of the barrier fencing and immediately before the commencement of the works, capture-and-relocation exercise will be conducted to move amphibian species of conservation importance from the works area to nearby suitable recipient sites (i.e. the nearest natural stream of each works area); • The construction works at the stream crossing sections shall be conducted during dry season (i.e. from November to January) to avoid the breeding season of amphibian species of conservation importance; • 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; • Stream bed will not be disturbed under any circumstances; • The works area (incl. the footings of the pipe bridges and trench excavation for cable laying off the Old Tung Chung Road into vegetated areas to connect to the pipe bridges) will be surrounded by two layers of sandbags and plastic banners (1-2m in height) to prevent recolonization of the amphibians, and the construction will start as soon as practicable; • Prohibit filling and dumping to the surrounding natural habitats and especially those within the Country Park;					

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
	• 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 PN1/94) 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.					

Figures

N

TUNG CHUNG TOWN
SUB STATION

22
21
20
19
18
17
16
15
14
13
N305A
12
N307
11
N308
10
N309
9
8
7
N310
6
5
4
N311A
3
2
1
CHEUNG SHA
SUB STATION

0 175 350 700 1,050 1,400
Meters

Key Plan

Notes

Note: All locations or extents presented are indicative only

Key to symbols

LEGEND

- 500M FROM PROPOSED CONSTRUCTION WORKS
- 500M FROM PROPOSED CABLE ROUTE
- PIPE BRIDGE
- SECTION OF PROPOSED CABLE ROUTE (S1-S22)
- CABLE ROUTE OUTSIDE COUNTRY PARK
- PROPOSED CABLE ROUTE WITHIN COUNTRY PARK (LOCATION OF CONSTRUCTION WORKS)
- EXISTING SUB STATION
- COUNTRY PARK

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 2023	JUT		YL	GC

MOTT MACDONALD

Mott MacDonald
3/F Manulife Place
348 Kwun Tong Road
Kwun Tong, Kowloon
Hong Kong
T +852 2828 5757
F +852 2827 1823
W mottmac.com

Client

CLP POWER HONG KONG LIMITED

Project

INSTALLATION OF PROPOSED CABLE ROUTE FROM CHEUNG SHA TO TUNG CHUNG

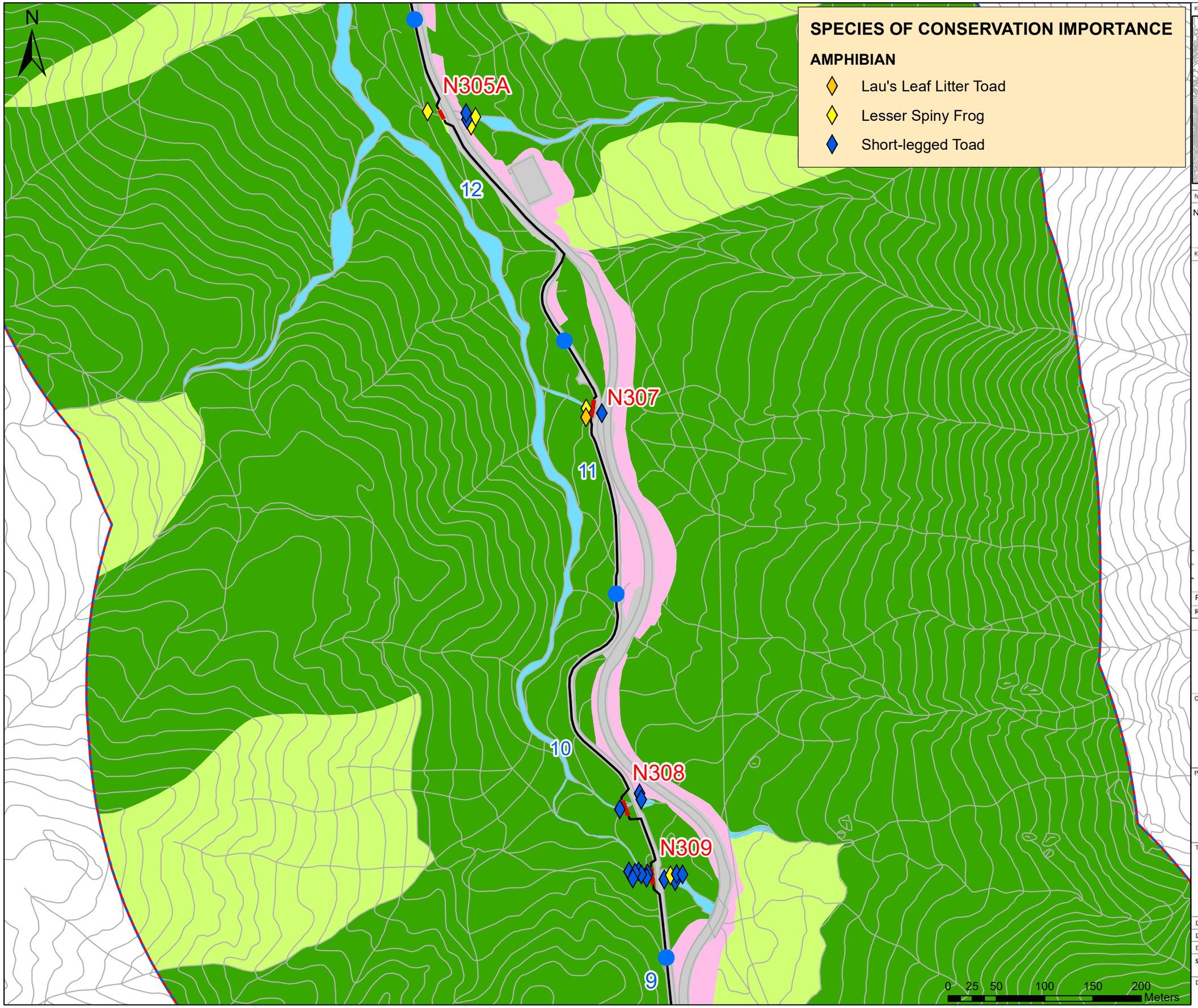
Title

ALIGNMENT OF THE PROPOSED CABLE ROUTE FROM CHEUNG SHA TO TUNG CHUNG TOWN

Designed	JUT		Eng check		YL
Drawn	JUT		Coordination		YL
Dwg check	YL		Approved		GC
Scale at A3 AS SHOWN		Status		Rev	P1

Drawing Number

FIGURE 1.1



SPECIES OF CONSERVATION IMPORTANCE

AMPHIBIAN

- Lau's Leaf Litter Toad
- Lesser Spiny Frog
- Short-legged Toad

Key Plan

Notes

Note: All locations or extents presented are indicative only

Key to symbols

LEGEND

- 500M FROM PROPOSED CONSTRUCTION WORKS
- 500M FROM PROPOSED CABLE ROUTE
- PIPE BRIDGE
- SECTION OF PROPOSED CABLE ROUTE (S1-S22)
- PROPOSED CABLE ROUTE WITHIN COUNTRY PARK (LOCATION OF CONSTRUCTION WORKS)

HABITAT

- WOODLAND
- PLANTATION
- SHRUBLAND / GRASSLAND
- WATERCOURSE
- DEVELOPED AREA

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 2023	JUT		YL	GC

MOTT MACDONALD
Mott MacDonald
3/F Manulife Place
348 Kwun Tong Road
Kwun Tong, Kowloon
Hong Kong
T +852 2828 5757
F +852 2827 1823
W mottmac.com

Client

CLP POWER HONG KONG LIMITED

Project

INSTALLATION OF PROPOSED CABLE ROUTE FROM CHEUNG SHA TO TUNG CHUNG

Title

FAUNA SPECIES OF CONSERVATION IMPORTANCE RECORDED AT PIPE BRIDGE N305A, N307, N308 AND N309

Designed	JUT		Eng check		YL
Drawn	JUT		Coordination		YL
Dwg check	YL		Approved		GC
Scale at A3: AS SHOWN		Status		Rev	P1

Drawing Number

FIGURE 3.1

N

7

N310

6

5

4

N311A

0 25 50 100 150 200 Meters

SPECIES OF CONSERVATION IMPORTANCE

AMPHIBIAN

- Short-legged Toad

Key Plan

Notes

Note: All locations or extents presented are indicative only

Key to symbols:

LEGEND

- 500M FROM PROPOSED CONSTRUCTION WORKS
- 500M FROM PROPOSED CABLE ROUTE
- PIPE BRIDGE
- SECTION OF PROPOSED CABLE ROUTE (S1-S22)
- CABLE ROUTE OUTSIDE COUNTRY PARK
- PROPOSED CABLE ROUTE WITHIN COUNTRY PARK (LOCATION OF CONSTRUCTION WORKS)

HABITAT

- WOODLAND
- PLANTATION
- SHRUBLAND / GRASSLAND
- WATERCOURSE
- DEVELOPED AREA

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	AUG 2023	JUT		YL	GC

MOTT MACDONALD

Mott MacDonald
3/F Manulife Place
348 Kwun Tong Road
Kwun Tong, Kowloon
Hong Kong
T +852 2828 5757
F +852 2827 1823
W mottmac.com

Client

CLP POWER HONG KONG LIMITED

Project

INSTALLATION OF PROPOSED CABLE ROUTE FROM CHEUNG SHA TO TUNG CHUNG

Title

FAUNA SPECIES OF CONSERVATION IMPORTANCE RECORDED AT PIPE BRIDGE N310 AND N311A

Designed	JUT		Eng check		YL
Drawn	JUT		Coordination		YL
Dwg check	YL		Approved		GC
Scale at A3 AS SHOWN		Status		Rev	P1

Drawing Number

FIGURE 3.2

N

RECIPIENT SITE FOR N305A

N305A

12

RECIPIENT SITE FOR N307

N307

11

10

RECIPIENT SITE FOR N308

N308

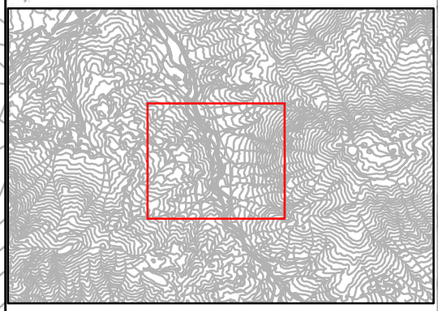
RECIPIENT SITE FOR N309

N309

9

0 25 50 100 150 200 Meters

Key Plan



Notes

Note: All locations or extents presented are indicative only

Key to symbols

LEGEND

- 500M FROM PROPOSED CONSTRUCTION WORKS
- 500M FROM PROPOSED CABLE ROUTE
- PIPE BRIDGE
- SECTION OF PROPOSED CABLE ROUTE (S1-S22)
- PROPOSED CABLE ROUTE WITHIN COUNTRY PARK (LOCATION OF CONSTRUCTION WORKS)
- RECEPIENT SITES

HABITAT

- WOODLAND
- PLANTATION
- SHRUBLAND / GRASSLAND
- WATERCOURSE
- DEVELOPED AREA

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	SEP 2023	JUT		YL	GC

MOTT MACDONALD

Mott MacDonald
3/F Manulife Place
348 Kwun Tong Road
Kwun Tong, Kowloon
Hong Kong
T +852 2828 5757
F +852 2827 1823
W mottmac.com

Client

CLP POWER HONG KONG LIMITED

Project

INSTALLATION OF PROPOSED CABLE ROUTE FROM CHEUNG SHA TO TUNG CHUNG

Title

LOCATION OF RECIPIENT SITES FOR PIPE BRIDGE N305A, N307, N308 AND N309

Designed	JUT		Eng check		YL
Drawn	JUT		Coordination		YL
Dwg check	YL		Approved		GC
Scale at A3	AS SHOWN	Status		Rev	P1
Drawing Number					

FIGURE 5.1

N

7

N310

RECIPIENT SITE FOR N310

6

5

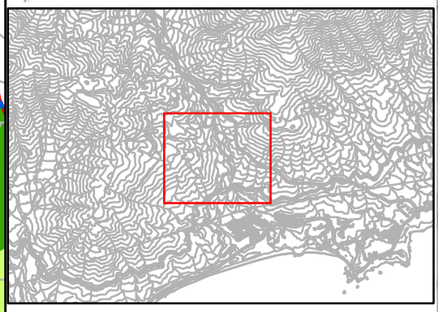
4

N311A

RECIPIENT SITE FOR N311A

0 20 40 80 120 160 Meters

Key Plan



Note: All locations or extents presented are indicative only

Key to symbols:

LEGEND

- 500M FROM PROPOSED CONSTRUCTION WORKS
- 500M FROM PROPOSED CABLE ROUTE
- PIPE BRIDGE
- SECTION OF PROPOSED CABLE ROUTE (S1-S22)
- CABLE ROUTE OUTSIDE COUNTRY PARK
- PROPOSED CABLE ROUTE WITHIN COUNTRY PARK (LOCATION OF CONSTRUCTION WORKS)
- RECIPIENT SITES

HABITAT

- WOODLAND
- PLANTATION
- SHRUBLAND / GRASSLAND
- WATERCOURSE
- DEVELOPED AREA

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	SEP 2023	JUT		YL	GC

MOTT MACDONALD

Mott MacDonald
3/F Manulife Place
348 Kwun Tong Road
Kwun Tong, Kowloon
Hong Kong
T +852 2828 5757
F +852 2827 1823
W mottmac.com

Client

CLP POWER HONG KONG LIMITED

Project

INSTALLATION OF PROPOSED CABLE ROUTE FROM CHEUNG SHA TO TUNG CHUNG

Title

LOCATION OF RECIPIENT SITES FOR PIPE BRIDGE N310 AND N311A

Designed	JUT		Eng check		YL
Drawn	JUT		Coordination		YL
Dwg check	YL		Approved		GC
Scale at A3 AS SHOWN		Status		Rev	P1

Drawing Number

FIGURE 5.2

Appendix A Curriculum Vitae of Qualified Ecologist

MOTT MACDONALD

CV 04 Ecologist

Yusei LO

Personal summary

Present employment

Senior Environmental Consultant

Relevent experience

8 years professional experience

Education

- MSc (Arboriculture and Urban Forestry) (2021)
- BSc (Ecology and Biodiversity) (2014)

Professional registration

- MCIWEM (2021)
- Arborist, Tree Risk Assessor, Tree Work Supervisor, Registered Tree Management Personnel (2021)
- Tree Risk Assessment Qualification (2018)
- Supervision of Tree Works Course (2018)
- Certified Arborist (2017)

Yusei is an ecologist and certified arborist with extensive experience in undertaking fauna and flora surveys, and ecological impact assessment for ecological studies and infrastructure projects. She is also equipped with hands-on experience in translocating flora and fauna species of conservation importance, conducting tree surveys and tree risk assessment for large scale infrastructural and development projects, and conversant in the preparation of related submissions.

Relevant projects

- **CEDD Agreement No. CE64/2020 (EP) Environmental Team for Tung Chung New Town Extension (West)** – **Qualified Botanist** for advising on the *Detailed Compensatory Woodland Planting Plan* and *Pre-construction Survey Report for Plant Species of Conservation* etc. Check the site practice of compensatory planting and recommend solutions. **Ecologist (Fauna)** for advising on the capture-and-translocation exercise of amphibian species. **Landscape and Visual Specialist** to provide technical input in baseline monitoring report on L&V aspects.
- **CEDD Agreement No. CE 56/2016 (CE) Hung Shui Kiu (HSK) New Development Area (NDA) Stage 1 Works – Design and Construction – Tree Specialist** responsible for arranging tree surveys for tree preservation and removal proposal, preparing tree-related deliverables such as *Tree Survey Reports*, *Tree Preservation and Removal Proposal*, tender document and technical specification for tree & landscape sections, providing technical support for tree and landscape related issues.
- **DSD Contract No. DP 05/2020 Ecological Survey for Drainage Improvement Works in Tai Po –** This project aims to study the ecological baseline conditions for assessment of potential impacts from the proposed drainage improvement works in Tai Po, Lam Tsuen Valley, Ting Kok and Ma On Shan. **Botanist** and **Ecologist (Fauna)** for conducting terrestrial and aquatic surveys, including habitat mapping, vegetation, avifauna, butterfly, odonate, herpetofauna, mammal and freshwater communities. Also responsible for preparing the submission of *Ecological Baseline Survey Report*.
- **DSD Contract No. 04/LD/2020 Ecological Survey at Wong Chuk Hang –** This project aims to undertake ecological field surveys to collect baseline information regarding the ecological characters of Staunton Creek Nullah prior to the revitalisation studies of river sections with high revitalisation potential in the territory. **Botanist** and **Ecologist (Fauna)** responsible for conducting terrestrial and aquatic surveys, including habitat mapping, vegetation, avifauna, butterfly, odonate, herpetofauna, mammal and freshwater communities. Also responsible for preparing the submission of *Ecological Baseline Survey Report*.
- **Section 16 and 12A Planning Applications for Residential Development in "Comprehensive Development Area (CDA)" Zone at Kam Tin South, Yuen Long** – **Botanist** and **Ecologist (Fauna)** responsible for conducting ecological field survey, including habitat mapping, vegetation, avifauna, butterfly, odonate, herpetofauna and mammal in both day and night, and ardeids flight path survey in early morning and evening to evaluate the potential impact of the proposed residential development in Kam Tin South. Duties also include preparing ecological related submission of the project.
- **CEDD Agreement No. CE61/2020 (SP) Ecological Surveys and Studies for San Tau to Sham Wat, Yi O and Shap Long – Feasibility Study – Sustainable Lantau Office** – **Project Manager** and **Ecologist (Flora and Fauna)** – This project aims to conduct a 12-month ecological survey for the selected sites in Lantau Islands to determine the ecological significance of

various habitat and identify potential threat to the key ecological resource and recommend the conservation measures accordingly. **Project Manager** for overseeing and coordinating the ecological study and field surveys covering flora, terrestrial fauna, freshwater aquatic fauna and intertidal communities. Duties also includes preparing promotional materials such as video stories, eco-logs and photos for public education.

- **HyD Agreement No. CE 73/2021 (HY) Widening of T6 Bridge of Tate's Cairn Highway – Investigation, Design and Construction** – **Tree Specialist** and **Landscape and Visual Specialist** for providing specialist advice on landscape and tree aspects. Duties also include leading the team to carry out tree survey and *Landscape and Visual Impact Assessment* (LVIA), to prepare landscape related submissions such as *Tree Survey Reports*, *Tree Preservation and Removal Proposals (TPRP)* and *LVIA Reports*.
- **DSD Contract No. 02/LD/2019 Ecological Survey for Revitalisation of 11 Selected Rivers** – This project covers assessment of ecological baselines of different river channels managed by DSD. **Botanist** and **Ecologist (Fauna)** responsible for conducting ecological field surveys, including flora, terrestrial fauna and freshwater aquatic fauna for both day and night-time for 11 selected rivers.
- **DSD Agreement No. LD08/2015 Eco-hydraulics Study on Green Channels – Stage 3 –** This project covers assessment of ecological baselines of different river channels managed by DSD to update the baseline of the river channels that assessed in stage 2 study. **Ecologist (Fauna)** responsible for conducting terrestrial and aquatic fauna surveys for both day and night-time for 26 sites including Deep Water Bay Stream, Pui O River, Tai Tei Tong Stream, Pak Ngan Heung River, Tsui Ping River and Kai Tak River.
- **CEDD Agreement No. CE 33/2019 (EP) Independent Environmental Checker (IEC) for Environmental Monitoring & Audit (EM&A) Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas (NDA) – Investigation** – This NDA development included engineering infrastructure works, site formation, and implementation of environmental mitigation measures. **Ecology Specialist (Flora and Fauna)** responsible for conducting site audit for ecological monitoring, egretry monitoring and translocation works for Rose Bitterling, and reviewing ecological submission such as *Detailed Vegetation Survey Report post-translocation monitoring report for Rose Bitterling* and *Egretry monitoring reports*.
- **ET Consultancy Services for Expansion of Hong Kong International Airport (HKIA) into a Three-Runway System (3RS) – Landscape and Visual Specialist** for conducting site audit to monitor the tree preservation and tree transplanting works under the EM&A programme and preparing tree inspection reports accordingly. Duties also include reviewing relevant submissions such as *Tree Survey Reports*, *Tree Risk Assessment (TRA) Reports*, *Tree Protection Plan* and method statement, *Landscape and Visual Plan* etc.
- **DSD Relocation of Sha Tin Sewage Treatment Works to Caverns – Site Preparation – Tree Specialist** and **Assistant Ecologist** of ET to conduct site audit to monitor the implementation of flora ecological mitigation measures eg tree preservation and tree transplanting works and monitored the post-transplantation preservation of flora species of conservation importance.

- **WSD Agreement No. CE82/2022 (WS) In-situ Reprovisioning of Tsuen Wan Water Treatment Works – Investigation, Design and Construction Contract No. TWWTW/IDC/ES/001 – Ecological Survey** – **Project Manager** and **Ecologist (Flora and Fauna)** for overseeing and coordinating the ecological study and field surveys covering terrestrial flora and fauna species. Duties also includes conducting EcoIA for the preliminary environmental review.
- **CEDD Agreement No. CE52/2021 (CE) Improvement Works at Ma Liu Shui Ferry Pier, Ma Nam Wat Pier, Yim Tin Tsai Pier and Yung Shue O Jetties – Feasibility Study – Botanist** and **Ecologist (Fauna)** for conducting flora and fauna survey and Landscape and Visual Impact Assessment for the preliminary environmental review and working papers on ecology.
- **DSD Agreement No. CE24/2021(EP) Enhancement of Existing River Sections – Phase 1 – Investigation –** This project aims to investigate and develop preliminary design for the revitalisation of four river sections at Lower Lam Tsuen, Wong Lung Hang, Chung Hang and Lam Tei. The objectives are to transforming channels into beautiful rivers in echo with the "Rivers in the City" initiative, with environmental, ecological, architectural and landscape upgrading, and potential improvement in connectivity for public enjoyment. **Ecology Specialist** for conducting ecological impact assessment (EcoIA) on the proposed river enhancement scheme. Duties also include providing specialist advice on river revitalisation elements and potential enhancement works on ecology aspects.
- **CEDD Service Contract No. SLO 24/2021 Provision of Services for Ecological survey on Marine Mammals for Central Waters –** To carry out a 12-month marine mammals survey in the Central Waters of Hong Kong to collect information on the occurrence, distribution and abundance of marine mammals, by using vessel-based line transect surveys, acoustic monitoring on anthropogenic noises generated by vessel traffic and acoustic behaviour of marine mammals, underwater passive acoustic monitoring survey and land-based theodolite tracking of movements to investigate the behaviour of marine mammals. **Ecologist (Fauna)** for conducting the marine mammal surveys.
- **CEDD Agreement No. CE 3/2016 (CE) Study on Proposed Multi-Storey Buildings in Yuen Long Area for Brownfield Operations – Feasibility Study – Ecology specialist** responsible for providing specialist advice on ecology sections for S16 application.
- **CEDD Development of Anderson Road Quarry Site – Road Improvement Works – Ecologist (Flora and Fauna)** for conducting site audit to monitor the implementation of ecological mitigation measures (ie preserving flora and fauna species of conservation importance) during construction phase. Duties also include supervising on transplanting works of flora species of conservation importance and carrying out post-transplantation monitoring subsequently.