# **APPENDIX C**

**Ecological Impact Assessment** 

Ecological Impact Assessment for Application for Permission under Section 16 of The Town Planning Ordinance (Cap.131) for Minor Relaxation of Building Height Restriction from 2 Storeys to 4 Storeys for Proposed 4-Storey Columbarium at Part of Inland Lot No. 7755 RP and Government Land sandwiched between Inland Lot No. 7755 RP and Inland Lot No. 7713 Cape Collinson Road, Chai Wan

**Ecological Impact Assessment Report** 

The Hong Kong Buddhist Association

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# 1 Introduction

# 1.1 Background

- 1.1.1 An application for permission under Section 16 of the Town Planning Ordinance (Cap.131) for minor relaxation of building height restriction of part of Inland Lot No. 7755 RP (IL 7755 RP) and Government Land sandwiched between IL 7755 RP and IL 7713 (hereafter collectively called "the Application Site") for a 4-storey columbarium at Cape Collinson Road, Chai Wan has been proposed by the Applicant (Hong Kong Buddhist Association). The location and extent of the Application Site is presented in **Figure 1**.
- 1.1.2 The Application Site is located within an "Other Specified Uses annotated (Cemetery)" ("OU(Cemetery)") zone on the draft Chai Wan Outline Zoning Plan (OZP) No. S/H20/26. According to the Schedule of Uses of the Plan, the Proposed Development of a 4-storey Columbarium building falls under the Column 1 Uses, while an application for minor relaxation of building height restriction under the Section 16 of the Town Planning Ordinance has to be submitted to the Town Planning Board.
- 1.1.3 Aurecon Hong Kong Limited has been commissioned by the Applicant to undertake an ecological impact assessment to support the Section 16 Application. Desktop literature review and ecological surveys were conducted. The objective of the Ecological Impact Assessment Report is to provide a baseline review of the existing habitats and ecological resources and relevant ecological constraints, if any, of the Application Site and the 500m Study Area.
- 1.1.4 The Ecological Impact Assessment Report summarizes the ecological baseline conditions, identifies and assesses the potential direct and indirect ecological impacts arising from the proposed comprehensive development, including but not limited to loss of woodland and/or other types of habitats and potential disturbance to wildlife, and proposes appropriate mitigation measures to minimize adverse ecological impacts when necessary.

# 2 Relevant Legislation, Standards & Guidelines

# 2.1 Local Legislation, Standards & Guidelines

- 2.1.1 The relevant local legislation, standards and guidelines applicable to the present study for the assessment of ecological impact include:
  - Forests and Countryside Ordinance (Cap. 96) and its subsidiary legislation, the Forestry Regulations (Cap. 96A);
  - Wild Animals Protection Ordinance (Cap. 170);
  - Country Parks Ordinance (Cap. 208) and its subsidiary legislation;
  - Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) and relevant annexes 8, 11, 16, 20 and 21 of the associated Technical Memorandum (EIAO-TM);
  - Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) and its subsidiary legislation;
  - EIAO Guidance Note No. 6/2010 Some Observations on Ecological Assessment from the Environmental Impact Assessment Ordinance Perspective;
  - EIAO Guidance Note No. 7/2023 Ecological Baseline Survey for Ecological Impact Assessment;
  - EIAO Guidance Note No. 10/2023 Methodologies for Terrestrial and Freshwater Ecological Baseline Surveys;
  - Hong Kong Planning Standards and Guidelines;
  - Environment, Transport and Works Bureau Technical Circular (Works) (ETWB TCW) No. 5/2005 – Protection of Natural Streams/Rivers from Adverse Impact Arising from Construction Works;
  - Hong Kong Biodiversity Strategy and Action Plan (2016-21);
  - List of Wild Animals under State Protection; and
  - List of Wild Plants under State Protection.

# 2.2 International Conventions & Guidelines

- 2.2.1 International conventions and guidelines potentially relevant include:
  - Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES");
  - The IUCN Red List of Threatened Species ("IUCN"); and
  - United Nations Convention on Biological Diversity.



# 3 Methodologies

# 3.1 Location & Area

3.1.1 The Study Area for terrestrial ecological field surveys included the Application Site and all area within 500m from the Application Site boundary. The Study Area is illustrated in **Figure 1**.

# 3.2 General

3.2.1 The methodology mainly followed the requirements in establishing the ecological baseline profile and followed the requirements of the pertinent Annexes 8 and 16 of the Technical Memorandum as well as Environmental Impact Assessment Ordinance Guidance Note No. 7/2023 "Ecological Baseline Survey for Ecological Impact Assessment" and No. 10/2023 "Methodologies for Terrestrial and Freshwater Ecological Baseline Survey".

### 3.3 Literature Review

- 3.3.1 Desktop literature review on the existing ecological condition was undertaken upon commencement of the contract. Findings of relevant studies or surveys, including but not limited to relevant Environmental Impact Assessment reports, Centralized Environmental Database (maintained by EPD), newsletter related to local ecology and conservation (such as Hong Kong Biodiversity by Agriculture, Fisheries, and Conservation Department (AFCD) and Connections by Kadoorie Farm and Botanic Garden (KFBG), published scientific papers, as well as the Biodiversity Database and other publications on the conservation status and distribution of local flora and fauna, etc., were analysed.
- 3.3.2 All available information was collated and evaluated to identify any information gap relating to the establishment of the ecological profile of the aquatic and terrestrial environment, and to determine the ecological surveys needed for an ecological impact assessment.

# 3.4 Ecological Field Surveys

3.4.1 A survey programme of the Study is summarised below in **Table 1**.

Table 1 Ecological Survey Programme

Survey	August 2020 - Wet Season	December 2023 - Dry Season
Habitat & Vegetation	✓	✓
Mammal (Day + Night)	✓	✓
Avifauna (Day + Night)	✓	✓
Herpetofauna (Day + Night)	✓	✓
Butterfly & Odonate	✓	✓
Freshwater Aquatic Fauna	✓	✓

3.4.2 Visit to the Application Site in the wet season was conducted in August 2020 to provide baseline and ecological information concerning the 500m Study Area for the previous proposal of a two-storey building design. The surveys covered flora, key groups of fauna, and habitat mapping of the 500m Study Area. Survey transects are shown in **Figure 1**.



- In view of time elapsed since the first survey was completed, a one-month verification survey in dry season was conducted in December 2023 to verify if the ecological conditions of Application Site and surrounding areas have remained similar (i.e., without any substantial changes), and to confirm the validity of the findings from the previous ecological survey. The survey methodologies in both wet and dry seasons remain consistent as shown in **Table 1**.
- 3.4.4 All ecological field surveys were carried out in a manner that would not cause any unnecessary stress or damage to any species or habitats. Permission under the Wild Animal Protection Ordinance (Cap. 170) for using hand-nets and traps during field surveys was obtained from AFCD prior to the surveys.
- 3.4.5 All floral and faunal species of conservation importance recorded during the surveys were photographed as far as possible and the locations of the records were marked with a GPS device, except for avifauna species.
- 3.4.6 A comprehensive species list of each taxon surveyed (including both flora and fauna) was compiled, with the conservation status, protection status, and other relevant information (such as distribution, rarity, etc.) for each species reported.

### Habitat & Vegetation Surveys

- 3.4.7 Habitats within the Study Area were identified by making reference to the latest available aerial photographs and the government base map, followed by on-site verification during ground-truthing surveys. Survey transects were set across representative patches of each habitat type identified in the Study Area. Habitat map is illustrated in **Figure 1.** The ecological characteristics of each habitat type within the Study Area were defined and characterised. This involved assessing the size, vegetation type and species present in each habitat. The dominant species within each habitat were identified, and the species diversity and abundance were evaluated. The community structure, seasonal patterns, and inter-dependence of habitats and species were analysed. Additionally, any features of ecological importance were also noted. For watercourses, physical attributes such as type of riparian zone, channel width and depth, substrate type, and any signs of disturbance were reported. Representative photographs of each habitat type and any important ecological features were provided.
- 3.4.8 A focused vegetation survey was conducted once at the Application Site and the adjacent habitats in the 500m Study Area in both wet and dry seasons to record all notable plant species. Floral species observed during the surveys were identified to species level as far as possible. Relative abundance and dominant plant species in each habitat were recorded. A plant species list presenting the recorded plant species and presence of species of conservation concern was established for the Survey Area. Nomenclature and conservation status of floral species follows Corlett *et al.* (2000), Barretto *et al.* (2011), IUCN Red List of Threatened Species (IUCN 2024), Qin *et al.* (2017), as well as AFCD (2003, 2007, 2008, 2009 and 2011).

### Mammal Surveys

- 3.4.9 Surveys for terrestrial mammals were conducted along transects. Since most mammalian species in Hong Kong occur at low densities, surveys for mammals included both direct observation and active searching for signs of mammal occurrence (including potential roost, footprints and droppings). Night-time surveys were also conducted to supplement the findings from day-time surveys.
- 3.4.10 Nomenclature of species follows AFCD HK Biodiversity Information Hub. The commonness and conservation status (including status from Red List of China's Vertebrates, the latest IUCN red list and other scientific research study e.g., Fellowes *et al.* (2002)) for each species were presented.



### Avifauna Surveys

- 3.4.11 Surveys for birds were conducted once in both wet and dry seasons by designated transect count with the aid of a pair of binoculars at a suitable time (i.e., in early morning) when birds are most active and at night (for nocturnal species). Avifauna species were detected either by direct sighting or from vocalisation. Species recorded were identified and quantified, with special reference to behaviours such as feeding, roosting and breeding.
- 3.4.12 A comprehensive list of species recorded from the Study Area was prepared, with wetland-dependence, conservation and/or protection status indicated. Nomenclature of species follows the updated List of Hong Kong Birds published by the Hong Kong Bird Watching Society.

### Herpetofauna Surveys

- 3.4.13 Herpetofauna surveys were conducted along the transects. All potential habitats for amphibian and reptile were actively searched throughout the survey. Microhabitats were examined (e.g., stones, crevices, or rotten logs) or deliberately uncovered to reveal the presence of the amphibians and reptiles hiding under these covers. Active searching for eggs and tadpoles of amphibians in aquatic habitats was conducted to indicate breeding activities. All life forms of amphibians, including adult, tadpole, juvenile and egg, were recorded to indicate the breeding potential in the survey site. Owing to the nocturnal behaviour of most herpetofauna species, night-time surveys were also conducted.
- 3.4.14 Nomenclature of species follows AFCD HK Biodiversity Information Hub. The commonness and conservation status (including status from Red List of China's Vertebrates, the latest IUCN red list and other scientific research study e.g. Fellowes et al. (2002)) for each species were presented.

### **Butterfly & Odonate Surveys**

- 3.4.15 Transect surveys were conducted for butterflies and odonates along the transects, with species mainly detected by direct observation. For butterflies, active searching for larvae and pupae within 5m of the transects was also conducted. For odonates, special attention was given to aquatic habitats such as watercourses. All species observed were identified to species level and quantified. Species occurring outside 5m of the transects but within the Study Area were also recorded. Surveys were conducted during suitable weather conditions, avoiding overcast or rainy conditions weather when butterflies and odonates are less active.
- 3.4.16 Nomenclature of butterfly and odonate species follows AFCD HK Biodiversity Information Hub. The commonness and conservation status (including status from China Red Data Book, the latest IUCN red list and other scientific research study e.g., Fellowes et al. (2002)) for each species were provided.

### Freshwater Community Survey

- 3.4.17 Aquatic fauna survey was conducted once in the stream covered by the Application Site. Aquatic fauna, including freshwater macro-invertebrates and fishes, were identified and studied by direct observation and active searching by nets, cages and standard field sampling techniques as appropriate.
- 3.4.18 Nomenclature of species follows AFCD HK Biodiversity Information Hub. The commonness and conservation status (including status from Red List of China's Vertebrates, the latest IUCN red list and other scientific research study e.g. Fellowes et al. (2002)) for each species will be presented.



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# 4 Ecological Baseline Information

# 4.1 Description of the Physical Environment

- 4.1.1 The Application Site of approximately 0.05 ha is located at part of Inland Lot 7755 RP and Government Land sandwiched between IL 7755 RP and IL 7713, which is within the "Other Specified Uses annotated (Cemetery)" zone, and adjacent to the Hong Kong Buddhist Cemetery.
- 4.1.2 The Application Site mainly comprises disturbed lands as developed area along with small patches of woodlands and sections of watercourses. Within the 500m Study Area, the Application Site is part of the hilly region of Mount Collinson, with Shek O Country Park covering a large portion of Study Area in the south. The northern part across Cape Collinson Road consists of mostly woodlands, low-rise buildings for Columbarium and Crematorium use, and fragments of residential buildings.

# 4.2 Recognised Sites of Conservation Importance

- 4.2.1 Shek O Country Park is located approximately 75m to the south of the Application Site. The 701-hectare Shek O Country Park was designated in 1979. From the north, it extends along the mountain ridge that links Pottinger Peak with Mount Collinson, and crosses Wan Cham Shan and Shek O Peak to reach D'Aguilar Peak in the south.
- 4.2.2 Information from the Agricultural, Fisheries and Conservation Department (AFCD) suggests that the vegetation in the Shek O Country Park was severely damaged during World War II. Nevertheless, native shrubs and trees regenerated following a series of post-war reforestation programmes and conservation measures. Dominant tree species in the area include *Polyspora axillaris*, *Machilus* spp., *Schefflera heptaphylla*, *Aporusa dioica* and *Rhodomyrtus tomentosa*. Rare plants including *Podocarpus macrophyllus* and *Cyclobalanopsis glauca* were also recorded from the Country Park.
- 4.2.3 In terms of fauna, mammal species including Musk Shrew, Chestnut Spiny Rat, Chinese Ferret Badger, Masked Palm Civet, Small Indian Civet, East Asian Porcupine, Leopard Cat, and Red Muntjac were recorded from the Country Park. Apart from mammals, the Country Park also supports a wide diversity of birds, including Eastern Buzzard, White-bellied Sea Eagle, Chinese Francolin, Barn Swallow, Little Swift, Blue Whistling Thrush and Black Drongo.
- 4.2.4 Notwithstanding, there was no site-specific information regarding the flora or fauna of the area of Shek O Country Park located within the 500m Study Area.

# 4.3 Habitats & Vegetation

### Literature Review

4.3.1 No specific ecological baseline information regarding the Application Site and its vicinity were available.

### Field Survey Findings

4.3.2 Within the 500m Study Area, a total of 3 habitats were identified, including watercourse, woodland and developed area.



4.3.3 The areas of each type of habitats present within the Application Site and the 500m Study Area are listed in **Table 2**, while a habitat map is provided in **Figure 1**. Representative photographs of these habitats are provided in **Appendix 3**.

Table 2 Habitats present within the Application Site and the 500m Study Area

Habitat	Area of Each Habitat Identified (ha)					
парісас	Application Site	500m Study Area	Total			
Watercourse	0.01 (approximately 30m)	0.91	0.92			
Woodland	0.01	65.77	65.78			
Developed Area	0.03	16.95	16.98			
Total <sup>1</sup>	0.05	83.64	83.68			

Notes:

### Watercourse

- 4.3.4 Given the hilly terrain, numerous semi-natural watercourse were found in the entire Study Area, while small hill streams were noted flowing from south to north. A small and permanent stream originated from the tributaries of the upstream on Mount Collinson of Shek O Country Park, which passes through the entire Application Site and continues to the north adjacent to the Chai Wan Masjid. The upper section of the stream, immediately south of the Application Site, was fairly exposed, characterised by rocky stream bed, fast-flowing water and minimal pollution. Vegetation recorded along the riparian zone were mostly native and common species including *Macaranga tanarius* var. *tomentosa*, *Ficus variegata*, *Mallotus paniculatus*, and *Sterculia lanceolata*, as well as herbaceous species such as *Calamus tetradactylus*, and *Cyclosorus parasiticus*.
- 4.3.5 A segment of watercourse running through the Application Site, which spanned approximately 30m, was modified into a channel, featuring steep concrete walls measuring approximately 0.5m in depth and a concrete bed of about 1m wide. Remnants of previous man-made structures were scattered across the Application Site, some of which shaded a section of watercourse. The channelised watercourse was covered in weedy vegetation and disposal due to its close proximity to cemeteries, and slightly sheltered by adjacent trees. Vegetation recorded within the Application Site included native trees such as *Ficus subpisocarpa*, *Psychotria asiatica*, cultivated tree *Carica papaya*, and herbaceous species *Alocasia macrorrhizos*, *Wedelia trilobata*, and *Ipomoea cairica*.

### Woodland

- 4.3.6 Secondary woodland was the most dominant habitat in the 500m Study Area, with a small portion of woodland fringe, approximately 0.01 ha, occupied the slope along the edge of the Application Site on the east. All dominant tree species recorded in Application Site were common and typical species found in woodland fringe, including Aporosa dioica, Ficus hirta, Macaranga tanarius var. tomentosa, and Machilus velutina. Herbaceous species such as Bidens alba and Cyclosorus parasiticus were also noted in the understory of woodland within the Application Site.
- 4.3.7 Two *Artocarpus hypargyreus* of about 6m tall were recorded on the eastern slope of Application Site. One was recorded within the Application Site while another one was located along the eastern fringe of the Site boundary. Despite this species is commonly found in lowland forest and not under local protection in Hong Kong, it is listed as Vulnerable on the IUCN Red List (2023) and Endangered in China (Qin *et al.* 2017).
- 4.3.8 Three saplings of *Pavetta hongkongensis* were also recorded on the eastern slope of Application Site. Two were found within and adjacent to the Application Site boundary, and one was recorded outside the Site boundary (within 5m from Application Site). It is locally common and protected under Cap. 96A.



<sup>1.</sup> Habitat areas are rounded up to the nearest two decimal places; hence the total value may not add up in figures.

- Among the 5m extent from Application Site boundary, several clumps of the fern *Cibotium barometz*, and saplings of *Pavetta hongkongensis* and *Diospyros vaccinioides* were recorded on the eastern slope. *Cibotium barometz*, which is locally protected under Cap. 586, is regarded as Vulnerable and protected wild plant under Stage Protection (Category II) (AFCD 2003), while *Diospyros vaccinioides* is regarded as Critically Endangered in IUCN Red List (2023) and Endangered in China (Qin et al. 2017).
- 4.3.10 Woodland outside the Application Site was fairly mature, mixed with tall shrubland trees and plantation species. Vegetation diversity is considered as moderate and consists of mostly native species, including *Aporosa dioica, Litsea glutinosa, Machilus chekiangensis, Melicope pteleifolia*, and *Sterculia lanceolata*.
- 4.3.11 Five flora species of conservation importance, including native tree *Artocarpus hypargyreus*, and *Canthium dicoccum*, native fern *Cibotium barometz*, and native shrub *Diospyros vaccinioides* and *Pavetta hongkongensis*, were located within the Study Area. Their locations are further illustrated in **Figure 1**.

### **Developed Area**

- 4.3.12 Developed Area mainly consisted of road structures, crematoriums and cemeteries at Cape Collinson, and residential blocks of Chai Wan in the northern margin of the 500m Study Area. This habitat type was found throughout the entire Study Area, highly urbanised and frequently disturbed by anthropogenic activities in different degrees. Vegetation recorded included a variety of roadside plantation *Acacia confusa*, exotic species such as *Leucaena leucocephala* and *Mikania micrantha*, and common native species like *Celtis sinensis*, *Ficus hispida*, and *Macaranga tanarius* var. *tomentosa*.
- 4.3.13 Within the Application Site, large proportion of Site was Developed Area which mainly consisted of hard concrete standing with remnants of built structures presented, covering a section of watercourse. Five saplings of *Pavetta hongkongensis* were recorded within the Application Site, which is protected under Cap. 96A.

### Floral Species of Conservation Importance

A total of 229 flora species were recorded from the current study. A comprehensive list of floral species recorded during the surveys with their relative abundance within each habitat is provided in **Appendix 1**. Among the flora species recorded, five are of conservation importance. One *Artocarpus hypargyreus* and seven saplings of *Pavetta hongkongensis* were recorded within the Application Site, while all other flora species with conservation status were identified in the 500m Study Area (**Table 3**). *Artocarpus hypargyreus* is listed as Vulnerable by IUCN (2023) while *Pavetta hongkongensis* is protected under Cap. 96. Their locations are shown in **Figure 1** and photos are provided in **Appendix 4**.

Table 3 Flora Species of Conservation Importance Recorded from Survey

	Conservation and Protection Status <sup>1</sup>	Origin		Recorded from:		
Scientific Name			Status in HK <sup>2</sup>	Application Site	500m Study Area	
Artocarpus hypargyreus	VU (IUCN), EN (TSLCHP), NT (AFCD 2003)	Native	Common	WL	WL	
Canthium dicoccum	VU (IUCN)	Native	Common	-	WL	
Cibotium barometz	VU (AFCD 2003), Cap.586	Native	Very Common	-	WL	
Diospyros vaccinioides	CR (IUCN), EN (TSLCHP)	Native	Very Common	-	WL	
Pavetta hongkongensis	Сар.96	Native	Common	DA, WL	WL	

Notes:



- 1. Origin and Status refer to:
  - a. AFCD (2003). Conservation Status: NT = Near Threatened; VU = Vulnerable;
  - b. AFCD (2007);
  - c. AFCD (2008);
  - d. AFCD (2009);
  - e. AFCD (2011);
  - f. AFCD (2012);
  - g. Barretto et al. (2011);
  - h. Cap. 96 = Forests and Countryside Ordinance, including the associated Chapter 96A Forestry Regulation;
  - i. Cap. 586 = Protection of Endangered Species of Animal and Plants Ordinance;
  - i. Corlett et al. (2000):
  - k. CPRDB (China Plant Red Data Book). Status is retrieved from AFCD (2003).
  - I. IUCN (2023). Conservation Status: VU = Vulnerable; CR = Critically Endangered;
  - m. Qin et al. (2017) (TSLCHP: Threatened Species List of China's Higher Plants). Conservation Status: EN = Endangered.

In this study, plant species is regarded of conservation importance if it is protected under Cap. 96A, Cap. 586, documented as rare/protected species in AFCD (2003), or its wild population (i.e., not cultivated/exotic specimens) has conservation status under international or regional conservation inventory (e.g. IUCN Red List of Threatened Species, China Red Data Book, Threatened Species of China's Higher Plants).

- 2. Habitats: DA = Developed Area; WC = Watercourse; WL = Woodland.
- 3. Locally cultivated or planted species with conservation status are not considered of conservation importance.

# 4.4 Mammals

### Literature Review

4.4.1 There is no specific information regarding mammals within the Application Site and the Study Area.

### Field Survey Results

- 4.4.2 A total of 4 mammal species were observed during the survey. Two bat species were recorded inside the Application Site, while other non-flying terrestrial mammals recorded were within the 500m Study Area. A complete list of species recorded is enclosed in **Appendix 2**.
- 4.4.3 Three species of conservation importance, including Pallas's Squirrel, Short-nosed Fruit Bat, and Least Pipistrelle, were found and summarised below in **Table 4**. Locations of species of conservation importance are provided in **Figure 1**.

Table 4 List of Mammal Species of Conservation Importance Recorded during the Survey

	Componentian and	Status in	Recorded from <sup>3</sup>			
Species	Conservation and Protection Status <sup>1</sup>	Hong Kong <sup>2</sup>	Application Site	500m Study Area		
Short-nosed Fruit Bat Cynopterus sphinx	NT(RLCV); Cap.170	Very Common	IF	-		
Least Pipistrelle Pipistrellus tenuis	NT(RLCV); Cap.170	Uncommon	IF	-		
Pallas's Squirrel Callosciurus erythraeus	Cap.170	Common	-	WL		
Total no. of species of conservation importance recorded 2 1						

### Notes:

- Conservation and protection status refers to Fellowes et al. (2002), IUCN (2023), RLCV (Jiang et al., 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.
  - a. Conservation status by Fellowes et al. (2002): LC = Local Concern; PRC = Potential Regional Concern; RC = Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
  - b. Conservation status by RLCV (Jiang et al., 2016): NT = Near Threatened.
  - c. Protection status by CITES (2023): II = Listed in Appendix II of CITES; III = Listed in Appendix III of CITES.
  - d. Protection status by CSMPS (CSIS, 2019): II = Class II Protected Species in China.
  - e. Cap. 170 = Wild Animals Protection Ordinance.



- f. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
- 2. Habitat: IF = In Flight; WL = Woodland.

### 4.5 Avifauna

### Literature Review

4.5.1 There is no specific information regarding avifauna within the Application Site and the Study Area.

### Field Survey Results

- 4.5.2 A total of 27 bird species were recorded during the survey. Almost all bird species recorded are common and widespread in Hong Kong. A complete list of species recorded is enclosed in **Appendix 2**.
- 4.5.3 All bird species are protected under Cap. 170. Notwithstanding, four bird species observed are of conservation importance, namely Crested Serpent Eagle, Bersa, Black Kite and Black-throated Laughingthrush. Species of conservation importance recorded in the survey are summarised below in **Table 5**.

Table 5 List of Bird Species of Conservation Importance Recorded during the Survey

			Recorded from <sup>3</sup>			
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong²	Application Site	500m Study Area		
				DA	IF	WL
Crested Serpent Eagle Spilornis cheela	(LC); NT(RLCV); CITES(II); NKPWA(II); Cap.586	Locally common resident, with some migrant parties in spring and autumn	-	-	1	-
Besra Accipiter virgatus	NKPWA(II); CITES(II); Cap.586	Common and widespread resident and possibly an autumn migrant	-	-	1	-
Black Kite Milvus migrans	(RC); CITES(II); NKPWA(II); Cap.586	Abundant resident and winter visitor, present all year	-	-	3	-
Black-throated Laughingthrush Pterorhinus chinensis	NKPWA(II)	Widespread and locally common resident	-	-	-	7
Total no. of species of	conservation importance	e recorded	0	0	3	1

### Notes:

- Conservation and protection status refers to Fellowes et al. (2002), IUCN (2023), RLCV (Jiang et al., 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.
  - a. Conservation status by Fellowes et al. (2002): LC = Local Concern; RC = Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
  - b. Conservation status by RLCV (Jiang *et al.*, 2016): NT = Near Threatened.
  - c. Protection status by CITES (2023): II = Listed in Appendix II of CITES.
  - d. Protection status by NKPWA (2021): II = Class II of NKPWA.
  - e. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
- 2. Distribution and rarity follow the data of the latest Hong Kong Bird Report published by HKBWS.
- 3. Habitat: DA = Developed Area; IF = In Flight; WL = Woodland.
- 4. All bird species are locally protected under Cap. 170.

# 4.6 Herpetofauna

Literature Review

4.6.1 There is no specific information regarding herpetofauna within the Application Site and the Study Area.

### Field Survey Results

- 4.6.2 A total of 7 amphibians and 6 reptiles were recorded from the survey. Most of the species are common and widespread in Hong Kong, with two amphibians and two reptiles being of conservation importance, namely Short-legged Toad, Lesser Spiny Frog, Common Rat Snake, and Anderson's Stream Snake. Species of conservation importance recorded in the survey are summarised below in **Table 6**.
- 4.6.3 A complete list of species recorded is enclosed in **Appendix 2** and locations of species of conservation importance are provided in **Figure 1**.

Table 6 Herpetofauna Species of Conservation Importance Recorded during Survey

			Recorded from <sup>3</sup>	
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>	Project Site	500m Study Area
Amphibian				
Short-legged Toad  Megophrys brachykolos	PGC; RLCV(VU); IUCN(EN)	Widely distributed in upland forest streams throughout Hong Kong.	-	WC
Lesser Spiny Frog Quasipaa exilispinosa	PGC; RLCV(VU)	Widely distributed in upland forest streams throughout Hong Kong.	WC	WC
Reptile				
Common Rat Snake Ptyas mucosus	PRC; RLCV(EN); CITES(II); Cap.586	Widely distributed throughout Hong Kong.	-	WC
Anderson's Stream Snake Opisthotropis andersonii	PGC; RLCV(NT); IUCN(NT)	Widespread in Hong Kong.	-	WC
Total no. of species of conse	ervation importance re	corded	1	4

### Notes:

- Conservation and protection status refers to Fellowes et al. (2002), IUCN (2023), RLCV (Jiang et al., 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.
  - a. Conservation status by Fellowes et al. (2002): PGC = Potential Global Concern. Letters in parentheses indicate
    that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general
    occurrence
  - b. Conservation status by IUCN (2023): NT = Near Threatened; EN = Endangered.
  - c. Conservation status by RLCV (Jiang et al., 2016): NT = Near Threatened; VU = Vulnerable; EN = Endangered.
  - d. Protection status by CITES (2023): II = Listed in Appendix II of CITES.
  - e. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
- 2. Distribution and rarity follow the data of HKBIH (AFCD, 2023).
- 3. Habitat: WC = Watercourse.

# 4.7 Butterflies and Odonates

### Literature Review

4.7.1 There is no specific information regarding butterflies and odonates within the Application Site and the Study Area.

### Field Survey Results



4.7.2 A total of 50 butterfly and 9 odonate species were recorded from the survey. Most of the species are common and widespread in Hong Kong. None was of species of conservation importance. A complete list of species recorded is enclosed in **Appendix 2**.

# 4.8 Freshwater Fauna

### Literature Review

4.8.1 There is no specific information regarding freshwater fauna within the Application Site and the Study Area.

### Field Survey Results

4.8.2 A total of 3 freshwater fish and 4 invertebrate species were recorded from the survey. All were recorded outside the Application Site and almost all of the species are common and widespread in Hong Kong, with one freshwater crab, *Nanhaipotamon hongkongense*, being of conservation importance (**Table 7**). A complete list of species recorded is enclosed in **Appendix 2**.

Table 7 Freshwater Fauna Species of Conservation Importance Recorded during Survey

			Recorded from <sup>3</sup>			
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>	Project Site	500m Study Area		
Freshwater Crab Nanhaipotamon hongkongense	PGC	-	-	WC		
Total no. of species of c	0	1				

### Notes:

- 1. Conservation and protection status refers to Fellowes *et al.* (2002), IUCN (2023), RLCV (Jiang *et al.*, 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.
  - a. Conservation status by Fellowes *et al.* (2002): PGC = Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
- 2. Distribution and rarity follow the data of HKBIH (AFCD, 2023).
- 3. Habitat: WC = Watercourse.



# 5 Evaluation of Habitats & Species

# 5.1 Evaluation of Habitats

5.1.1 Ecological importance of habitats recorded from the current study is evaluated in accordance with **Annex 8** of **EIAO-TM** and presented in tables below.

Table 8 Habitat Evaluation for Watercourse

Criteria	Watercourse
Naturalness	Largely natural hill streams with minimal human disturbance; entirely artificial catchwaters with low naturalness.  Section of semi-natural watercourse within the Application Site shaded by concrete structures with its bank and bed modified with concrete and little degrees of disturbance caused by nearby human activities.
Size (ha)	0.01 (approximately 30m) within Application Site; 0.91 (7609.82m) in 500m Study Area excluding Application Site
Diversity	Low to moderate diversity of flora and fauna
Rarity	A common habitat in Hong Kong. Species of Conservation Importance including Short-legged Frog, Lesser Spiny Frog, Common Rat Snake, Anderson's Stream Snake, and <i>Nanhaipotamon hongkongense</i> , were recorded during the survey in a low abundance.
Re-creatability	Conditions will be difficult to be re-create, except for the catchwaters
Fragmentation	Not fragmentated
Ecological Linkage	Some linkages to adjacent woodland
Potential Value	Low to moderate
Nursery/Breeding Ground	Not known to be significant
Age	Not known to be significant
Abundance/Richness of Wildlife	Low to moderate
Ecological Value	LOW within Application Site due to its small size; MODERATE within Study Area given its naturalness

Table 9 Habitat Evaluation for Woodland

Criteria	Woodland
Naturalness	Fairly mature and highly natural secondary woodland habitat with low human inference
Size (ha)	0.01 within Application Site; 65.77 in 500m Study Area excluding Application Site
Diversity	Moderate diversity of flora and fauna
Rarity	A common habitat in Hong Kong. Species of Conservation Importance including floral species of <i>Artocarpus hypargyreus, Canthium dicoccum, Cibotium barometz, Diospyros vaccinioides</i> , and <i>Pavetta hongkongensis</i> , fauna species of Pallas's Squirrel and Black-throated Laughingthrush, were recorded during the survey.
Re-creatability	Can be re-created but the plant would take years to develop into mature woodland
Fragmentation	Not fragmented
Ecological Linkage	Ecologically linked to the surrounding watercourses
Potential Value	Low to moderate
Nursery/Breeding Ground	Presumably the nursery and breeding ground for various resident/breeding species
Age	Not known to be significant
Abundance/Richness of Wildlife	Low to moderate
Ecological Value	MODERATE

Table 10 Habitat Evaluation for Developed Area

Criteria	Developed Area
Naturalness	Highly urbanised man-made habitat comprised of road, crematoriums, cemeteries, and residential blocks, with high human disturbance
Size (ha)	0.03 within Application Site; 16.95 in 500m Study Area excluding Application Site
Diversity	Low of flora and fauna
Rarity	A common habitat in Hong Kong. One species of Conservation Importance, flora species <i>Pavetta hongkongensis</i> , was recorded during the survey.
Re-creatability	Can be easily re-created
Fragmentation	Not fragmented
Ecological Linkage	Limited linkage
Potential Value	Low and limited given its artificial nature
Nursery/Breeding Ground	Not known to be significant
Age	Not known to be significant
Abundance/Richness of Wildlife	Low
Ecological Value	VERY LOW

# **5.2** Evaluation of Species

5.2.1 The ecological importance of species of conservation importance is evaluated in accordance with **Annex 8** of **EIAO-TM** and presented in tables below.

Table 11 Evaluation for Floral Species of Conservation Importance

Species	Conservation and Protection Status <sup>1</sup>	Distribution & Rarity <sup>1</sup>	Location recorded
Herb			
Cibotium barometz	VU (AFCD 2003), Cap.586	Very common in Hong Kong	4 clumps along the woodland fridge of Application Site, 4 clumps and 1 patch recorded in the east and south of Study Area
Shrub			
Diospyros vaccinioides	CR (IUCN), EN (TSLCHP)	Very common in Hong Kong	2 saplings along the woodland fridge of Application Site, and 4 saplings recorded in the north and south of Study Area
Shrub/Tree			
Canthium dicoccum	VU (IUCN)	Common in Hong Kong	1 shrub in the north of Study Area
Pavetta hongkongensis	Сар.96	Common in Hong Kong	7 saplings within Application Site, 1 along the woodland fridge of Site, and 26 shrubs and saplings observed in the north, east, and south of Study Area
Tree			
Artocarpus hypargyreus	VU (IUCN), EN (TSLCHP), NT (AFCD 2003)	Common in Hong Kong	1 tree within Application Site, 1 tree along Site boundary, 14 trees observed in the east and south of Study Area

### Notes:

- 1. Origin and Status refer to:
  - a. AFCD (2003). Conservation Status: NT = Near Threatened; VU = Vulnerable;
  - b. AFCD (2007);
  - c. AFCD (2008);
  - d. AFCD (2009);
  - e. AFCD (2011);
  - f. AFCD (2012);
  - g. Barretto et al. (2011);



- h. Cap. 96 = Forests and Countryside Ordinance, including the associated Chapter 96A Forestry Regulation;
- i. Cap. 586 = Protection of Endangered Species of Animal and Plants Ordinance;
- j. Corlett et al. (2000);
- k. CPRDB (China Plant Red Data Book). Status is retrieved from AFCD (2003).
- I. IUCN (2023). Conservation Status: VU = Vulnerable; CR = Critically Endangered;
- M. Qin et al. (2017) (TSLCHP: Threatened Species List of China's Higher Plants). Conservation Status: EN = Endangered.

In this study, plant species is regarded as plant species of conservation importance if it is protected under Cap. 96A, Cap. 586, documented as rare/protected species in AFCD (2003), or its wild population (i.e. not cultivated/exotic specimens) has conservation status under international or regional conservation inventory (e.g. IUCN Red List of Threatened Species, China Red Data Book, Threatened Species of China's Higher Plants).

Distribution and rarity follow the data of the latest Hong Kong Bird Report published by HKBWS for avifauna; data of HKBIH (AFCD, 2023) for other taxa.

Table 12 Evaluation for Faunal Species of Conservation Importance

Species	Conservation and Protection Status <sup>1</sup>	Distribution and Rarity <sup>2</sup>	Location Recorded
Mammals			
Short-nosed Fruit Bat Cynopterus sphinx	NT(RLCV); Cap.170	Very Common and widely distributed in urban and countryside areas throughout Hong Kong	1 In flight within the Application Site
Least Pipistrelle Pipistrellus tenuis	NT(RLCV); Cap.170	Uncommon in Hong Kong	1 In flight within the Application Site
Pallas's Squirrel Callosciurus erythraeus	Cap.170	Common and fairly widely distributed throughout Hong Kong	1 recorded in woodland near the Cape Collinson Crematorium
Avifauna			
Crested Serpent Eagle Spilornis cheela	(LC); NT(RLCV); CITES(II); NKPWA(II); Cap.586	Locally common resident, with some migrant parties in spring and autumn	1 In flight within the Study Area
Besra Accipiter virgatus	NKPWA(II); CITES(II); Cap.586	Common and widespread resident and possibly an autumn migrant	1 In flight within the Study Area
Black Kite Milvus migrans	(RC); CITES(II); NKPWA(II); Cap.586	Abundant resident and winter visitor, present all year	3 In flight within the Study Area
Black-throated Laughingthrush Pterorhinus chinensis	NKPWA(II)	Widespread and locally common resident	7 recorded in woodland near Hong Kong Trail Section 8
Amphibians			
Short-legged Toad  Megophrys brachykolos	PGC; RLCV(VU); IUCN(EN)	Widely distributed in upland forest streams throughout Hong Kong.	9 heard in watercourse adjacent to the Hong Kong Buddhist Cemetery
Lesser Spiny Frog Quasipaa exilispinosa	PGC; RLCV(VU)	Widely distributed in upland forest streams throughout Hong Kong.	1 observed in watercourse within the Application Site, and 11 in eastern part of Hong Kong Trail Section 8
Reptiles			
Common Rat Snake Ptyas mucosus	PRC; RLCV(EN); CITES(II); Cap.586	Widely distributed throughout Hong Kong.	1 in catchwater near Hong Kong Buddhist Cemetery
Anderson's Stream Snake Opisthotropis andersonii	PGC; RLCV(NT); IUCN(NT)	Widespread in Hong Kong.	1 in Watercourse near Chai Wan Masjid
Freshwater Invertebrates	3		
Freshwater Crab Nanhaipotamon hongkongense Notes:	PGC	-	1 in watercourse in the eastern part of Hong Kong Trail Section 8

### Notes

1. Conservation and protection status refers to Fellowes *et al.* (2002), IUCN (2023), RLCV (Jiang *et al.*, 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.



- a. Conservation status by Fellowes *et al.* (2002): LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
- b. Conservation status by IUCN (2023): NT = Near Threatened; EN = Endangered.
- c. Conservation status by RLCV (Jiang et al., 2016): NT = Near Threatened; VU = Vulnerable.
- d. Protection status by CITES (2023): II = Listed in Appendix II of CITES; III = Listed in Appendix III of CITES.
- e. Protection status by CSMPS (CSIS, 2019): II = Class II Protected Species in China.
- f. Protection status by NKPWA (2021): II = Class II of NKPWA.
- g. Cap. 170 = Wild Animals Protection Ordinance.
- h. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
- Distribution and rarity follow the data of the latest Hong Kong Bird Report published by HKBWS for avifauna; data of HKBIH (AFCD, 2023) for other taxa.



# 6 Identification & Evaluation of Impacts

# 6.1 Assessment Methodology

6.1.1 The potential direct and indirect ecological impacts arising from the proposed development are identified and assessed in this section in accordance with **Annexes 8** and **16** of the **EIAO-TM**.

# 6.2 Proposed Extension of Columbarium

6.2.1 The proposed development consists of a four-storey building for columbarium use. The project location for proposed extension is located immediately east of the existing thee-storey Hong Kong Buddhist Cemetery at Cape Collision Road.

# 6.3 Direct Impacts

Direct Impacts to Recognised Site(s) of Conservation Importance

6.3.1 The Application Site is located outside of any recognised sites of conservation importance. All proposed development will be located within the project boundary and will not encroach into any recognised sites of conservation importance.

### **Direct Impacts to Habitats**

6.3.2 Three types of habitats were identified within the Application Site, namely Watercourse, Woodland, and Developed Area. These habitats will be mostly lost. Given their low ecological value in general, the significance of impacts is expected to be low to very low. An evaluation of the direct loss of habitats within the Application Site in the absence of mitigation measures is provided in **Table 13** below.

Table 13 Evaluation of Direct Impacts on Habitats in the Absence of Mitigation Measures

Criteria	Watercourse	Woodland	Developed Area
Habitat Quality	Low	Low to moderate; However, woodland within the Application Site is on the fringe with frequent human disturbance	Very Low
Species	One fauna species of conservation importance recorded	Two flora species of conservation importance recorded	One flora species of conservation importance recorded
Size/Abundance	Small size (0.01 ha); Low abundance of wildlife	Small size (0.01 ha); Low abundance of wildlife	Small size (0.03 ha); Low abundance of wildlife
Duration		Permanent loss	
Reversibility		Irreversible	
Magnitude	Low magnitude as the hydrology will be maintained by the reprovision of a nullah beneath the Application Site		Very low magnitude given the habitat nature
Significance of Impact	Low	Low to Moderate due to possible vegetation clearance during site formation	Very Low



Based on the Landscape Impact Assessment & Landscape Proposal (Urbis 2024), a portion of woodland (TG1 and TG2) within the 5m extent from Application Site is proposed to be converted into a temporary construction workspace during site formation. The provision of temporary workspace in the eastern slope of Application Site during site formation works may also lead to potential loss of greenery through vegetation clearing. This area, however, is relatively small (0.03 ha). Although four flora species of conservation importance were recorded, the habitat quality and abundance of wildlife is low. Additionally, located on a slope, the vegetation within this area is generally in poor structural condition with low amenity value. The loss of this habitat is permanent and irreversible in the absence of mitigation measures. However, as this area is small with low amenity and ecological values, the magnitude of change and impact significance is expected to be low.

### Direct Impacts to Species of Conservation Importance

- 6.3.4 Two flora species of conservation importance, *Artocarpus hypargyreus* and *Pavetta hongkongensis*, were recorded in the Application Site during the survey. The proposed works will unavoidably affect the two *Artocarpus hypargyreus* trees situated within and along the eastern fringe of the Application Site. According to the Landscape Impact Assessment & Landscape Proposal (Urbis 2024), these two trees are proposed to be removed during construction. Their low amenity, poor structural condition, and asymmetrical tree form would not justify transplantation. As this species is considered common in Hong Kong, loss of these two trees is not expected to cause significant impact to its local population. Therefore, the direct ecological impact resulting from their mortality will be low.
- 6.3.5 Additionally, a total of seven saplings of *Pavetta hongkongensis* were recorded in the developed area and woodland on the fringe of Application Site. The construction works will potentially cause mortality of this species in the absence of mitigation. As the species is common and widespread across Hong Kong, the direct impact will be low.
- Two clumps of *Cibotium barometz*, one sapling of *Pavetta hongkongensis* and one sapling of *Diospyros vaccinioides* located within the proposed temporary workspace will also be directly impacted during vegetation clearing. These species are considered common and very common in Hong Kong, the impact significance of losing these individuals to their local populations is expected to be low.
- 6.3.7 One amphibian species and two bat species of conservation importance were recorded, in the watercourse and in-flight respectively, within the Application Site. Lesser Spiny Frog is widely distributed in upland forest streams throughout Hong Kong, it is also highly mobile and can readily inhabit available streams in the vicinity. Short-nosed Fruit Bat is widely distributed in urban and countryside throughout Hong Kong, while Least Pipistrelle is considerably uncommon in Hong Kong. Given both bat species were recorded in low abundance, it is considered that their occurrence in the Application Site is only of a transient nature. The risk of fauna mortality arising from the construction is low, therefore the direct impact to these species is considered to be low.

# 6.4 Indirect impacts

### Indirect Impacts to Recognised Site(s) of Conservation Importance

6.4.1 The Shek O Country Park was located at the south of the Study Area. The proposed works will be confined within the Application Site and the temporary working space 5m from the Application Site. Consequently, the Shek O Country Park will not be encroached upon by the project works. However, possible noise disturbance might occur from the use of Powered Mechanical Equipment (PME) during the construction phase. On the other hand, surface runoffs and other disturbances from the Application Site are not expected and will be minimised given the Country Park is located uphill. The indirect impacts are considered to be nil to very low.

### Indirect Impacts to Woodlands and Species

- 6.4.2 The indirect impacts to surrounding woodland habitats are summarised in **Table 14** below. Potential indirect impacts to habitats and species of conservation importance during the construction phase may include artificial light, construction noise, vibration, dust, and other forms of human disturbances that may arise from construction activities.
- 6.4.3 However, indirect construction phase impacts on non-wetland habitats in Hong Kong arising from human disturbances, noise and dust are relatively minor, given both the habitats and species impacted are relatively tolerant to disturbance. In Hong Kong, apart from mammals, woodland fauna like smaller birds and other fauna are relatively insensitive to disturbance (Arup 2013). Given the enclosed nature of woodlands and habituation of fauna to auditory disturbances and in absence of corresponding visual disturbance or other actions perceived as threats, woodland habitats are therefore significantly less sensitive to disturbance than open habitats (Arup 2014).
- 6.4.4 Since the dominant habitat in the whole Study Area is fairly mature secondary woodland which comprises dense vegetation, the potential indirect impacts such as the increased level of human activities and traffic to the habitats are comparably low. Plus, according to the survey result, the abundance of wildlife in general is low and most of the species are common and widely distributed in Hong Kong. Within the Study Area, five flora species (*Cibotium barometz, Diospyros vaccinioides, Canthium dicoccum, Pavetta hongkongensis,* and *Artocarpus hypargyreus*) and two fauna species (Pallas's Squirrel, and Black-throated Laughingthrush) of conservation importance were recorded from current survey. No impact is expected to floral species found in the 500m Study Area, while all the aforementioned fauna species are highly mobile and able to adapt to various types or habitats. Consequently, impacts on woodland and fauna species are predicted to be low.
- It is also noted that the Application Site is located near the active Hong Kong Buddhist Cemetery and along Cape Collison Road which is subject to moderate level of disturbance primarily from frequent human activities, artificial light and traffic. Potential indirect cumulative impacts arising from construction activities are anticipated. However, disturbance during construction phase will only in short-term. Hence, indirect cumulative impacts arising from construction activities will not have a significant effect.



Table 14 Evaluation of Indirect Impacts to Surrounding Woodland Habitats and Species of Conservation Importance

Criteria	Assessment
Habitat Quality	Woodland habitats in Study Area is of moderate value yet it is relatively less sensitive due to its enclosed nature; Woodland within the Application Site is on the fringe and subject to frequent human disturbance.
Species	Some species of conservation importance were recorded but in low numbers only
Size/ Abundance	Moderate size with low to moderate abundance of wildlife
Duration	Temporary for construction phase; permanent for operation phase
Reversibility	Irreversible
Magnitude	Low magnitude in both construction and operation phases
Significance of Impact	Low in both construction and operation phases

### Indirect Impacts to Watercourses and Species

The indirect impacts to watercourse habitats are summarised in **Table 15** below. During construction phase, potential impacts from wastewater may alter water quality. Wastewater is anticipated from construction activities, such as cleaning, dust suppression, and utility installation, as well as construction site runoff and drainage, sewage effluent from the workforce and liquid spillage. The effluent from the construction activities usually contains sediment and pollutants, such as oil, fuel, solvents, lubricants etc., which could adversely affect the downstream watercourses and adjacent habitats if these pollutants flow into the watercourse within the Application Site. Dust and exposed earth from construction works may also enter the waterbodies via run-off, particularly during periods of heavy rain, or may be wind-blown. High turbidity from soil particles might result and pose a risk from blockage of gills by particles to aquatic organisms. Fauna and aquatic invertebrate of conservation importance, Short-legged Toad, Lesser Spiny Frog, and *Nanhaipotamon hongkongense*, recorded from current survey might be indirectly affected. Therefore, such pollution incidents should be carefully managed to minimize their impacts to water quality and species.

Table 15 Evaluation of Indirect Impacts to Watercourse Habitats and Species of Conservation Importance

iii portairo	
Criteria	Assessment
Habitat Quality	Watercourse in Study Area is of low to moderate value
Species	Some species of conservation importance were recorded but in low numbers only
Size/ Abundance	Moderate size with low to moderate abundance of wildlife
Duration	Temporary for construction phase; no major impacts for operation phase expected
Reversibility	Irreversible
Magnitude	Low to moderate
Significance of Impact	Low in construction phase; Negligible in operational phase

# 7 Mitigation Measures

# 7.1 General Approach

7.1.1 The general approach for mitigating impacts on important habitats and species as stated in **Annex**16 of the **EIAO-TM** is, in order of priority: avoidance, minimisation and compensation. As a general environmental control measure, the proposed works must be mainly limited to the Application Site and the temporary workspace only.

# 7.2 Habitat Loss

- 7.2.1 Direct loss of natural habitats has been avoided as far as possible, with the Application Site being largely within Developed Area. No habitats of high ecological value are located in the Application Site and 5m temporary workspace from Application Site boundary.
- 7.2.2 As outlined (Urbis 2024), the patch of woodland that will be cleared during the establishment of temporary construction workspace for site formation will be compensated during operation phase. To offset the habitat loss and enhance the ecological value of the affected area, new trees will be planted. Apart from compensatory tree planting, hydroseeding is also recommended to compensate for the loss of greenery caused by understorey and shrub clearing.
- 7.2.3 For the section of watercourse, hydrology will be maintained by the reprovision of a nullah beneath the Application Site (WSP 2024). To restore and enhance the natural stream habitat within Application Site, replacing the original concrete bed of the watercourse section with a rip-rap base riverbed is recommended under the guideline of DSD PN No. 3/2021, removal of garbage and utilization of materials like irregular cobbles and boulders from riverbed should be implemented to regain its naturalness and enhance the overall ecological value of the watercourse.

# 7.3 Disturbance to Species of Conservation Importance

- 7.3.1 To minimise the loss of conservation important species that cannot be preserved in-situ due to the nature of proposed works, shrubs and clumps of *Cibotium barometz, Pavetta hongkongensis* and *Diospyros vaccinioides* observed within the Application Site and the temporary construction workspace are recommended to be transplanted. A transplantation plan must also be prepared by a qualified ecologist detailing the methodology, programme, proposed reception site and monitoring activities during the construction phase of the Project to ensure that effective mitigation measures are provided to the transplanted plants.
- 7.3.2 On the other hand, the two *Artocarpus hypargyreus* trees within and along the eastern fringe of the Application Site will be removed and cannot be transplanted due to their poor health and structural condition. The loss of these trees however will be replaced through compensatory planting during the operation phase.



- 7.3.3 Meanwhile, the clumps of *Cibotium barometz* and sapling of *Diospyros vaccinioides* recorded on the eastern slope outside the Application Site and temporary workspace will be retained as this area will not be encroached by the Project works. Nevertheless, as their locations are approximately less than 15m from the proposed works, installation of orange-netting around the individuals of *Cibotium barometz* and *Diospyros vaccinioides* prior to the commencement of work is recommended, to prevent encroachment of personnel and equipment into adjacent areas where these species of conservation importance are present.
- Three fauna species, including one amphibian species and two bat species, of conservation importance were recorded in the Application Site. All bat species are protected under Cap.170 in Hong Kong. Accordingly, prior to any tree pruning or felling works, a careful check should be conducted by an experienced ecologist to ensure the absence of roosting bats, as well as nesting birds, on a precautionary basis. Quieter PME shall be also used and no night works shall be carried out to avoid disturbance to nocturnal and possible roosting species. Notwithstanding, translocation of Lesser Spiny Frog is recommended. Moreover, as Short-legged Toad was heard in the upper section of the watercourse traversing the Application Site, this species should be translocated as well. Translocation proposal of Lesser Spiny Frog and Short-Legged Toad must be prepared which should detail the programme and identified receptor sites. To ensure that these species are protected from the impacts of the construction, the translocation shall be completed within two weeks before the commencement of construction works.

# 7.4 Indirect Disturbance Impacts to Woodlands and Species

- 7.4.1 To minimise disturbance to surrounding habitats (including nearby woodlands and Shek O Country Park) and associated wildlife, the use of quieter Powered Mechanical Equipment (PME) is recommended. Additionally, all machines or equipment should be shut down when idle. Machines that are known to emit strong directional noise should be positioned to direct the noise away from nearby woodland habitats, as far as practicable.
- 7.4.2 Dust suppression measures shall also be adopted to avoid the dust from covering leaves of adjacent plants thereby affecting their photosynthesis. Regular watering of the construction site surfaces is advised to effectively reduce dust emissions. Construction materials must also be stored and covered properly. Moreover, related dusty vehicle loads must be covered with tarpaulin to prevent the spread of dust to the surrounding environs during transportation.
- 7.4.3 Additionally, as the patch of woodland within the Application Site is connected to the adjacent secondary woodland, the tree trunks of existing trees in close proximity to the proposed works must be wrapped in hessian (as a form of protective wrapping) in accordance with GEO Publication No. 1/2011 to avoid mechanical damage.
- 7.4.4 Furthermore, the workforce should be reminded of the necessity of environmental diligence, particularly the avoidance of improper disposal or discharge of construction wastes, and unnecessary damage to vegetation and habitats. An orientation shall also be provided to all site personnel to emphasize the importance of good site practices that must be implemented to minimize disturbance to surrounding environs.

# 7.5 Indirect Impacts to Watercourses and Aquatic Species



- 7.5.1 To avoid impacts of pollution during construction phase such as sedimentation from soil excavation, chemical waste from equipment, and surface run-off into the habitats adjacent to the Application Site, implementation of standard construction site practices is necessary to thereby limit the run-off into nearby water bodies.
- 7.5.2 Water control measures (ETWB TCW No. 5/2005) and the Practice Notes for Professional Persons on "Construction Site Drainage" (ProPECC PN1/94) in controlling water pollution at construction site should be implemented during construction phase to prevent adverse direct or indirect water impact to any aquatic species and nearby watercourses, especially the downstream watercourses. To be specific, the following water control measures are recommended to be adopted to reduce pollution entering nearby watercourses (especially the section located in the Application Site), and avoid accidental spillage:
  - Construction wastes, debris, spoil, and other general trash should be collected and disposed in a timely and appropriate manner to prevent being washed into adjacent habitats by rain.
  - Whole Application Site should be fenced off properly with hoarding along the site boundary.
  - Sediment traps should be installed within the Application Site to collect and control construction run-off.
  - Temporary sewage treatment system or portable chemical toilet should be installed to collected wastewater, thus preventing it from running into nearby water bodies.
  - Covering of any exposed soil or other loose construction materials with Tarpaulins or biodegradable geotextile blanket as a prevention of erosion.
  - The workforce should adhere to a strict "clean site" policy, with all construction wastes
    transported to predetermined sites for safe disposal. Under no circumstances should there
    be any disposal of construction materials and discharge of wastewater on site or into nearby
    habitats.



# 8 Conclusion

- 8.1.1 An application for minor relaxation of building height restriction of part of Inland Lot 7755 RP and Government Land sandwiched between IL 7755 RP and IL 7713 for a 4-storey columbarium at Cape Collinson Road, Chai Wan has been proposed within an "Other Specified Uses annotated (Cemetery)" ("OU(Cemetery)") zone on the draft Chai Wan Outline Zoning Plan (OZP) No. S/H20/26. The proposed development would constitute an application under Section 16 of the Town Planning Ordinance.
- 8.1.2 Ecological survey was conducted to provide a baseline condition of the Application Site and the 500m Study Area. The Application Site is situated on hillside adjacent to the Hong Kong Buddhist Cemetery and is characterised as small in size, primarily comprises of developed area along with a small portion of woodland fringe and watercourse. These habitats will be directly impacted and lost during construction. Nevertheless, the Application Site is generally of "Low" ecological value with limited number of wildlife recorded.
- A total of seven species of conservation importance were recorded within the Application Site (four flora and three fauna). Artocarpus hypargyreus trees will be felled and shall consequently be compensated. Shrubs and clumps of Cibotium barometz, Pavetta hongkongensis and Diospyros vaccinioides shall be transplanted. Quieter PME shall be used, and no night works shall be carried out to avoid disturbance to bat species. Lesser Spiny Frog along with Short-legged Toad shall be translocated.
- 8.1.4 As a principal approach, all proposed works will be carried out within the Application Site and the temporary workspace 5m from the Application Site only. With proper and strict implementation of recommended ecological measures, the proposed works are not anticipated to lead to any significant adverse ecological impacts.

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# Appendix 1 Floral species recorded within the Application Site and the 500m Study Area

# Appendix 1

# Floral species recorded within the Application Site and the 500m Study Area

0		22	0 " - 1	Conservation	24 4 1 11172	Appl	ication	Site <sup>3</sup>	500m	Study	Area <sup>3</sup>
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	and Protection Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL
Acacia confusa	台灣相思	Exotic	Tree	-	Widely cultivated				***		**
Adiantum flabellulatum	扇葉鐵線蕨	Native	Herb	-	Very common	*		**			***
Adina pilulifera	水團花	Native	Shrub/Tree	-	Very common		*				**
Ageratum conyzoides	藿香薊, 勝紅薊	Exotic	Herb	-	Common	***			***		*
Alangium chinense	八角楓	Native	Shrub/Tree	-	Common						***
Albizia corniculata	天香藤	Native	Shrub/Vine	-	Common					**	*
Alchornea trewioides	紅背山麻桿	Native	Shrub	-	Common					**	*
Alocasia macrorrhizos	海芋	Native	Herb	-	Very common	****	***	*	***	***	***
Alpinia hainanensis	草豆蔻	Native	Herb	-	Very common					*	***
Ampelopsis cantoniensis	廣東蛇葡萄	Native	Vine	-	Very common						*
Antirhea chinensis	毛茶	Native	Shrub	-	Very common						*
Aporosa dioica	銀柴, 大沙葉	Native	Tree	-	Very common			***		**	****
Archidendron clypearia	猴耳環	Native	Tree	-	Common			***			
Archidendron lucidum	亮葉猴耳環	Native	Tree	-	Common						***
Ardisia crenata	朱砂根	Native	Shrub	-	Common			***			
Ardisia lindleyana	山血丹, 腺點紫金牛	Native	Shrub	-	Common			*			***
				-							*
Ardisia quinquegona	羅傘樹	Native	Shrub		Very common			***			
Ardisia quinquegona	羅傘樹	Native	Shrub		Very common			***			



Onland the Name	Okin ve News	Out whe?	Owner 5 mm1	Conservation	04-4 11142	Appl	lication	Site <sup>3</sup>	500m Study		Area <sup>3</sup>
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	and Protection Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL
Artocarpus hypargyreus	白桂木	Native	Tree	VU (IUCN), EN (TSLCHP), NT (AFCD 2003)	Common			*			*
Asparagus cochinchinensis	天門冬	Exotic	Herb	-	Common				*		
Aster baccharoides	白舌紫菀	Native	Herb/Shrub	-	Very common						*
Axonopus compressus	地毯草	Exotic	Herb	-	Common and naturalized				***		
Bambusa sp.	竹屬	-	Bamboo	-	-						*
Bauhinia championii	缺葉藤, 龍鬚藤	Native	Vine	-	Common	***				*	*
Bauhinia variegata	宮粉羊蹄甲	Exotic	Tree	-	Cultivated						*
Begonia cucullata var. hookeri	四季秋海棠	Exotic	Herb	-	Cultivated	****					
Berchemia floribunda	多花勾兒茶	Native	Climber	-	Common						*
Bidens alba	白花鬼針草	Exotic	Herb	-	Very common	**		**	****	*	*
Blechnum orientale	烏毛蕨	Native	Herb	-	Very common						****
Boehmeria nivea	苧麻	Exotic	Subshrub	-	Common						*
Bougainvillea spectabilis	葉子花, 毛寶巾, 簕杜鵑	Exotic	Shrub	-	Cultivated				*		
Breynia fruticosa	黑面神, 鬼畫符	Native	Shrub	-	Very common				*		***
Bridelia tomentosa	土蜜樹, 逼迫仔	Native	Shrub/Tree	-	Very common						**
Byttneria grandifolia	刺果藤	Native	Climber	-	Very common			**	*		*
Calamus tetradactylus	白藤, 雞藤	Native	Climbing rattan	-	Common	**		*		**	
Callicarpa brevipes	短柄紫珠, 短序紫珠	Native	Shrub	-	-			*			
Callicarpa kochiana	枇杷葉紫珠	Native	Shrub	-	Common						*
Canarium album	橄欖, 白欖	Exotic	Shrub/Tree	-	Restricted						*



		2	1	Conservation and Protection Status <sup>2</sup>	2	Арр	Application Site <sup>3</sup>		500m Study Area <sup>3</sup>		
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>		Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL
Canthium dicoccum	魚骨木, 鐵矢米	Native	Shrub/Tree	VU (IUCN)	Common						*
Carallia brachiata	竹節樹	Native	Tree	-	Common						*
Carica papaya	番木瓜	Exotic	Tree	-	Cultivated	**	**	**	***		
Cayratia corniculata	角花烏蘞莓	Native	Vine	-	Very common	*		*			**
Celastrus hindsii	青江藤	Native	Shrub/Climber	-	Very common						*
Celtis sinensis	朴樹	Native	Tree	-	Common and widely planted				***		*
Celtis timorensis	假玉桂, 樟葉朴	Native	Tree	-	Restricted						*
Centotheca lappacea	假淡竹葉	Native	Herb	-	Common	*		*			***
Cibotium barometz	金毛狗, 鯨口蕨	Native	Herb	VU (AFCD 2003), Cap.586	Very Common						**
Cinnamomum burmannii	陰香	Native	Tree	-	Common, also cultivated						*
Cinnamomum camphora	樟	Native	Tree	-	Common, also cultivated						*
Citrus maxima	柚	Exotic	Tree	-	Cultivated	*					
Citrus reticulata	柑橘	Exotic	Tree	-	Cultivated						*
Clausena lansium	黄皮	Exotic	Tree	-	Cultivated			**	**		
Cleistocalyx nervosum	水翁	Native	Tree	-	Common	**					
Clematis meyeniana	毛柱鐵線蓮,甘草藤	Native	Climber	-	Common						*
Clerodendrum cyrtophyllum	大青	Native	Shrub/Tree	-	Common						**
Coccinia grandis	紅瓜	Native	Vine	-	Restricted						*
Conyza sumatrensis	蘇門白酒草	Exotic	Herb	-	Common	**		*			*
Cratoxylum cochinchinense	黃牛木	Native	Shrub/Tree	-	Very common						*
Crinum asiaticum var. sinicum	文殊蘭	Native	Herb	-	Restricted	***	*	*			



				Conservation		Арр	lication	Site <sup>3</sup>	500m	Study	Area <sup>3</sup>
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	and Protection Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL
Cyclea hypoglauca	粉葉輪環藤	Native	Vine	-	Common						*
Cyclosorus parasiticus	華南毛蕨	Native	Herb	-	Very common			**	****	***	****
Cyrtococcum patens	弓果黍	Native	Herb	-	Very common						*
Daemonorops jenkinsiana	黃藤, 真白藤	Native	Climber	-	Restricted						*
Dalbergia benthamii	兩廣黃檀	Native	Climber	-	Common			*		**	**
Daphniphyllum calycinum	牛耳楓	Native	Shrub/Tree	-	Common						*
Daphniphyllum pentandrum	虎皮楠, 交讓木	Native	Shrub/Tree	-	-						***
Dendrotrophe varians	寄生藤	Native	Vine	-	Very common						*
Desmodium heterocarpon	假地豆	Native	Shrub	-	Very common						*
Desmos chinensis	假鷹爪, 酒餅葉	Native	Shrub	-	Common	***		**			***
Dianella ensifolia	山菅蘭	Native	Herb	-	Very common				*		
Dicranopteris pedata	芒萁	Native	Herb	-	Very common						****
Dimocarpus longan	龍眼	Exotic	Tree	NT (IUCN), VU (TSLCHP)	Cultivated			*			*
Diospyros eriantha	烏柿, 烏材	Native	Tree	-	Very common			*			
Diospyros vaccinioides	小果柿	Native	Shrub	CR (IUCN), EN (TSLCHP)	Very Common; the recorded specimen is planted						*
Dracaena fragrans	巴西鐵樹	Exotic	Shrub	-	Cultivated	*					
Elaeocarpus chinensis	中華杜英, 野杜英	Native	Tree	-	Common						**
Elephantopus scaber	地膽草	Native	Herb	-	Common						***
Elephantopus tomentosus	白花地膽草	Native	Herb	-	Common				***		**
Eleusine indica	牛筋草, 蟋蟀草	Native	Herb	-	Very common				****		



Output We Name	Oklassa Nama	Outsin <sup>2</sup>	Ownerth Francis	Conservation	04-4 1 111/2	Appl	ication	Site <sup>3</sup>	500m	Study .	Area <sup>3</sup>
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	and Protection Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	WC	WL	DA	wc	WL
Embelia laeta	酸藤子	Native	Climber	-	Very common						***
Embelia ribes	白花酸藤子	Native	Climber	-	Common			**		**	*
Emilia sonchifolia	一點紅,雞腳草	Native	Herb	-	Very common				*	*	*
Epipremnum aureum	綠蘿, 芋葉藤	Exotic	Herb	-	Cultivated	*	*	**			
Eragrostis atrovirens	鼠婦草, 卡氏畫眉草	Native	Herb	-	Common				***		
Eriocaulon tonkinense	越南穀精草, 短萼穀精草	Native	Herb	-	-					*	
Euphorbia hirta	飛揚草	Exotic	Herb	-	Very common				**		*
Eurya nitida	細齒葉柃	Native	Shrub/Tree	-	Very common						***
Ficus fistulosa	水同木	Native	Tree	-	Common						*
Ficus hirta	粗葉榕, 牛奶仔	Native	Shrub/Tree	-	Common	***	**	***			***
Ficus hispida	對葉榕, 牛乳樹	Native	Shrub/Tree	-	Very common	**		**	****	***	*
Ficus microcarpa	榕樹, 細葉榕	Native	Tree	-	Common and widely cultivated						*
Ficus pumila	薜荔, 文頭郎	Native	Shrub	-	Very common						***
Ficus subpisocarpa	筆管榕	Native	Tree	-	Common	***		*	**		
Ficus variegata	青果榕	Native	Tree	-	Common			**		***	*
Ficus variolosa	變葉榕	Native	Shrub/Tree	-	Very common						*
Gahnia tristis	黑莎草	Native	Herb	-	Very common	**		**			*
Garcinia oblongifolia	嶺南山竹子, 黃牙果	Native	Shrub/Tree	-	Very common						*
Gardenia jasminoides	梔子, 水橫枝	Native	Shrub	-	Common						**
Glochidion eriocarpum	毛果算盤子, 毛漆, 漆大姑	Native	Shrub/Tree	-	Very common						***
Glochidion wrightii	白背算盤子	Native	Shrub/Tree	-	Very common						*



Calantifia Nama	Chimaga Nama	Oninin <sup>2</sup>	County Farmal	Conservation	Otatus in LUC <sup>2</sup>	Appl	ication	Site <sup>3</sup>	500m	Study A	Area <sup>3</sup>
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	and Protection Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL
Gnetum luofuense	羅浮買麻藤	Native	Tree	-	Very common						**
Hedychium coronarium	薑花	Exotic	Herb	-	Common						*
Hedyotis acutangula	金草, 方骨草	Native	Herb	-	Very common						***
Hedyotis hedyotidea	牛白藤	Native	Shrub	-	Very common	**		*			*
Homalium cochinchinense	天料木	Native	Shrub/Tree	-	Common						**
Hydrocotyle sibthorpioides	天胡荽	Native	Herb	-	Common			**			
Ilex asprella	梅葉冬青, 秤星樹	Native	Shrub	-	-						***
Ilex cinerea	灰冬青	Native	Shrub/Tree	-	Common						**
llex pubescens	毛冬青	Native	Shrub	-	Very common					**	**
Indocalamus sinicus	水銀竹, 華箬竹	Native	Herb	-	Common	***					*
Ipomoea cairica	五爪金龍	Exotic	Herb	-	Very common	**	**				***
Ipomoea triloba	三裂葉薯, 三裂葉牽牛	Exotic	Herb	-	Common						*
Itea chinensis	老鼠刺, 鼠刺	Native	Shrub/Tree	-	Very common						**
Ixora chinensis	龍船花, 山丹	Native	Shrub	-	Restricted, also widely cultivated				*		
Jasminum lanceolaria	清香藤	Native	Shrub	-	Common						*
Juniperus chinensis 'Kaizuca'	龍柏	Exotic	Tree	-	Cultivated				**		
Kyllinga polyphylla	水蜈蚣, 香根水蜈蚣	Exotic	Herb	-	Common						*
Lantana camara	馬纓丹, 如意草	Exotic	Shrub	-	Very common	*				**	**
Lasianthus chinensis	粗葉木	Native	Shrub	-	Common						*
Lemmaphyllum microphyllum	伏石蕨	Native	Herb	-	Common	*	*				
Leucaena leucocephala	銀合歡	Exotic	Shrub/Tree	-	Cultivated or naturalized	*		**	****		**



				Conservation		Appl	lication	Site <sup>3</sup>	500n	Study .	Area <sup>3</sup>
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	and Protection Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL
Ligustrum sinense	山指甲	Exotic	Shrub/Tree	-	Common, also widely cultivated				***		
Lindsaea ensifolia	劍葉鱗始蕨, 雙唇蕨	Native	Herb	-	Very common						*
Liriope spicata	山麥冬,麥門冬	Native	Herb	-	Very common	***	**	***		*	
Litsea glutinosa	潺槁樹	Native	Tree	-	Very common						***
Litsea monopetala	假柿木薑子, 假柿樹	Native	Tree	-	Restricted						*
Litsea rotundifolia var. oblongifolia	<b>豺皮</b> 樟	Native	Tree	-	Very common						**
Lophatherum gracile	淡竹葉	Native	Herb	-	Very common						**
Lophostemon confertus	紅膠木	Exotic	Tree	-	Cultivated						*
Lycopodiella caroliniana	廣東小石松, 嘉氏石松	Native	Herb	EN (TSLCHP)	The recorded specimen is planted						*
Lygodium flexuosum	曲軸海金沙	Native	Herb	-	Very common						***
Lygodium japonicum	海金沙	Native	Herb	-	Very common						**
Macaranga tanarius var. tomentosa	血桐	Native	Tree	-	Common	*		***	****	***	***
Machilus chekiangensis	浙江潤楠,長序潤楠	Native	Tree	-	Very common			*			***
Machilus pauhoi	刨花潤楠,多脈潤楠,密脈潤楠	Native	Tree	-	Restricted						*
Machilus velutina	絨毛潤楠	Native	Tree	-	Common	**		***			*
Macrothelypteris torresiana	普通針毛蕨	Native	Herb	-	Very common		**			**	
Maesa perlarius	鯽魚膽	Native	Shrub	-	Common						*
Mallotus paniculatus	白楸	Native	Tree/Shrub	-	Very common	**		*	***	***	***
Mangifera indica	杧果	Exotic	Tree	-	Cultivated	**					*
Melaleuca cajuputi subsp. Cumingiana	白千層	Exotic	Tree	-	Cultivated						*
Melastoma sanguineum	毛菍	Native	Shrub	-	Common						**



			1	Conservation		Appl	Application Site <sup>3</sup>		Site <sup>3</sup> 500m Stu		Area <sup>3</sup>
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	and Protection Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL
Melicope pteleifolia	蜜茱萸, 三椏苦	Native	Shrub/Tree	-	Common			*			***
Melinis repens	紅毛草	Exotic	Herb	-	Very common				***		
Melodinus suaveolens	山橙	Native	Liana	-	Common						*
Michelia x alba	白蘭	Exotic	Tree	Cap.96	Widely cultivated	***		**			
Microcos nervosa	破布葉, 布渣葉	Native	Shrub/Tree	-	Common						*
Microstegium ciliatum	剛莠竹	Native	Herb	-	Very common	****	**	*	***		
Mikania micrantha	微甘菊	Exotic	Herb	-	Very common	**			****	***	***
Millettia nitida	亮葉崖豆藤, 亮葉雞血藤	Native	Climber	-	Very common			*			
Miscanthus floridulus	五節芒	Native	Herb	-	Common				*	**	*
Morella rubra	楊梅	Native	Tree	-	-						*
Morus alba	桑	Native	Shrub/Tree	-	Common and cultivated			*			*
Mussaenda pubescens	玉葉金花	Native	Shrub	-	Very common			*			***
Neyraudia reynaudiana	類蘆, 石珍茅	Native	Herb	-	Very common				***		**
Ormosia emarginata	凹葉紅豆	Native	Tree	-	Common					**	**
Paederia scandens	雞矢藤	Native	Herb	-	Very common						**
Palhinhaea cernua	鋪地蜈蚣, 燈籠草	Native	Herb	-	Very common						**
Pandanus austrosinensis	露兜草	Native	Herb	-	Restricted			*			*
Pandanus urophyllus	分叉露兜	Native	Tree	-	Very common						*
Panicum maximum	大黍	Exotic	Herb	-	Very common				****		**
Parthenocissus dalzielii	爬牆虎, 異葉爬山虎	Exotic	Vine	-	Cultivated				*		
Pavetta hongkongensis	香港大沙葉, 茜木	Native	Shrub/Tree	Cap.96	Common	**		*			**



0 ·		2 2	0 11 - 1	Conservation	24 4 1142	Appl	lication	Site <sup>3</sup>	500m	Study	Area <sup>3</sup>
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	and Protection Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL
Pentasachme caudatum	石蘿藦	Native	Herb	-	Common					*	
Pericampylus glaucus	細圓藤, 豬菜藤	Native	Vine	-	Restricted	***		*		*	*
Phoenix roebelenii	江邊刺葵, 日本葵	Exotic	Tree	-	Cultivated						*
Phyllanthus cochinchinensis	越南葉下珠, 鐵包金	Native	Shrub	-	Very common						**
Phyllanthus reticulatus	小果葉下珠, 爛頭砵	Native	Shrub	-	Common						*
Pilea microphylla	小葉冷水花	Exotic	Herb	-	Very common	**	*		***		
Pinus elliottii	濕地松, 愛氏松	Exotic	Tree	-	Widely planted						**
Platycladus orientalis	側柏	Exotic	Tree	NT (IUCN)	Often planted				**		
Pogonatherum crinitum	金絲草	Native	Herb	-	Common				***	***	
Polyspora axillaris	大頭茶	Native	Shrub/Tree	-	Very common						**
Pronephrium simplex	單葉新月蕨	Native	Herb	-	Very common	*		*			*
Psidium guajava	番石榴	Exotic	Tree	-	Common and often planted			***			
Psychotria asiatica	九節, 山大刀	Native	Tree/Shrub	-	Very common	**	**	***			*
Psychotria serpens	蔓九節, 穿根藤	Native	Shrub	-	Very common			*	*		*
Pteris multifida	井欄邊草	Native	Herb	-	Very common				***		
Pteris semipinnata	半邊旗	Native	Herb	-	Very common	***		*		**	*
Pteris vittata	蜈蚣草	Native	Herb	-	Very common	***		**	****	**	**
Pueraria lobata var. montana	葛麻姆	Native	Climber	-	Common						*
Pyrrosia lingua	石韋	Native	Herb	-	Common	**	*	***			
Reevesia thyrsoidea	梭羅樹	Native	Tree	-	Common						*
Rhaphiolepis indica	石斑木, 車輪梅, 春花	Native	Shrub/Tree	-	Very common						**



Output (Co. Norman	Older van Name	0.1	Owner From 1	Conservation	04-4 1 11-62	Appl	plication Site <sup>3</sup> 500m Stu			Study	Area <sup>3</sup>
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	and Protection Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL
Rhodomyrtus tomentosa	桃金娘, 崗棯	Native	Shrub	-	Very common						*
Rhus chinensis	鹽廣木	Native	Shrub/Tree	-	Common						*
Rhus succedanea	木蠟樹, 野漆樹	Native	Shrub/Tree	-	Common					**	***
Rourea microphylla	小葉紅葉藤, 紅葉藤	Native	Shrub	-	Common			*			*
Rubus leucanthus	白花懸鈎子	Native	Shrub	-	Common						*
Rubus reflexus	鏽毛莓, 蛇泡簕	Native	Shrub	-	Very common						**
Sabia limoniacea	檸檬清風藤, 清風藤	Native	Climber	-	Common	**		*		***	
Sageretia thea	雀梅藤	Native	Shrub	-	Very common						*
Sansevieria trifasciata	虎尾蘭	Exotic	Herb	-	Cultivated	*		**			
Sapium discolor	山烏桕	Native	Tree	-	Very common						**
Sarcandra glabra	草珊瑚,雞爪蘭,九節楓	Native	Subshrub	-	Common						***
Saurauia tristyla	水東哥, 米花樹	Native	Shrub/Tree	-	Common						*
Schefflera arboricola	鵝掌藤	Exotic	Tree/Shrub	-	Cultivated						*
Schefflera heptaphylla	鵝掌柴,鴨腳木	Native	Shrub/Tree	-	Very common	*		*	*		**
Scolopia chinensis	刺柊	Native	Shrub/Tree	-	Common						**
Scolopia saeva	廣東刺柊	Native	Shrub/Tree	-	Common	**		*			
Selaginella sp.	卷柏屬	-	Herb	-	-	**	***	****			
Sida acuta	黃花稔	Native	Herb	-	Common				**		
Smilax china	菝葜, 金剛藤	Native	Climbing vine	-	Very common						**
Solanum americanum	少花龍葵	Exotic	Herb	-	Very common	*			**		
Spermacoce remota	光葉豐花草	-	Herb	-	-						*
Sphenomeris chinensis	烏蕨, 烏韭	Native	Herb	-	Very common				*		



Calantifia Nama	Chimaga Nama	Oninin <sup>2</sup>	Ourseath Farmal	Conservation	Otatua in UK2	Appl	ication	Site <sup>3</sup>	500m	Study A	Area³
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	and Protection Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL
Sterculia lanceolata	假蘋婆	Native	Tree	-	Very common	**			*	****	***
Strobilanthes cusia	馬藍	Native	Herb	-	Restricted					*	*
Strobilanthes tetraspermus	四子馬藍	Native	Herb	-	-						*
Strophanthus divaricatus	羊角拗	Native	Liana/Shrub	-	Common						**
Synedrella nodiflora	金腰箭, 苞殼菊	Exotic	Herb	-	Very common						*
Syzygium hancei	韓氏蒲桃, 紅鱗蒲桃	Native	Shrub/Tree	-	Common						*
Syzygium jambos	蒲桃	Exotic	Tree	-	Cultivated and naturalized						*
Tarenna mollissima	白花苦燈籠,烏口樹	Native	Shrub/Tree	-	Restricted						*
Tetracera asiatica	錫葉藤	Native	Vine	-	Very common						**
Thysanolaena latifolia	粽葉蘆	Native	Herb	-	Common						*
Trema tomentosa	山黃麻	Native	Shrub/Tree	-	Common						*
Tridax procumbens	羽芒菊, 中美高	Exotic	Herb	-	Very common				**		
Turpinia montana	山香圓	Native	Shrub/Tree	-	Common						***
Tylophora ovata	娃兒藤	Native	Liana	-	Common						*
Urena lobata	肖梵天花, 地桃花, 黐頭婆	Native	Shrub	-	Common				**		
Uvaria macrophylla	紫玉盤	Native	Shrub	-	Common			*			**
Vernonia cinerea	夜香牛	Native	Herb	-	Very common						*
Viburnum odoratissimum	珊瑚樹	Native	Shrub/Tree	-	Very common						*
Vitex quinata	山牡荊	Native	Tree	-	Common						*
Wedelia trilobata	三裂葉蟛蜞菊	Exotic	Herb	-	Common, also widely cultivated	***				***	**
Wikstroemia nutans	細軸蕘花	Native	Shrub	-	Common						*



Octobrillo Novo	Chinasa Nama	Origin <sup>2</sup> Consults Forms	Conservation				Application Site <sup>3</sup>			500m Study Area		
Scientific Name	Chinese Name	Origin <sup>2</sup>	Growth Form <sup>1</sup>	Status <sup>2</sup>	Status in HK <sup>2</sup>	DA	wc	WL	DA	wc	WL	
Xanthostemon chrysanthus	金蒲桃	Exotic	Tree	-	Cultivated						*	
Youngia japonica	黃鵪菜, 日本苦蕒菜	Native	Herb	-	Very common					*	**	
Zanthoxylum avicennae	簕欓花椒, 簕欓	Native	Tree	-	Common					*	**	
Total of species recorded						51	15	60	47	36	180	

- 1. Origin and Status refer to:
  - a. AFCD (2003). Conservation Status: LC = Least Concern; NT = Near Threatened; VU = Vulnerable;
  - b. AFCD (2007);
  - c. AFCD (2008);
  - d. AFCD (2009);
  - e. AFCD (2011);
  - AFCD (2012);
  - g. Barretto et al. (2011);
  - h. Cap. 96 = Forests and Countryside Ordinance, including the associated Chapter 96A Forestry Regulation;
  - i. Cap. 586 = Protection of Endangered Species of Animal and Plants Ordinance;
  - j. Corlett et al. (2000);
  - k. CPRDB (China Plant Red Data Book). Status is retrieved from AFCD (2003). Status: V = Vulnerable;
  - I. IUCN (2024). Conservation Status: NT = Near Threatened; VU = Vulnerable;
  - m. Qin et al. (2017) (TSLCHP: Threatened Species List of China's Higher Plants). Conservation Status: EN = Endangered; VU = Vulnerable.

In this study, plant species is regarded as plant species of conservation importance if it is protected under Cap. 96A, Cap. 586, documented as rare/protected species in AFCD (2003), or its wild population (i.e. not cultivated/exotic specimens) has conservation status under international or regional conservation inventory (e.g. IUCN Red List of Threatened Species, China Red Data Book, Threatened Species of China's Higher Plants).

- 2. Habitats: DA = Developed Area; WC = Watercourse; WL = Woodland.
- 3. Code for abundance:
  - \*\*\*\* = Common, \*\*\* = Frequent, \*\* = Occasional, \* = Scarce
- 4. Species considered as of conservation importance in this study are indicated in bold type, cultivated or planted species with conservation status are not included.



# Appendix 2 Faunal species recorded within the Application Site and the 500m Study Area

# Appendix 2a

## Maximum Count of Mammal species Recorded within Application Site and the 500m Study Area

			Hal	oitat <sup>3</sup>
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>	Application Site	500m Study Area
			IF	WL
Short-nosed Fruit Bat  Cynopterus sphinx	NT(RLCV); Cap.170	Very Common and widely distributed in urban and countryside areas throughout Hong Kong	1	
Least Pipistrelle Pipistrellus tenuis	NT(RLCV); Cap.170	Uncommon in Hong Kong	1	
Pallas's Squirrel Callosciurus erythraeus	Сар.170	Common and fairly widely distributed throughout Hong Kong		1
Chestnut Spiny Rat Niviventer fulvescens	-	Very Common and widely distributed in countryside areas throughout Hong Kong		1
Total no. of species recorded			2	2

- 1. Conservation and protection status refers to Fellowes et al. (2002), IUCN (2023), RLCV (Jiang et al., 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.
  - a. Conservation status by Fellowes *et al.* (2002): LC = Local Concern; PRC = Potential Regional Concern; RC = Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
  - b. Conservation status by RLCV (Jiang et al., 2016): NT = Near Threatened.
  - c. Protection status by CITES (2023): II = Listed in Appendix II of CITES; III = Listed in Appendix III of CITES.
  - d. Protection status by CSMPS (CSIS, 2019): II = Class II Protected Species in China.
  - e. Cap. 170 = Wild Animals Protection Ordinance.
  - f. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
- 2. Distribution and rarity follow the data of HKBIH (AFCD, 2023).
- 3. Habitat: IF = In Flight; WL = Woodland.
- 4. Species considered as of conservation importance in this study are indicated in bold type.



# Appendix 2b

# Maximum Count of Bird species Recorded within Application Site and the 500m Study Area

				Habitat <sup>3</sup>		
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>	Application Site	500	0m Study A	rea
			Application Site	DA	IF	WL
Spotted Dove Spilopelia chinensis	-	Abundant and widespread resident		3		2
Common Emerald Dove Chalcophaps indica	-	Scarce but widespread resident				1
Crested Serpent Eagle Spilornis cheela	(LC); NT(RLCV); CITES(II); NKPWA(II); Cap.586	Locally common resident, with some migrant parties in spring and autumn			1	
Besra Accipiter virgatus	NKPWA(II); CITES(II); Cap.586	Common and widespread resident and possibly an autumn migrant			1	
Black Kite Milvus migrans	(RC); CITES(II); NKPWA(II); Cap.586	Abundant resident and winter visitor, present all year			2	
Scarlet Minivet Pericrocotus speciosus	-	Common resident				4
Hair-crested Drongo Dicrurus hottentottus	-	Common winter visitor, migrant and locally common resident				4
Black Drongo Dicrurus macrocercus	-	Common autumn passage migrant and declining summer breeding visitor, with small numbers in winter				2
Red-billed Blue Magpie Urocissa erythroryncha	-	Common and increasing resident		4	1	2
Large-billed Crow Corvus macrorhynchos	-	Common and widespread resident		6	1	
Japanese Tit Parus minor	-	Abundant and widespread resident		2		6
Chinese Bulbul Pycnonotus sinensis	-	Abundant and widespread resident, passage migrant and winter visitor		12		5
Red-whiskered Bulbul Pycnonotus jocosus	-	Abundant and widespread resident		6		11



				Habitat <sup>3</sup>		
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>	Application Site	50	0m Study A	rea
			Application Site	DA	IF	WL
Yellow-browed Warbler Phylloscopus inornatus	-	Abundant and widespread winter visitor and migrant		1		3
Pallas's Leaf Warbler Phylloscopus proregulus	-	Common winter visitor and passage migrant				1
Common Tailorbird Orthotomus sutorius	-	Abundant and widespread resident				4
Swinhoe's White-eye Zosterops simplex	-	Abundant breeding resident with increased numbers in winter		4		9
Black-throated Laughingthrush Pterorhinus chinensis	NKPWA(II)	Widespread and locally common resident				7
Masked Laughingthrush Pterorhinus perspicillatus	-	Abundant resident				3
Black-collared Starling  Gracupica nigricollis	-	Common and widespread resident		1		
Oriental Magpie Robin Copsychus saularis	-	Abundant and widespread resident		6		3
Blue Whistling Thrush  Myophonus caeruleus	-	Common and widespread resident				1
Daurian Redstart Phoenicurus auroreus	-	Common winter visitor		1		
Fork-tailed Sunbird Aethopyga christinae	-	Common and widespread resident and winter visitor				3
Eurasian Tree Sparrow Passer montanus	-	Abundant and widespread resident		8		
White Wagtail Motacilla alba	-	Abundant and widespread; present all year with resident, passage migrant and winter visitor		1		
Olive-backed Pipit Anthus hodgsoni	-	Common winter visitor and passage migrant				1
Total no. of species recorded			0	13	5	19



- 1. Conservation and protection status refers to Fellowes et al. (2002), IUCN (2023), RLCV (Jiang et al., 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.
  - a. Conservation status by Fellowes et al. (2002): LC = Local Concern; PRC = Potential Regional Concern; RC = Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
  - b. Conservation status by RLCV (Jiang et al., 2016): NT = Near Threatened.
  - c. Protection status by CITES (2023): II = Listed in Appendix II of CITES.
  - d. Protection status by NKPWA (2021): II = Class II of NKPWA.
  - e. Protection status by CSMPS (CSIS, 2019): II = Class II Protected Species in China.
  - f. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
- 2. Distribution and rarity follow the data of the latest Hong Kong Bird Report published by HKBWS.
- 3. Habitat: DA = Developed Area; IF = In Flight; WL = Woodland.
- 4. Species considered as of conservation importance in this study are indicated in bold type.



# Appendix 2c

# Maximum Count of Herpetofauna species Recorded within Application Site and the 500m Study Area

					abitat <sup>3</sup>		
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>		Application Site		500m Study Area	
			DA	wc	DA	wc	WL
Amphibian							
Asian Common Toad  Duttaphrynus melanostictus	-	Widely distributed in Hong Kong.			1	1	11
Short-legged Toad Megophrys brachykolos	PGC; RLCV(VU); IUCN(EN)	Widely distributed in upland forest streams throughout Hong Kong.				8	
Asiatic Painted Frog Kaloula pulchra	-	Widely distributed in Hong Kong.					4
Lesser Spiny Frog Quasipaa exilispinosa	PGC; RLCV(VU)	Widely distributed in upland forest streams throughout Hong Kong.		1		5	
Green Cascade Frog Odorrana graminea	-	Widely distributed in mountain streams in Hong Kong.	1	1		7	4
Brown Tree Frog Polypedates megacephalus	-	Widely distributed throughout Hong Kong.					3
Greenhouse Frog Eleutherodactylus planirostris	-	Widely distributed throughout Hong Kong.					2
Reptile							
Blue-tailed Skink  Plestiodon quadrilineatus	-	Distributed in woodlands on Lantau Island, Hong Kong Island, Po Toi, Lung Kwu Chau.					2
Chinese Gecko Gekko chinensis	-	Widely distributed throughout Hong Kong.			1		7
Bowring's Gecko Hemidactylus bowringii	-	Distributed throughout Hong Kong.					1



		Status in Hong Kong <sup>2</sup>		H		Habitat <sup>3</sup>		
Species	Conservation and Protection Status <sup>1</sup>			Application Site		500m Study Are		
			DA WC	DA	wc	WL		
Common Rat Snake Ptyas mucosus	PRC; RLCV(EN); CITES(II); Cap.586	Widely distributed throughout Hong Kong.				1		
Anderson's Stream Snake Opisthotropis andersonii	PGC; RLCV(NT); IUCN(NT)	Widespread in Hong Kong.				1		
Red-necked Keelback Rhabdophis subminiatus	-	Very common and widely distributed in Hong Kong.					1	
Total no. of species recorded	1		1	2	2	6	8	

- 1. Conservation and protection status refers to Fellowes et al. (2002), IUCN (2023), RLCV (Jiang et al., 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.
  - a. Conservation status by Fellowes *et al.* (2002): PGC = Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
  - b. Conservation status by IUCN (2023): NT = Near Threatened; EN = Endangered.
  - c. Conservation status by RLCV (Jiang et al., 2016): NT = Near Threatened; VU = Vulnerable; EN = Endangered.
  - d. Protection status by CITES (2023): II = Listed in Appendix II of CITES.
  - e. Cap. 586 = Protection of Endangered Species of Animals and Plants Ordinance.
- 2. Distribution and rarity follow the data of HKBIH (AFCD, 2023).
- 3. Habitat: DA = Developed Area; WC = Watercourse; WL = Woodland.
- 4. Species considered as of conservation importance in this study are indicated in bold type.



# Appendix 2d

# Maximum Count of Butterfly species Recorded within Application Site and the 500m Study Area

			Н	labitat <sup>3</sup>	
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>	Application Site	500m St	udy Area
			DA	DA	WL
Formosan Swift Borbo cinnara	-	Common			1
Restricted Demon Notocrypta curvifascia	-	Uncommon			1
Water Snow Flat Tagiades litigiosa	-	Common			2
Toothed Sunbeam Curetis acuta	-	Uncommon			1
Common Hedge Blue Acytolepis puspa	-	Common	1		
Dark Cerulean Jamides bochus	-	Common			1
Pale Grass Blue Pseudozizeeria maha	-	Very Common	4		
Chocolate Royal Remelana jangala	-	Common			1
Plum Judy Abisara echerius	-	Very Common			1
Punchinello Zemeros flegyas	-	Common	1		1
Large Faun Faunis eumeus	-	Common			1
Tawny Rajah Charaxes bernardus	-	Common			1
Shan Nawab Polyura nepenthes	-	Uncommon			1



			Н	abitat <sup>3</sup>	
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>	Application Site	500m S	tudy Area
			DA	DA	WL
Common Tiger Danaus genutia	-	Common			1
Blue-spotted Crow Euploea midamus	-	Very Common			1
Ceylon Blue Glassy Tiger Ideopsis similis	-	Very Common			3
Glassy Tiger Parantica aglea	-	Common			3
Blue Tiger Tirumala limniace	-	Common			5
Angled Castor  Ariadne ariadne	-	Common		1	1
Colour Sergeant Athyma nefte	-	Common			1
Staff Sergeant Athyma selenophora	-	Common			1
Rustic Cupha erymanthis	-	Very Common		1	3
Common Mapwing Cyrestis thyodamas	-	Common			3
White-edged Blue Baron Euthalia phemius	-	Common			1
Red-ring Skirt <i>Hestina assimilis</i>	-	Common			2
Great Egg-fly Hypolimnas bolina	-	Common	1		
Blue Admiral <i>Kaniska canace</i>	-	Common		1	1
Common Archduke Lexias pardalis	-	Suspected Species			1



			H	labitat³	
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>	Application Site 500		udy Area
			DA	DA	WL
Southern Sullied Sailer Neptis clinia	-	Common			2
Common Jester Symbrenthia lilaea	-	Common			1
Common Palmfly Elymnias hypermnestra	-	Common		2	
Banded Tree Brown Lethe confusa	-	Common			3
Dark Evening Brown Melanitis phedima	-	Uncommon			2
Dark-brand Bush Brown Mycalesis mineus	-	Very Common			4
South China Bush Brown  Mycalesis mucianus	-	Common			1
Common Five-ring Ypthima baldus	-	Very Common		1	
Tailed Jay Graphium agamemnon	-	Common			1
Common Jay Graphium doson	-	Common			1
Common Bluebottle Graphium sarpedon	-	Very Common		1	2
Red Helen <i>Papilio helenus</i>	-	Very Common	1		2
Great Mormon Papilio memnon	-	Very Common		1	2
Paris Peacock Papilio paris	-	Very Common		2	3
Common Mormon Papilio polytes	-	Very Common		1	5



			Н	abitat <sup>3</sup>	
Species	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>	Application Site	500m St	udy Area
			DA	DA	WL
Spangle Papilio protenor	-	Very Common	1	1	3
Lemon Emigrant Catopsilia pomona	-	Common			3
Mottled Emigrant Catopsilia pyranthe	-	Very Common			1
Three-spot Grass Yellow Eurema blanda	-	Common			1
Common Grass Yellow Eurema hecabe	-	Very Common	2		3
Red-base Jezebel Delias pasithoe	-	Very Common	1	2	2
Great Orange Tip Hebomoia glaucippe	-	Common		1	
Total no. of species recorded			8	12	44

- 1. Conservation and protection status refers to Fellowes et al. (2002), IUCN (2023), RLCV (Jiang et al., 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.
  - a. Conservation status by Fellowes et al. (2002): LC = Local Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
- 2. Distribution and rarity follow the data of HKBIH (AFCD, 2023).
- 3. Habitat: DA = Developed Area; WL = Woodland.
- 4. Species considered as of conservation importance in this study are indicated in bold type.



# Appendix 2e

# Maximum Count of Odonate species Recorded within Application Site and the 500m Study Area

Species				Hat	oitat <sup>3</sup>		
	Conservation and Protection Status <sup>1</sup>	Status in Hong Kong <sup>2</sup>	Applica	tion Site	500m Study Area		trea
			wc	WL	DA	wc	WL
Black-banded Gossamerwing  Euphaea decorata	-	Abundant				4	
Yellow Featherlegs Copera marginipes	-	Abundant				6	
Black Threadtail Prodasineura autumnalis	-	Abundant				3	
Red-faced Skimmer Orthetrum chrysis	-	Abundant	1			2	
Common Blue Skimmer Orthetrum glaucum	-	Abundant	1	1	1	2	
Lesser Blue Skimmer Orthetrum triangulare	-	Common				5	
Wandering Glider Pantala flavescens	-	Abundant			1	6	1
Saddlebag Glider Tramea virginia	-	Abundant				3	
Indigo Dropwing Trithemis festiva	-	Abundant	1			4	
Total no. of species recorded			3	1	2	9	1

- 1. Conservation and protection status refers to Fellowes et al. (2002), IUCN (2023), RLCV (Jiang et al., 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.
- 2. Distribution and rarity follow the data of HKBIH (AFCD, 2023).
- 3. Habitat: DA = Developed Area; WC = Watercourse; WL = Woodland.



# Appendix 2f

# Maximum Count of Freshwater Fish and Invertebrate Species Recorded within Application Site and the 500m Study Area

		Status in Hong Kong <sup>2</sup>	Habitat <sup>3</sup>			
Species	Conservation and Protection Status <sup>1</sup>		Application Cita	500m Study Area		
			Application Site	wc		
Freshwater Fish						
Broken-band Hillstream Loach Liniparhomaloptera disparis	-	Common		3		
Flat-headed Loach Oreonectes platycephalus	-	Common		10		
White-cheeked Goby Rhinogobius duospilus	-	Common		10		
Freshwater Invertebrate						
Water Strider Ptilomera tigrina	-	-		10		
Water Strider Metrocoris sp.	-	-		10		
Freshwater Shrimp Caridina cantonensis	-	-		10		
Freshwater Crab Nanhaipotamon hongkongense	PGC	-		1		
Total no. of species recorded			0	7		

- 1. Conservation and protection status refers to Fellowes et al. (2002), IUCN (2023), RLCV (Jiang et al., 2016), List of National Key Protected Wild Animal (2021), CITES (2023), Cap. 170 and Cap. 586.
  - a. Conservation status by Fellowes et al. (2002): PGC = Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
- Distribution and rarity follow the data of HKBIH (AFCD, 2023).
- 3. Habitat: WC = Watercourse.



# Appendix 3

Representative Photographs of Habitats & Species of Conservation Importance Recorded

# Appendix 3

# Representative Photographs of Habitats & Species of Conservation Importance Recorded











