Appendix III

Accepted Ecological Impact Assessment under Previous Application No. A/NE-FTA/247

規 劃 署

沙田、大埔及北區規劃處
香港新界沙田上禾輋路一號
沙田政府合署
十三樓 1301-1314 室

Planning Department

Sha Tin, Tai Po & North
District Planning Office
Rooms 1301-1314, 13/F,
Shatin Government Offices,
1 Sheung Wo Che Road, Sha Tin ,
N.T., Hong Kong

來函檔號	Your Reference	DD89 Lot 466 & VL
本署檔號	Our Reference	( ) in TPB/A/NE-FTA/247
電話號碼	Tel. No. :	2158 6220
傳真機號碼	Fax No. :	2691 2806

By Email and Fax (2323 3662)
[redacted]

5 February 2025

R-riches Property Consultants Ltd.
Block D, The Richfield,
236 Kat Hing Wai, Kam Tin,
Yuen Long, New Territories
(Attn.: Louis Tse / Christian Chim)

Dear Sir/Madam,

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone, Various Lots in D. D. 89 and Adjoining Government Land, Man Kam To (Compliance with Approval Condition (a) for Planning Application No. A/NE-FTA/247)

I refer to your submission received by this office on 30.12.2024 for compliance with approval condition (a) in relation to the submission of a revised ecological impact assessment before the commencement of any construction works including site formation works and land filling to the satisfaction of the Director of Agriculture, Fisheries and Conservation or of the Town Planning Board under the captioned planning application.

The Director of Agriculture, Fisheries and Conservation (Contact person: Ms. NG Chole Chiu Ue; Tel. No.: 2150 6931) has been consulted and considered approval condition (a) has been complied with. His advisory comments from nature conservation perspective are attached at **Appendix I**.

Should you have any queries related to planning matters, please contact Ms. Shirley CHAN of this department at 2158 6241.

Yours faithfully,

(Rico TSANG)
for Director of Planning

Appendix I

Comments of the Director of Agriculture, Fisheries and Conservation (Contact person: Ms. NG Chole Chiu Ue; Tel. No.: 2150 6931):

1. The response-to-comment (RtC) is noted. While he does not fully agreed with the RtC, it is noted the wet grassland within the application site will be preserved and hoarding will be erected before construction works in order to avoid adverse impact to the wet grassland concerned. He has no major comment on the submission.

R-Riches
Property Consultants Ltd.

盈卓物業
顧問有限公司

Our Ref.: DD89 Lot 466 & VL
Your Ref.: TPB/A/NE-FTA/247

The Secretary,
Town Planning Board,
15/F, North Point Government Offices,
333 Java Road,
North Point, Hong Kong

By Email

30 December 2024

Dear Sir,

Compliance with Approval Condition (a)

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone,
Various Lots in D. D. 89 and Adjoining Government Land, Man Kam To, New Territories

(S.16 Planning Application No. A/NE-FTA/247)

We are writing to submit a response-to-comments tale and a revised ecological impact assessment (EcoIA) for compliance with approval condition (a) of the subject application, i.e. *the submission of a revised EcoIA before the commencement of any construction works including site formation works and land filling* (**Appendices I** and **II**).

Should you require more information regarding the application, please contact our Mr. Danny NG at [redacted] or the undersigned at your convenience. Thank you for your kind attention.

Yours faithfully,

For and on behalf of
R-riches Property Consultants Limited

Louis TSE
Town Planner

cc DPO/STN, PlanD (Attn.: Ms. Shirley CHAN email: skkchan@pland.gov.hk)
(Attn.: Ms. Katie LEUNG email: kyyleung@pland.gov.hk)

[redacted] [redacted] [redacted]

Responses-to-Comments

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone, Various Lots in D.D. 89 and Adjoining Government Land, Man Kam To, New Territories

(Application No. A/NE-FTA/247)

(i) A RtoC Table:

Departmental Comments		Applicant's Responses
1. Comments of the Director of Agriculture, Fisheries and Conservation (DAFC) (Contact Person: Ms. Chole NG; Tel: 2150 6931)		
(a)	General Comments - It is noted from the subject FI that the wetland within the subject site was still included as part of the subject site. Our comment on excluding any wetland habitats within the subject site remains valid.	The layout plan has been revised. The wet grassland within the Application Site will be preserved.
(b)	Comments on RtC - In addition to the buffer area mentioned in the RtC, any wetland habitats within the subject site should be excluded from the application.	The layout plan has been revised. The wet grassland within the Application Site will be preserved.
(c)	Specific Comments - Table 5.2, Table 5.6, Table 5.12, Table 5.13 and Table 6.1 - The wetland habitats have been underrated, please ask the applicant to review. - The habitat photos in Figure 5 revealed that the habitat type should be "Grassland" instead of "Wasteland". Please ask the applicant to review.	Table 5.2 and 5.12 (wasteland): It is observed that the mapped "wasteland" is dominated by grassy species, but those are mainly exotic and invasive species such as *Bidens alba*, *Leucaena leucocephala*, *Mimosa pudica*, which are different from the typical grassland in Hong Kong. With reference to other approved EIA report e.g. Register No.: AEIAR-238/2022 (Drainage Improvement Works in Ta Kwu Ling), wasteland is subject to intensive anthropogenic disturbance and colonized by invasive plant species. Hence, the concern area

	- The potential value and overall ecological value of "Wasteland" (which we are of the view the habitat should be "Grassland" instead) and "Wet Grassland" have been underrated, please ask the applicant to review.	is considered a "wasteland". Due to the dominant plant species are exotic and invasive nature, and with the consideration of other criteria in the evaluation tables (Table 5.2 and 5.12), the overall ecological value is considered low. Table 5.2 and 5.13 (wet grassland): Due to the wet nature of the habitat and making reference to the approved EIA report Register No.: AEIAR-201/2016 (Police Facilities in Kong Nga Po) (seasonally wet grassland was ranked as low to moderate ecological value) that covered the Study Area of the present application, the overall ecological value of the wet grassland within the Study Area (Table 5.13) has been changed from "low" to "low to medium". However, for the wet grassland within the Application Site (Table 5.2), due to the small size (i.e. 0.18ha) and the wet grassland within the Application Site is at the edge of the whole wet grassland within the Study Area (i.e. prone to human disturbance), as well as the wet grassland within the Application Site is fragmented by an agricultural land, hence, the ecological value of the wet grassland within the Application Site is still considered low. Table 5.6 (marsh): With reference to the approved EIA report Register No.: AEIAR-198/2016 (Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery) (marsh was ranked as moderate ecological value) that covered the Study Area of the present application, and the area size (i.e. 0.24ha) of the marsh within the Application Site, the overall ecological value of the marsh is still considered medium.
(d)	S.6.3.4: We do not agreed that that direct loss of the wet grassland should be evaluated as "minor". As mentioned	The concern is noted. The wet grassland within the Application Site will be preserved.

	above, direct loss of wetland habitats should be avoided. Please ask the applicant to revise the site boundary and update the this paragraph as appropriate.	

SECTION 16 PLANNING APPLICATION

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone

Various Lots in D.D. 89 and Adjoining Government Land, Man Kam To, New Territories

Ecological Impact Assessment Report (revised)

December 2024

Ecosystems Limited
生態系統顧問有限公司
[redacted]

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1 INTRODUCTION

1.1 Background

1.1.1 Ecosystems Ltd. was commissioned by Standard Billion Limited (the Applicant) to be the Ecological Consultant for the Planning Application. The applicant seeks planning permission from the Town Planning Board under Section 16 of the Town Planning Ordinance (Cap 131) to use Various Lots in D.D. 89 and Adjoining Government Land at Man Kam To (Application Site) for "proposed temporary warehouse (excluding dangerous goods godown) with ancillary facilities for a period of 3 years and associated filling of land.

1.1.2 The Application Site falls within an area zoned as "Agriculture" on the Approved Fu Tei Au and Sha Ling Outline Zoning Plan No. S/NE-FTA/18. The Site occupies an area of about 16,256m^2.

1.1.3 The Planning Application with the Ecological Impact Assessment (EcoIA) approved in December 2024. However, a wet grassland habitat was identified within the Application Site. In order to preserve the wet grassland habitat and fulfil the approval conditions from the nature conservation perspective, the EcoIA is now revised to provide an update on the mitigation measure (i.e. avoidance) to preserve the habitat. This EcoIA also presents any potential direct and indirect impacts to ecology arising from construction and operation of the Project. Ecological baseline conditions of the Application Site, and its surroundings are described, potential ecological impacts including losses or damages to habitats and other potential impacts on the inhabiting flora and fauna have been assessed, with the need for mitigation measures such as avoidance, minimization and compensation explored. The potential ecological impacts on the identified species and habitats have also been evaluated.

2 LEGISLATION, STANDARDS AND GUIDELINES ON ECOLOGICAL SURVEY

2.1 General

2.1.1 The HKSAR ordinances and regulations relevant to ecological impact assessment (EcoIA) of this project include the following:

- Forests and Countryside Ordinance (Cap. 96) and its subsidiary legislation, the Forestry Regulations (Cap. 96A);
- Town Planning Ordinance (Cap. 131);
- Wild Animals Protection Ordinance (WAPO, Cap. 170);
- Country Parks Ordinance (Cap. 208) and its subsidiary legislation;
- Environmental Impact Assessment Ordinance ("the EIAO", Cap. 499) and the associated Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM), in particular Annexes 8 and 16; and
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) and its subsidiary legislation.

2.1.2 This EcoIA also made reference to the following guidelines and standards:

- EIAO Guidance Note No. 3/2010 – Flexibility and Enforceability of Mitigation Measures Proposed in an EIA Report;
- 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 Assessment;
- EIAO Guidance Note No. 10/2023 – Methodologies for Terrestrial and Freshwater Ecological Baseline Surveys;
- ETWB Technical Circular (Works) No. 5/2005, "Protection of natural streams/rivers from adverse impacts arising from construction works";
- Environment, Transport and Works Bureau Technical Circular (Works) No. 3/2006. Tree Preservation. 25 May 2006.;
- Hong Kong Planning Standards and Guidelines (HKPSG) Chapter 10, "Conservation"; and
- PELB Technical Circular 1/97 / Works Branch Technical Circular 4/97, "Guidelines for Implementing the Policy on Off-site Ecological Mitigation Measures";

2.1.3 This EcoIA also made reference to the following People's Republic of China (PRC) legislation:

- List of Wild Animals under State Priority Conservation; and
- List of Wild Plants under State Priority Conservation

2.1.4 International conventions and guidelines that are relevant to this study include the following:

- Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES"). This Convention regulates international trade in animal and plant species considered to be at risk from such trade. The main categories of species relevant to Hong Kong are Appendices I and II. Species listed in Appendix I are species threatened with extinction that are or may be affected by trade; species listed in Appendix II are those that, while not necessarily under current threat of extinction, may become threatened unless trade is subject to strict regulation. Hong Kong's obligations under this Convention are enforced via the Protection of Endangered Species of Animals and Plants Ordinance;
- The International Union for Conservation of Nature (IUCN). The World Conservation Union maintains, through its Species Survival Commission, a Red List of globally threatened species of wild plants and animals (see http//www.redlist.org). The Red List is considered the authoritative publication to classify species as critically endangered, endangered, vulnerable, or lower-risk; and
- United Nations Convention on Biological Diversity. This convention requires parties to regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use. It also requires

parties to promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings. The People's Republic of China (PRC) ratified the Convention on Biological Diversity on 5th January 1993. The HKSAR Government has stated that it is "committed to meeting the environmental objectives" of the Convention (PELB 1996).

2.2 Key Ecological Resources & Important Habitats

2.2.1 Key ecological issues that are identified within the Study Area and the surrounding environment include the following:

- Man Kam To Road Egretry and Ho Sheung Heung Egretry (**Figure 1**);
- Active agricultural lands that support land birds;
- Ponds that support waterbirds; and
- Species of conservation importance (e.g. Eurasian Otter)

3 ECOLOGICAL SURVEY METHODOLOGY

3.1 Application Site and Study Area

3.1.1 The Application Site is located approximately 10m west of Man Kam To Road. Although the Application Site falls within area zoned as "Agriculture" on the Approved Fu Tei Au and Sha Ling Outline Zoning Plan No. S/NE-FTA/18, it is currently vacant with no active agricultural activity.

3.1.2 The Study Area includes the area of 500 metres distance from the boundary of the Application Site (**Figure 1**). The western part of the Application Site contains agricultural lands and ponds that support both land birds and waterbirds, while the southern part to be in semi-rural character and area predominately occupied by temporary structures for logistics centres, open storage yards and vacant land. The locations of the Application Site and Study Area are shown in **Figure 1**.

3.2 Review of Existing Information

3.2.1 In accordance with Section 5.1.2.1 of the Annex 16 of EIAO-TM, existing information regarding the Application Site and its vicinity shall be reviewed. Literature review characterises the existing ecological baseline information within the Study Area. The literature review covers Government and private sector reports, independent and Government published literature, academic studies, vegetation maps and land use maps.

3.2.2 Reviewed information included, but not limited to the following:

- Register No. AEIAR-201/2016 – Police Facilities in Kong Nga Po
- Register No. AEIAR-198/2016 – Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery;
- Annual report and other publications of The Hong Kong Bird Watching Society;
- Draft Outline Zoning Plans and Outline Zoning Plans of Town Planning Board;

- Hong Kong Biodiversity – Newsletter of Agriculture, Fisheries and Conservation Department (AFCD);
- Porcupine! Newsletter of Ecology & Biodiversity, The School of Biological Sciences, The University of Hong Kong;
- Publications of AFCD;
- The International Union for Conservation of Nature (IUCN); and
- Relevant EIA reports.

3.3 Programme

3.3.1 The Survey Area covers terrestrial area only. The study on terrestrial ecology was mainly focus on the Application Site and adjacent areas of the Application Site. The Survey Area for the purpose of ecological baseline surveys includes all area within 500m distance from the boundary of the Application Site (**Figure 2**).

3.3.2 Due to the scale and nature of the proposed development, ecological survey conducted August and October 2024 covering major season of fauna to collect ecological baseline information is considered adequate (**Table 3.1**).

3.3.3 The survey methodology for each item is described in the following sections.

Table 3.1 Ecological Survey Programme

Survey Type	Wet Season		
	August	September	October
Habitat & vegetation	**D**	**D**	**D**
Avifauna	**E, D, S&N**	**E, D, S&N**	**E, D, S&N**
Butterfly	**D**	**D**	**D**
Odonate	**D**	**D**	**D**
Herpetofauna	**D&N**	**D&N**	**D&N**
Terrestrial mammal	**D, S&N**	**D, S&N**	**D, S&N**
Freshwater community	**D&N**		**D&N**
Firefly	**S & N**	**S & N**	**S & N**

Note:
E: Early morning, D: Daytime; N: Night-time, S: Dusk

3.4 Methodology

Habitat and Vegetation

3.4.1 Habitats within the Study Area were identified, sized and mapped based on the latest government aerial photos and field ground-truthing. Representative areas of each habitat type were surveyed on foot. Flora species encountered in each habitat type and their relative abundance were recorded with special attention to rare or protected species. Nomenclature and conservation status of flora species follows the latest Hong Kong Plant Database available from the website of the Hong Kong Herbarium, whilst their rarity in Hong Kong followed Corlett *et al.* (2000) and Yip *et al.* (2010) where applicable. Habitats were characterized and defined

with reference to size, vegetation type, flora species present, dominant species, species diversity and abundance, community structure, as well as the presence of any feature of ecological importance. Representative colour photos will be taken for each habitat type and any important ecological features identified. Habitat maps of suitable scale (i.e. 1:1000 to 1:5000) were prepared.

Avifauna

3.4.2 Daytime and nighttime avifauna surveys were carried out monthly. Daytime surveys were carried out in the early morning at the period of peak avifauna activity, while night surveys were conducted during and after dusk to record nocturnal avifauna. The avifauna communities of each habitat type within the Study Area were surveyed using transect count method (**Figure 2**). All avifauna observed or heard within 30m along the survey transects were counted and identified to species wherever possible and a list of avifauna recorded in the surveys is provided. The location(s) of any avifauna species of conservation importance encountered were recorded, along with notable behaviour. Major foraging and roosting sites of avifauna species were marked on map, if any. Signs of breeding (e.g. nests and/ or recently fledged juveniles) within the Study Area, especially in the Application Site, were also recorded and marked on map. Surveyors were using a 7X to 10X binoculars for the surveys and photographic records were taken, if possible. Ornithological nomenclature in this report follows the latest List of Hong Kong Birds by Hong Kong Bird Watching Society.

Butterfly and Odonate

3.4.3 Butterfly and Odonate surveys were conducted by transect count method monthly during daytime (**Figure 2**). All the butterflies and odonates encountered were recorded with their abundance and two species lists for butterflies and odonates were provided respectively. The location(s) of butterfly and odonate species with conservation importance were marked on map, if any. Nomenclature for butterflies and odonates follows that available from the Hong Kong Biodiversity Information Hub, whilst conservation status for butterflies and dragonflies follows Chan *et al.* (2011) and Tam *et al.* (2011) respectively where applicable.

Herpetofauna (Reptile and Amphibian)

3.4.4 Daytime and nighttime herpetofauna surveys were carried out. Herpetofauna surveys were conducted through direct observation and active searching in all habitat types along the survey transects (**Figure 2**), and in potential hiding places such as among leaf litter, inside holes, under stones and logs within the Study Area. Particular attention was given to watercourses or other water bodies. Auditory detection of species-specific calls was used to survey frogs and toads. During the surveys, all reptiles and amphibians sighted and heard were counted and identified along with notable behaviour. A herpetofauna species list was provided according to the records. Location(s) of herpetofauna species with conservation importance were marked on map. Nomenclature and conservation status for herpetofauna follows that available from the Hong Kong Biodiversity Information Hub, Karsen *et al.* (1998) and Chan *et al.* (2005).

Terrestrial Mammal

3.4.5 Terrestrial mammal surveys were carried out during daytime and night-time on a monthly basis. As most mammals often occur at low densities, all sightings, tracks, and signs of mammals (including droppings) were actively searched along the survey transects (**Figure 2**). Night surveys were conducted to survey nocturnal mammal species (e.g. rodents and bats). Hand torch was used to active search for the nocturnal mammals. Camera traps were installed to survey cryptic terrestrial mammals at representative locations within the Study Area. Bat surveys were conducted during and after dusk through direct observations and recorded by ultrasonic bat detector. Particular attention was given to potential foraging and drinking sites such as fruit trees and freshwater ponds (Tong, 2016). Roosting site(s) of bat species was marked on map. All bat calls recorded were identified according to species-specific echolocation call structure (Tong, 2016). All the mammals observed during the survey were counted and identified to species level whenever possible and a list of mammal species recorded was provided. Nomenclature for mammals follows that available from the Hong Kong Biodiversity Information Hub and Shek (2006).

Freshwater Community

3.4.6 Daytime and nighttime freshwater fauna surveys were carried out. Freshwater fauna, including freshwater macro-invertebrates (e.g. freshwater crabs, shrimps, freshwater molluscs and aquatic insect larvae) and fishes, in watercourses within the Study Area were studied by direct observation and active searching. Sampling was carried out and the sampling locations were shown in **Figure 2**. Freshwater fishes and aquatic macro-invertebrates were recorded and identified to the lowest possible taxon and their relative abundances were reported. The location(s) of freshwater fauna species of conservation importance were recorded. Nomenclature for freshwater fishes follows that available from the Hong Kong Biodiversity Information Hub, while those for the macro-invertebrates will follow Dudgeon (2003).

Firefly

3.4.7 Firefly surveys were carried out along the transects (**Figure 2**) at dusk and night (started shortly after sunset and continued until 120 minutes after sunset when the fireflies are most active). During the survey, any firefly observed, including larvae and adults, was identified to the species level, where possible. The location(s) of firefly species of conservation importance or any notable behavior (e.g. breeding) were recorded. Nomenclature and conservation status of fireflies (e.g. endemic to Hong Kong) follow Yiu (2023).

3.5 Impact Assessment

3.5.1 An ecological impact assessment was conducted to assess the impacts of the proposed development upon terrestrial and aquatic ecology.

3.5.2 The objectives of the ecological impact assessment included the followings:

- to identify and evaluate as far as possible the potential terrestrial and aquatic ecological impacts associated to the proposed development, both directly (e.g. by physical disturbance) and indirectly (e.g. by disturbance or change of water quality);

- to identify recognized sites of conservation importance, important habitats, and the associated wildlife groups/species; and
- where needed, to propose mitigation measures to minimize adverse impacts for the development.

3.5.3 The ecological assessment made reference to the criteria and guidelines as stated in Annexes 8 and 16 of the EIAO-TM.

4 RESULTS OF LITERATURE REVIEW

4.1 Recognized Sites of Conservation Importance & Important Habitats

Man Kam To Road Egretry and Ho Sheung Heung Egretry

4.1.1 The Man Kam To Road Egretry is located at Man Kam To Road, approximately 900m from the Application Site. The egretry has been first discovered in June 2009 during the course of ecological surveys conducted under the NENT NDAs Study. It has been mainly used by Chinese Pond Heron. It was recorded with a maximum of 24 Chinese Pond Heron nests and 14 Little Egret nests in 2022 (Anon 2022).

4.1.2 According to the results of Summer 2022 Report conducted by the Hong Kong Bird watching Society, only 4 nests of Chinese Pond Heron were recorded in Ho Sheung Heung Egretry (Anon 2022).

4.1.3 With reference to the approved EIA report of North East New Territories New Development Areas (Register no.: AEIAR – 175/2013), the major flight-lines of Ho Sheung Heung Egretry were observed over the Lo Wu Correctional Institution towards the Kwu Tung North New Development Area, towards Long Valley, along Shek Sheung River and along the Ng Tung River towards the Fanling North New Development Area. For Man Kam To Road Egretry, most birds flew towards the south-west, either following the Ng Tung River or directly over the developed area to the south-west. The flight-lines of breeding ardeids from both egretries were towards away from the Application Site.

Agricultural Land

4.1.4 A biodiversity study of selected farmlands in the proposed Northern Metropolis was conducted by Kadoorie Farm and Botanic Garden (KFBG), farmland in Sandy Ridge is one of the study areas. According to the study results, Sandy Ridge, Chow Tin (Lei Uk) and Tai Po Tin (Shan Kai Wat) were the top three sites in terms of bird species richness. A total of 98 bird species were recorded, 39 species are considered as species of conservation importance (**Table 4.1**). Agricultural lands are mostly located to the west and south-west of the Application Site. Locations of the recorded species of conservation importance were not available.

4.2 Flora and Fauna Species of Conservation Importance

4.2.1 Both the assessment area of EIA studies Register No. AEIAR-201/2016 and AEIAR-198/2016 partially covered the present Application Site and Study Area. Among the species of conservation importance, only two butterflies and one bird

species with relatively good mobility were recorded within the Application Site. Details of the species of conservation importance recorded in the two EIA studies are shown in **Table 4.1**, while the locations are shown in **Figure 3**. Although *Rhododendron pulchrum* and *Rhododendron mucronatum* were considered as species of conservation importance in AEIAR-198/2016, they are cultivated and exotic species, which are not considered as species of conservation importance in the present study.

4.2.2 With reference to information from AFCD's Biodiversity Survey (i.e. List of Species Recorded near Lo Wu Station Road by AFCD), 43 species of birds, 3 species of reptiles, 7 species of amphibians, 20 species of butterflies, 29 species of dragonflies, and 6 species of fishes were recorded within the 500m Study from the present Application Site. These species were accumulated since 2002. Among the species, 9 species of birds, 1 species of butterflies, and 3 dragonflies were considered as species of conservation importance. Details of the species of conservation importance recorded by AFCD are shown in **Table 4.1**. However, locations of those species are not available.

Table 4.1 List of Flora and Fauna Species of Conservation Importance Recorded within or in the vicinity of the Present Study Area from Reviewed Literature

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Flora					
Aquilaria sinensis	-	√	Common. Found in lowland forest and fung shui woods.	IUCN Red List of Threatened Species (2024): VU; Appendix II of CITES; Threatened Species List of China's Higher Plants: VU; China Plant Red Data Book: VU; Included in Illustrations of Rare & Endangered Plant in Guangdong Province; Listed in "Rare and Precious Plants of Hong Kong"; Cap. 586; State Protection (Category II)	AEIAR-198/2016 AEIAR-201/2016
Avifauna (all avifauna in Hong Kong are protected under Cap 170)					
Eurasian Teal *Anas crecca*	Not available	Not available	Common winter visitor. Found in Deep Bay area, Shuen Wan, Tai Lam Chung Reservoir, Victoria Harbour, urban parks.	Fellowes et al. (2002): RC	KFBG
Chinese Francolin *Francolinus pintadeanus*	Not available	Not available	Common resident. Widely distributed in grassland throughout Hong Kong.	-	KFBG
Japanese Quail	Not available	Not available	Uncommon autumn passage migrant and rare winter visitor. Found in Long	Fellowes et al. (2002): LC	KFBG

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Coturnix japonica			Valley, Mai Po, Kam Tin, Lam Tsuen, Tin Shui Wai.		
Little Grebe *Tachybaptus ruficollis*	-	√	Common resident. Found in Deep Bay area.	Fellowes et al. (2002): LC	AEIAR-201/2016 KFBG
Black-winged Stilt *Himantopus himantopus*	Not available	Not available	Common migrant and wintor visitor. Found in Deep Bay area, Long Valley, Kam Tin.	Fellowes et al. (2002): RC	KFBG
Little Ringed Plover *Charadrius dubius*	Not available	Not available	Resident, common winter visitor and passage migrant. Widely distributed in freshwater areas throughout Hong Kong.	Fellowes et al. (2002): (LC)	KFBG
Common Greenshank *Tringa nebularia*	Not available	Not available	Abundant passage migrant and winter visitor. Found in Deep Bay area.	Fellowes et al. (2002): RC	KFBG
Great Cormorant *Phalacrocorax carbo*	Not available	Not available	Common winter visitor. Widely distributed in coastal areas throughout Hong Kong.	Fellowes et al. (2002): PRC	KFBG
Yellow Bittern *Ixobrychus sinensis*	-	√	Uncommon summer visitor and common passage migrant. Found in Deep Bay area, Chek Keng, Tai Long Wan.	Fellowes et al. (2002): (LC)	AEIAR-201/2016 KFBG
Cinnamon Bittern *Ixobrychus cinnamomeus*	Not available	Not available	Uncommon passage migrant and scarce summer visitor. Found in Deep Bay area, Long Valley, Tai Yuen (Sheung Shui), Pui O.	Fellowes et al. (2002): LC	KFBG

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Black-crowned Night Heron *Nycticorax nycticorax*	Not available	Not available	Common resident and migrant. Widely distributed in Hong Kong.	Fellowes et al. (2002): LC	KFBG
Grey Heron *Ardea cinerea*	-	√	Common winter visitor. Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar.	Fellowes et al. (2002): PRC	AFCD AEIAR-201/2016
Purple Heron *Ardea purpurea*	Not available	Not available	Uncommon passage migrant. Found in Deep Bay area.	Fellowes et al. (2002): RC	KFBG
Chinese Pond Heron *Ardeola bacchus*	-	√	Common resident. Widely distributed in Hong Kong.	Fellowes et al. (2002): PRC	AFCD AEIAR-201/2016 KFBG
Eastern Cattle Egret *Bubulcus coromandus*	-	√	Resident and common passage migrant. Widely distributed in Hong Kong.	Fellowes et al. (2002): LC	AFCD AEIAR-201/2016 KFBG
Great Egret *Ardea alba*	Not available	Not available	Common resident, migrant and winter visitor. Widely distributed in Hong Kong.	Fellowes et al. (2002): PRC	KFBG
Intermediate Egret *Ardea intermedia*	Not available	Not available	Resident and passage migrant. Found in Deep Bay area, Tai Long Wan, Starling Inlet, Tai O, Cape D'Aguilar.	Fellowes et al. (2002): RC	KFBG

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Little Egret *Egretta garzetta*	-	√	Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.	Fellowes et al. (2002): PRC	AEIAR-201/2016 KFBG
Crested Serpent Eagle *Spilornis cheela*	Not available	Not available	Common resident. Widely distributed in shrublands on hillsides throughout Hong Kong.	China Red Data Book Status: VU; Fellowes et al. (2002): (LC); Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	KFBG
Eastern Imperial Eagle *Aquila heliaca*	Not available	Not available	Common winter visitor. Found in Deep Bay area, Ma Tso Lung.	China Red Data Book Status: VU; IUCN Red List: VU; Fellowes et al. (2002): GC; Cap. 586; List of Wild Animals under State Priority Conservation: Class I; Red List of China's Vertebrates: EN; CITES: Appendix II	KFBG
Common Kestrel *Falco tinnunculus*	Not available	Not available	Common autumn migrant and winter visitor. Widely distributed in Hong Kong.	Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	AFCD
Black Kite *Milvus migrans*	-	√	Common resident and winter visitor. Widely distributed in Hong Kong.	Fellowes et al. (2002): (RC); Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	AFCD AEIAR-201/2016 KFBG
Asian Barred Owlet *Glaucidium cuculoides*	Not available	Not available	Locally common resident. Widely distributed in woodland of the north and central New Territories.	Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	KFBG

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Eastern Buzzard *Buteo japonicus*	Not available	Not available	Common winter visitor. Widely distributed in Hong Kong.	Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	KFBG
Crested Goshawk *Accipiter trivirgatus*	-	√	Common resident. Widely distributed in woodlands and shrublands throughout Hong Kong.	China Red Data Book Status: Rare; Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	AEIAR-201/2016 KFBG
Collared Crow *Corvus torquatus*	-	√	Locally common resident. Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Chek lap Kok, Shuen Wan, Lam Tsuen.	IUCN Red List: VU; Fellowes et al. (2002): LC	AFCD AEIAR-201/2016 KFBG
White-throated Kingfisher *Halcyon smyrnensis*	-	√	Common resident. Widely distributed in coastal areas throughout Hong Kong	Fellowes et al. (2002): (LC); List of Wild Animals under State Priority Conservation: Class II	AEIAR-201/2016 KFBG
Black-capped Kingfisher *Halcyon pileata*	Not available	Not available	Common resident. Widely distributed in coastal areas throughout Hong Kong	Fellowes et al. (2002): (LC); List of Wild Animals under State Priority Conservation: Class II	KFBG
Pied Kingfisher *Ceryle rudis*	Not available	Not available	Uncommon passage migrant and winter visitor. Widely distributed in coastal areas throughout Hong Kong.	Fellowes et al. (2002): (LC)	KFBG
Common Greenshank *Tringa nebularia*	Not available	Not available	Abundant passage migrant and winter visitor. Found in Deep Bay area.	Fellowes et al. (2002): RC	AFCD

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Eurasian Coot *Fulica atra*	Not available	Not available	Uncommon winter visitor. Found in Deep Bay area, Plover Cove Reservoir, Shuen Wan.	Fellowes et al. (2002): RC	KFBG
Greater Coucal *Centropus sinensis*	√	√	Common resident. Widely distributed in Hong Kong.	China Red Data Book Status: VU; List of Wild Animals under State Priority Conservation: Class II	AEIAR-201/2016 KFBG
Lesser Coucal *Centropus bengalensis*	-	√	Uncommon resident. Widely distributed in Hong Kong.	China Red Data Book Status: VU; List of Wild Animals under State Priority Conservation: Class II	AEIAR-201/2016 KFBG
White-bellied Erpornis *Erpornis zantholeuca*	Not available	Not available	Uncommon resident. Found in Tai Po Kau, Shing Mun, Ho Chung, Kowloon Hills, Ng Tung Chai, Wu Kau Tang, Sha Tau Kok, A Ma Wat, Kop Tong, Lau Shui Heung.	Fellowes et al. (2002): LC	AFCD
White-cheeked Starling *Spodiopsar cineraceus*	Not available	Not available	Locally common winter visitor. Found in Deep Bay area, Kam Tin, Long Valley.	Fellowes et al. (2002): PRC	AFCD
Speckled Piculet *Picumnus innominatus*	Not available	Not available	Rare resident. Found in Wong Chuk Yeung, Tai Po Kau.	Fellowes et al. (2002): LC	KFBG
Alexandrine Parakeet *Psittacula eupatria*	Not available	Not available	Locally common resident. Found in Kowloon Park.	Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	KFBG

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Chinese Hwamei *Garrulax canorus*	Not available	Not available	Common resident. Widely distributed in hillside shrubland througthout Hong Kong.	Cap. 586; List of Wild Animals under State Priority Conservation: ; CITES: Appendix II	KFBG
White-cheeked Starling *Spodiopsar cineraceus*	Not available	Not available	Locally common winter visitor. Found in Deep Bay area, Kam Tin, Long Valley.	Fellowes et al. (2002): PRC	KFBG
Siberian Rubythroat *Calliope calliope*	Not available	Not available	Common winter visitor and passage migrant. Widely distributed in Hong Kong.	List of Wild Animals under State Priority Conservation: Class II	KFBG
Chinese Grosbeak *Eophona migratoria*	Not available	Not available	Common winter visitor. Found in Kam Tin, Nam Chung, Shek Kong, Deep Bay area, Ho Chung, Lam Tsuen, Hok Tau, Island House and Kowloon Park.	Fellowes et al. (2002): LC	KFBG
Common Rosefinch *Carpodacus erythrinus*	Not available	Not available	Rare winter visitor and migrant. Widely distributed in Hong Kong.	Fellowes et al. (2002): LC	KFBG
Grey-capped Greenfinch *Chloris sinica*	Not available	Not available	Scarce resident. Found in Shing Mun River, Lam Tsuen, Ping Shan, Lung Kwu Tang, Ho Man Tin, Tuen Mun.	Fellowes et al. (2002): LC	KFBG
Butterfly					

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Swallowtail *Papilio xuthus*	√		Rare. Kap Lung, Ma On Shan, Tai Tam, Sha Lo Wan, Kat O, Lung Kwu Tan, Wu Kau Tang, Lung Kwu Chau	-	AFCD AEIAR-201/2016
Pale Palm Dart *Telicota colon*	Not available	Not available	Rare. Widely distributed throughout Hong Kong.	Fellowes et al. (2002): LC	KFBG
Metallic Cerulean *Jamides alecto*	Not available	Not available	Very rare. Victoria Peak, Fung Yuen, Chuen Lung, Mui Wo	-	KFBG
Danaid Eggfly *Hypolimnas misippus*	Not available	Not available	Uncommon. Ngau Ngak Shan, Lung Kwu Tan, Hong Kong Wetland Park, Mount Parker, Cloudy Hill, Lin Ma Hang	Fellowes et al. (2002): LC	KFBG
Pigmy Scrub Hopper *Aeromachus pygmaeus*	-	√	Very rare. Cheung Sheung, Yung Shue O, Kuk Po	Fellowes et al. (2002): RC	AEIAR-198/2016
Tailed Sulphur *Dercas verhuelli*	-	√	Rare. Widely distributed throughout Hong Kong	-	AEIAR-198/2016
Plain Hedge Blue *Celastrina lavendularis*	-	√	Very rare. Chuen Lung, Kap Lung, Tai Po Kau, Shing Mun Country Park, Tai Lam Country Park, Kadoorie Farm and Botanic Garden, Ngau Ngak Shan.	Fellowes et al. (2002): LC	AEIAR-198/2016
Grass Demon	√	√	Rare. Widely distributed throughout Hong Kong.	-	AEIAR-201/2016

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Udaspes folus					
Odonate					
Blue Chaser *Potamarcha congener*	Not available	Not available	Common. Found in small weedy ponds, puddles and marshes. Widely distributed in the New Territories.	Fellowes et al. (2002): LC	AFCD KFBG
Scarlet Basker *Urothemis signata*	-	√	Common. Common in areas with abandoned fish ponds throughout Hong Kong.	Fellowes et al. (2002): LC	AFCD AEIAR-198/2016 AEIAR-201/2016 KFBG
Amphibian					
Chinese Bullfrog *Hoplobatrachus chinensis*	-	√	Widely distributed in Lantau Island and New Territories.	Fellowes et al. (2002): PRC; List of Wild Animals under State Priority Conservation: Class II; Red List of China's Vertebrates: EN	AEIAR-198/2016 2014
Mammal					
Short-nosed Fruit Bat *Cynopterus sphinx*	-	√	Very common. Very widely distributed in urban and countryside areas throughout Hong Kong.	Cap. 170	AEIAR-198/2016

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Unidentified Bat Species 1	-	√	-	Cap. 170	AEIAR-201/2016
Unidentified Bat Species 2	-	√	-	Cap. 170	AEIAR-201/2016
Porcupine scat	-	√	Very common. Very widely distributed in countryside areas throughout Hong Kong, except for Lantau Island.	Fellowes et al. (2002): PGC; Cap. 170	AEIAR-198/2016
Eurasian Otter	-	Near border of Yuen Leng Tsai (<900m from Study Area)	Rare/Species of Conservation Concern. Restricted to Mai Po, Lok Ma Chau, Hoo Hok Wai, and nearby areas.	China Red Data Book Status: VU; Fellowes et al. (2002): RC; Cap. 170; Cap. 586; List of Wild Animals under State Priority Conservation: Class II; Red List of China's Vertebrates: EN; CITES: Appendix I	AFCD
Aquatic fauna					
Small snakehead *Channa asiatica*	-	√	Uncommon in the wild. Records from a few streams in North district and on Lantau Island. The fish is also cultivated in some fish farms and are available from fish market.	Fellowes et al. (2002): LC	AEIAR-198/2016

Species	Location[1 3 6 7 9 10 11]		Rarity and Distribution in Hong Kong[2 8 11]	Conservation status[4 5 7 11]	Source[1 3 6 7 9 10 11]
	Application Site	Study Area			
Somanniathelphusa zanklon	-	√	Hong Kong (New Territories: lower course of Lam Tsuen River and Su Kwun)	Fellowes et al. (2002): GC IUCN: Endangered	AEIAR-198/2016

Notes:
1. Agreement No. AEIAR-198/2016 Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery – Design and Construction Final Environmental Impact Assessment Report
2. Agreement No. AEIAR-201/2016 Engineering Study for Police Facilities in Kong Nga Po – Feasibility Study
3. List of Species Recorded near Lo Wu Station Road by AFCD (extracted from data collected in the territorial-wide long-term monitoring survey on major taxon groups from 2002)
4. AFCD (2023). AFCD Biodiversity Information Hub.
5. Cap. 170 Wild Animals Protection Ordinance.
6. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes et al. (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
7. International Union of Conservation for Nature (2023). The IUCN Red List of Threatened Species. Version 2022-2.
8. Reels (2019). An annotated check list of Hong Kong dragonflies and assessment of their local conservation significance.
9. Tam *et al.* (2011). The Dragonflies of Hong Kong.
10. Wilson, K.D.P. (1997). An annotated checklist of the Hong Kong dragonflies with recommendations for their conservation. Memoirs of Hong Kong Natural History Society. 21. 1 – 69.

Abbreviations:
Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern

5 RESULTS OF ECOLOGICAL BASELINE SURVEYS

5.1 Ecological Survey

Habitat

5.1.1 Twelve types of habitats were identified within the Study Area, including agricultural land, developed area, grassland/shrubland, marsh, natural watercourse, modified watercourse, orchard, plantation, pond, wasteland, wet grassland, and woodland (**Figure 4**). The area of the respective habitats within the Study Area and the Application Site are tabulated in **Table 5.1**. Representative photo of each habitat is shown in **Figure 5**.

Table 5.1 Sizes of Habitats within the Study Area

Habitat	Application Site	Study Area
	Size (ha)	Size (ha)
Agricultural Land	-	8.7
Developed Area	-	43.1
Grassland/Shrubland	-	18.6
Marsh	-	0.24
Modified Watercourse	-	0.58
Natural Watercourse	-	0.95
Orchard	-	2.4
Plantation	-	14.0
Pond	-	5.0
Wasteland	1.4	0.2
Wet Grassland	0.18	4.3
Woodland	-	8.2
Total	1.58	106.3

Note:
The size of habitats is rounded off to the nearest one decimal place.

Agricultural Land

5.1.2 Agricultural land within the Study Area have scattered distribution mainly at the western and eastern parts of the Study Area. The agricultural land in western side of the Application Site is still active, while most of the agricultural land in the eastern side were fallow land, which is left unplanted or uncultivated for a period. Thus, weedy species, such as *Bidens alba* and *Echinochloa colona*, were commonly found.

Developed Area

5.1.3 Developed area within the Study Area consisted of villages, residential areas, roads, and other anthropogenic structures. This habitat was largely paved with concrete and was prone to human disturbance. Vegetation colonizing in this habitat mainly was consisted of plantation/ornamental species such as *Ficus microcarpa, Melaleuca cajuputi* subsp. *Cumingiana* and *Tabebuia* sp. and weedy species such as *Kyllinga nemoralis* and *Pilea microphylla*.

Grassland/Shrubland

5.1.4 Grassland/Shrubland was found at the hillside and hilltop of the hills at the northern and southern parts of the Study Area. This habitat was formed where trees are difficult to re-colonising due to some unfavourable conditions such as frequent hill fires, poor soil quality or strong wind. Grass and herb species such *as Dicranopteris pedate, Neyraudia reynaudiana* and *Ischaemum barbatum*, and shrub species such as *Baeckea frutescens* and *Rhodomyrtus tomentosa* could also commonly encountered in this habitat.

Marsh

5.1.5 A patch of Marsh was found at the western part of the Study Area. Standing water beneath the vegetation was observed in most area of the marsh during survey. As there was no obvious water source (such as watercourse) linked to the marsh, indicating that this marsh was likely to be nourished by sub-surface water from adjacent areas. This habitat was derived from abandoned agricultural land and the marsh is surrounded by agricultural land in fact. Wetland-associated herbal species (such as *Persicaria orientalis, Brachiaria mutica* and *Commelina diffusa*) made up the major component of the vegetation assemblage. Weedy species such as *Paspalum conjugatum* and *Bidens alba* could also be occasionally observed in this habitat. Terrestrial woody species was hardly found in this habitat, displaying the tendency to undergo succession to a more terrestrial environment was not apparent.

Modified Watercourse

5.1.6 Sections of modified watercourse were identified at the north-eastern and south-western part of the Application Site. The modified watercourses were associated with developed area, agricultural land and wet grassland inside the Study Area. The beds and banks of the watercourse were modified and muddy. Associating with the village and urbanized areas, this section of watercourse was prone to human disturbance, and exotic species, such as *Kyllinga polyphylla* and *Ludwigia erecta*, were commonly found.

Natural Watercourse

5.1.7 Sections of natural watercourse were identified within the Study Area and these sections are mainly associating with plantation, grassland/shrubland and woodland. The substrate of this section of watercourse consisted of sand, rocks and/or stones. These sections of watercourse were likely to be free of human disturbance due to limited accessibility.

Orchard

5.1.8 Orchards were identified at eastern and south-western adjacent to the Project Site within the Study Area. This habitat is man-made and was under management for fruit production. *Musa x paradisiaca, Dimocarpus longan* and *Psidium guajava* were the major fruit trees cultivated in the orchard. Other fruit trees could be found in this habitat includes *Mangifera indica* and *Eriobotrya japonica*.

Plantation

5.1.9 Plantation was mainly found at roadside, hillside and on engineering slopes. The canopy of this habitat was dominated by plantation/landscape species in general, such as *Acacia confusa* and *Ficus microcarpa.* Plantation next to developed area was prone to human disturbance, weedy species such as *Asystasia micrantha, Bidens alba* and *Eragrostis tenella* could be commonly encountered at the understorey.

Pond

5.1.10 This habitat was abandoned pond with overgrown vegetation and lentic waterbodies with surface water extensively covered with both weedy and aquatic species, such as *Eichhornia crassipes, Mikania micrantha, Nelumbo nucifera* and *Commelina diffusa*, and obviously without fish farming practice. They mainly scattered at the western and central part of the Study Area.

Wasteland

5.1.11 Wasteland refers to land without determined use but was largely colonized by weedy species. Wasteland within the Application Site were barren land in the past according to aerial photos, which was prone to human disturbance. The species found was mainly fast-colonizing species, such as *Sesbania cannabina, Leucaena leucocephala* and *Bidens alba*. While wasteland outside the Application Site were the surrounding area of the wasteland habitat, thus, the description of these habitats within the Study Area are the same as that mentioned under description of habitats within the Application Site.

Wet Grassland

5.1.12 Wet grassland was identified at north-western part inside the Application Site and western part of the Study Area. They were formed by abandoned agricultural land and wet in nature, growing with both hydrophilic and weedy herbal species, such as *Brachiaria mutica, Callipteris esculenta* and *Mikania micrantha* were commonly found within Application Site, while *Alocasia macrorrhizos, Brachiaria mutica, Colocasia esculenta, Ipomoea cairica* and *Mikania micrantha* were commonly found in outside Application Site.

Woodland

5.1.13 Woodland stands were identified at the eastern, north-eastern and north-western parts of the Study Area. The woodland habitat was largely natural, the canopy of woodland composed of lowland forest species such as *Celtis sinensis, Melia azedarach, Aporosa dioica, Macaranga tanarius var. tomentosa* and *Cinnamomum camphora*, reaching 5 to 12 meters. It had a complex structure with dense and well-developed understorey where native climbers (e.g. *Paederia scandens, Diploclisia glaucescens* and *Embelia laeta),* shrubs (e.g. *Ficus hispida, Litsea rotundifolia var. oblongifolia and Maesa perlarius*) and herbs (such as *Cyclosorus parasiticus, Pteris semipinnata* and *Liriope spicata*) could be found.

Vegetation

5.1.14 A total of 206 plant species were recorded within the Study Area, among which 116 and 88 are known to be native and exotic to Hong Kong respectively and the remaining 2 species are of uncertain origin **(Appendix A**). *Aquilaria sinensis, Ichnocarpus frutescens* and *Persicaria orientalis* are the 3 flora species of conservation importance recorded within the Study Area. Locations of these species of conservation importance within the Study Area are shown in **Figure 6**.

5.1.15 Photos of selected plant species of conservation importance are enclosed in **Figure 7**. Plant species and their relative abundance within each habitat are listed in **Appendix A**. Details of the flora species of conservation importance recorded are summarized in **Table 5.15**.

5.1.16 *Dimocarpus longan* and *Podocarpus macrophyllus* are exotic to Hong Kong and not considered of conservation importance, despite being listed as Vulnerable by IUCN (2023), listed as endangered or vulnerable in Threatened Species List of China's Higher Plants, listed as vulnerable in China Plant Red Data Book, and/or listed under Category II in the List of Wild Plants under State Protection.

5.1.17 *Araucaria heterophylla* is listed as Vulnerable by IUCN (2023), however, it is exotic and the recorded individual was cultivated. Thus, they are not considered as species of conservation.

5.1.18 *Citrus reticulata* and *Nelumbo nucifera* are exotic to Hong Kong and not considered of conservation importance, despite being listed under Category II in the List of Wild Plants under State Protection.

5.1.19 *Michelia figo* is protected under Cap. 96A and are also regarded as rare and very rare respectively by Corlett (2000). However, it is exotic and the recorded individuals were cultivated. Thus, they are not considered as species of conservation.

5.1.20 *Livistona chinensis* is exotic to Hong Kong and not considered of conservation importance, despite being listed as vulnerable in Threatened Species List of China's Higher Plants. Thus, they are not considered as species of conservation.

5.1.21 *Keteleeria fortunei* were found in the orchard outside the Project Site but within the Study Area which is cultivated and not considered as species of conservation importance, despite being regarded as very rare in shrubland of Hong Kong (Corlett et al. 2000) and protected under Cap. 96A, included in "Rare and Precious Plants of Hong Kong" (Hu et al. 2003), China Plant Red Data Book (Fu and Chin 1992), Illustration of Rare & Endangered plant in Guangdong Province (Wu and Hu 1988, Category II of the List of Wild Plants under State Protection (State Forestry Administration & Ministry of Agriculture 2021), and categorized as "Vulnerable" in China Red Data Book (Fu and Chin 1992) and the Threatened Species List of China's Higher Plants (Qin et al. 2017).

5.1.22 *Ocimum basilicum* is regarded as very rare by Corlett (2000), yet it is cultivated in developed area outside the Project Site but within the Study Area. It is not considered as species of conservation.

5.1.23 *Cyperus odoratus, Mimosa diplotricha* and *Typha angustifolia*is are regarded as rare by Corlett (2000), yet it is exotic. It is not considered as species of conservation.

Avifauna

5.1.24 Thirty avifauna species were recorded within the Study Area (**Appendix B**). Most of the avifauna species are common resident and widely distributed in Hong Kong. No roosting, breeding or nursery behaviour was observed within the Study Area. All wild avifauna are protected under Cap. 170 Wild Animals Protection Ordinance. Among the avifauna species recorded, 6 avifauna species were considered as species of conservation importance i.e. Chinese Pond Heron, Black-crowned Night Heron, Grey Heron, Crested Serpent Eagle, Black Kite and Greater Coucal. All of them are common in Hong Kong. However, none of them were recorded within the Application Site.

5.1.25 Location of avifauna species of conservation importance is shown in **Figure 6**, while evaluation of the species of conservation importance is stated in **Table 5.16**.

Butterfly

5.1.26 A total of 20 butterfly species were recorded within the Study Area (**Appendix C**). Most of the recorded butterfly species are regarded as very common or common in Hong Kong, and widely distributed throughout Hong Kong (AFCD, 2022). Only one butterfly species i.e. Metallic Cerulean was considered as species of conservation importance. Metallic Cerulean was recorded outside the Application Site, in agricultural land away from the Application Site.

5.1.27 Location of butterfly species of conservation importance is shown in **Figure 6**, while evaluation of the species of conservation importance is stated in **Table 5.16**.

Odonate

5.1.28 Thirteen odonate species were recorded within the Study Area (**Appendix D**). All of the odonate species are abundant and common in Hong Kong, and/or widely distributed throughout Hong Kong (AFCD, 2022 & Tam *et al.*, 2011). Only one odonate species, Scarlet Basker was considered as species of conservation importance. Scarlet Basker is found in pond, agricultural land and developed area outside the Application Site.

5.1.29 Location of odonate species of conservation importance is shown in **Figure 6**, while evaluation of the species of conservation importance is stated in **Table 5.16**.

Firefly

5.1.30 Only one species of firefly i.e. Rimmed Window Firefly with low number was recorded within the Study Area (**Appendix E**). The species is common in Hong Kong and is not considered as species of conservation importance.

Herpetofauna (Reptile and Amphibian)

5.1.31 Two reptile species were identified within the Study Area (**Appendix F**). All the reptile species are widely distributed in Hong Kong (AFCD, 2022). No species are considered as species of conservation importance.

5.1.32 Six amphibian species were identified within the Study Area (**Appendix F**). Most of the amphibian species are widely distributed in Hong Kong (AFCD, 2022). No species are considered as species of conservation importance.

Terrestrial Mammal

5.1.33 A total of 9 terrestrial mammal species was identified by active searching, ultrasonic bat detector and camera trapping. Seven species of them were bat species, only 1 of the species was recorded during active searching and camera trapping, others are recorded by ultrasonic bat detector.

5.1.34 During the active search of survey and camera trapping, only one terrestrial mammal species i.e. Wild Boar was identified within the Study Area (**Appendix G1**). It is not considered as species of conservation importance in Hong Kong.

5.1.35 Of the bat species recorded by ultrasonic bat detector, 8 bat species was identified within the Study Area (**Appendix G2**). As all wild bats are protected under Cap. 170 Wild Animals Protection Ordinance, all bats are considered as species of conservation importance. However, no roosting sites of those bat species were found within the Application Site as well as the Study Area.

5.1.36 Due to the mobility of bats, and no specific habitat utilization was observed, location of the recorded bat species is not shown. Evaluation of the bat species of conservation importance is stated in **Table 5.16**.

Freshwater Community

5.1.37 Four freshwater species were recorded within the Study Area (**Appendix H**). Among the freshwater species, 3 fish species and 1 invertebrate species were recorded. Not only native fish species were recorded but also exotic species were observed. All of the species including the invertebrate are widely distributed in Hong Kong.

5.2 Evaluation of Habitats and Species of Conservation Importance

5.2.1 The ecological importance of habitats, flora and fauna species of conservation importance recorded within the Ecological Study Area are evaluated in **Table 5.2** to **5.14** according to the EIAO-TM.

5.2.2 A total of 3 flora, 6 avifauna, 1 butterfly, 1 odonate and 8 terrestrial mammal species of conservation importance were identified in the Study Area during the ecological survey for present study. Besides, according to the reviewed literature, some other species of conservation importance were also recorded in the vicinity of the Application Site or Study Area.

5.2.3 In accordance with Table 3, Annex 8 of the EIAO-TM, the ecological value of species was assessed in terms of protection status e.g. fauna protected under WAPO except avifauna, and flora and fauna protected under regional/global legislation/conventions, species distribution e.g. endemic, and rarity e.g. rare or restricted. Flora and fauna species of conservation importance recorded within the Study Area from both the present study and reviewed literature were evaluated according to the EIAO-TM in **Table 5.15** and **Table 5.16** respectively. As the locations of the species from AFCD and KFBG are not available, they are not put in **Table 5.12** to **Table 5.16**. However, the ecological values of the habitats already took those species into consideration.

5.2.4 Species of flora and fauna with conservation importance were given special attention. In accordance with Table 3, Annex 8 of the EIAO-TM, the ecological value of species was assessed in terms of protection status, distribution, and rarity. Flora or fauna species protected by the following laws/regulations, listed under the following conventions and/or endemic to Hong Kong, were considered to be species of conservation importance. However, this excludes exotic weeds, escaped cultivars or captive species, vagrants and introduced species which have lower ecological value. Species which are classified by IUCN as Near Threatened (NT), Least Concern (LC), Data Deficient (DD), or Not Evaluated (NE), and not covered by any other laws/regulations/conventions are not considered of conservation importance in the present study.

- Category I or II in List of Wild Animals under State Priority Conservation;
- Category I/II/III in List of Wild Plants under State Priority Conservation;
- China Plant Red Data Book;
- China Red Data Book of Endangered Animals;
- China Species Red List;
- Fauna species considered of concern in Fellowes *et al.* (2002);
- Forestry Regulations (Cap. 96A) which are subsidiary legislation of the Forests and Countryside Ordinance (Cap. 96);
- Illustration of Rare & Endangered Plant in Guangdong Province;
- Plant species considered 'Rare' or 'Very Rare' listed by Corlett *et al*. (2000), or regarded as rare by Yip *et al.* (2010) where applicable;
- PRC Wild Animal Protection Law;
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);
- Rare and Precious Plants of Hong Kong;
- Red List of China's Vertebrates by Jiang *et al*. (2016);
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);
- The International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species;
- Threatened Species List of China's Higher Plants (Qin *et al.* 2017); and
- Wild Animals Protection Ordinance (Cap. 170) (except birds as all wild birds are protected under the ordinance but their conservation importance is not equal)

Table 5.2 Evaluation of Habitats within the Application Site

Criteria	**Application Site**	
	Habitat	
	Wasteland	**Wet grassland**
	Description	
Naturalness	Man-made and subject to intensive and incessant anthropogenic disturbance	Semi-natural, comprising exotic species
Size	About 1.4ha	About 0.18ha
Diversity	Low floral diversity, comprising a high proportion of exotic and invasive flora species, and low faunal diversity	Low floral and faunal diversity
Rarity	From survey of present study: none; From reviewed literature: Greater Coucal, Grass Demon and Swallowtail	Neither flora nor fauna species of conservation importance was recorded
Re-creatability	Readily re-created	Readily re-created
Fragmentation	None observed	The wet grassland within the Application Site is separated by an agricultural land, which is fragmented from the main habitat to the north-west of the Application Site.
Ecological linkage	None observed	Ecologically connected to the modified watercourse just outside the Application Site
Potential value	Very low	Low
Nursery/breeding ground	No significant nursery or breeding ground known or observed	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable	Less than 10 years of age
Abundance/ richness of wildlife	Very low faunal abundance	Very low faunal abundance
Overall ecological value	**Low**	**Low** (although the overall ecological value in the Study Area is considered low to medium, due to the habitat within the Application Site is small in size, fragmented and at the edge of the whole habitat, the overall ecological value of wet grassland within the Application Site is lower than the whole habitat in the Study Area)

Table 5.3 Evaluation of Agricultural Land within the Study Area

Criteria	Description
Naturalness	Man-made
Size	About 8.7ha
Diversity	Low floral diversity; moderate faunal diversity
Rarity	From survey of present study: Black-crowned Night Heron, Chinese Pond Heron, Greater Coucal, Metallic Cerulean and Scarlet Basker From reviewed literature: Little Egret, Chinese Pond Heron, Eastern Cattle Egret, Grey Heron, Black Kite, Crested Goshawk, Chinese Bullfrog, Grass Demon, Scarlet Basker, *Channa asiatica*; 39 bird species of conservation importance were recorded by a study of KFBG
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Agricultural land to the west of the Application Site functionally linked to woodland, pond, natural watercourse
Potential value	Low due to its man-made nature
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable
Abundance/richness of wildlife	High diversity of birds to the west of the Application Site
Overall ecological value	**Agricultural land to the west of the Application Site: Medium; agricultural land to the east of the Application Site: Low**

Table 5.4 Evaluation of Developed Area within the Study Area

Criteria	Description
Naturalness	Man-made and subject to intensive and incessant anthropogenic disturbance
Size	About 43.1ha
Diversity	Low floral diversity, comprising a high proportion of exotic flora species; low overall faunal diversity, mainly consisting of disturbance-tolerant and locally widespread fauna species
Rarity	From survey of present study: *Aquilaria sinensis*, Scarlet Basker From reviewed literature: *Aquilaria sinensis*, unidentified bat sp. 2
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Ecologically non-applicable
Potential value	Very low, given the intensive and incessant anthropogenic disturbance

Criteria	Description
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable
Abundance/richness of wildlife	Low
Overall ecological value	**Very Low**

Table 5.5 Evaluation of Grassland/Shrubland within the Study Area

Criteria	Description
Naturalness	Semi-natural
Size	About 18.6ha
Diversity	Very low floral diversity and very low faunal diversity
Rarity	From survey of present study: Crested Serpent Eagle From reviewed literature: Porcupine scat
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Functionally linked to woodland
Potential value	Low due to human disturbance and hill fire
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable
Abundance/richness of wildlife	Very low faunal abundance
Overall ecological value	**Low**

Table 5.6 Evaluation of Marsh within the Study Area

Criteria	Description
Naturalness	Semi-natural. Its fringes have been subject to frequent disturbance, owing to the vicinity to active agricultural land
Size	About 0.24ha
Diversity	Low floral and faunal diversity
Rarity	From survey of present study: *Persicaria orientalis* From reviewed literature: none
Re-creatability	Re-creatable but need time to mature
Fragmentation	None observed
Ecological linkage	Ecologically connected to wet grassland
Potential value	Low due to small size of the habitat
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	About 5 years of age in general
Abundance/richness of wildlife	Low

Criteria	Description
Overall ecological value	**Medium**

Table 5.7 Evaluation of Modified Watercourse within the Study Area

Criteria	Description
Naturalness	Subject to modification for irrigation purposes
Size	About 0.58ha
Diversity	Very low floral and faunal diversity
Rarity	From survey of present study: none From reviewed literature: *Somanniathelphusa zanklon*
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Ecologically linked to wet grassland
Potential value	Low given its current condition
Nursery/breeding ground	Might be the breeding ground of *Somanniathelphusa zanklon* and other aquatic fauna
Age	Ecologically non-applicable
Abundance/richness of wildlife	Very low faunal abundance
Overall ecological value	**Low to medium**

Table 5.8 Evaluation of Natural Watercourse within the Ecological Study Area

Criteria	Description
Naturalness	Mostly natural, but subject to human disturbance in some sections
Size	About 0.95ha
Diversity	Low floral and faunal diversity
Rarity	From survey of present study: none From reviewed literature: none
Re-creatability	Natural sections are difficult to re-create
Fragmentation	The lower courses of the watercourses are fragmented by modified section, although the stream flow is still maintained
Ecological linkage	Ecologically connected to woodland, wet grassland and agricultural land
Potential value	Medium, if proper enhancement can be applied
Nursery/breeding ground	Might be the breeding ground of aquatic fauna
Age	Not ecologically applicable
Abundance/richness of wildlife	Low
Overall ecological value	**Medium**

Table 5.9 Evaluation of Orchard within the Study Area

Criteria	Description
Naturalness	Artificial, comprising mostly of exotic fruit tree species
Size	About 2.4ha
Diversity	Low floral and faunal diversity
Rarity	From survey of present study: none From reviewed literature: Greater Coucal, Collared Crow, unidentified bat sp. 1
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Ecological linkage with agricultural land
Potential value	Low
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	At least 10 years of age in general
Abundance/richness of wildlife	Low faunal abundance
Overall ecological value	**Low**

Table 5.10 Evaluation of Plantation within the Study Area

Criteria	Description
Naturalness	Artificial, comprising mostly of exotic tree species
Size	About 14ha
Diversity	Low floral and faunal diversity
Rarity	From survey of present study: none From reviewed literature: *Aquilaria sinensis*, White-throated Kingfisher, Lesser Coucal, Short-nosed Fruit Bat, unidentified bat sp. 2
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Some patches of plantation are ecologically linked with woodland
Potential value	Low to medium if active management implemented
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	At least 20 years of age in general
Abundance/richness of wildlife	Low faunal abundance
Overall ecological value	**Low to medium**

Table 5.11 Evaluation of Pond within the Study Area

Criteria	Description
Naturalness	Man-made
Size	About 5ha

Criteria	Description
Diversity	Very low floral and faunal diversity
Rarity	From survey of present study: Grey Heron, Black Kite and Scarlet Basker From reviewed literature: Litle Grebe, Little Egret, Chinese Pond Heron, Yellow Bittern
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Not hydrologically connected to other waterbodies within the Study Area
Potential value	Medium if active management implemented
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Not readily determinable
Abundance/richness of wildlife	Low faunal abundance
Overall ecological value	**Low to medium**

Table 5.12 Evaluation of Wasteland within the Study Area

Criteria	Description
Naturalness	Man-made and subject to intensive and incessant anthropogenic disturbance
Size	About 1.4ha
Diversity	Low floral diversity, comprising a high proportion of exotic and invasive flora species; and low faunal diversity
Rarity	From survey of present study: none From reviewed literature: none
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	None observed
Potential value	Very low
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable
Abundance/richness of wildlife	Very low faunal abundance
Overall ecological value	**Low**

Table 5.13 Evaluation of Wet Grassland within the Study Area

Criteria	Description
Naturalness	Semi-natural, comprising exotic species
Size	About 4.3ha
Diversity	Low floral and faunal diversity

Criteria	Description
Rarity	From survey of present study: none From reviewed literature: Pigmy Scrub Hopper, Plain Hedge Blue
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Ecologically connected to woodland, pond and watercourse
Potential value	Low
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Less than 10 years of age
Abundance/richness of wildlife	Very low faunal abundance
Overall ecological value	**Low to medium**

Table 5.14 Evaluation of Woodland within the Study Area

Criteria	Description
Naturalness	Largely natural
Size	About 8.2ha
Diversity	Low floral and faunal diversity
Rarity	From survey of present study: *Aquilaria sinensis* and *Ichnocarpus fruescens* From reviewed literature: Tailed Sulphur
Re-creatability	Can be recreated but takes time
Fragmentation	None observed
Ecological linkage	Some patches of plantation are ecologically linked with woodland, wetland grassland, pond and watercourse
Potential value	Medium if active management implemented
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	At least 30 years of age in general
Abundance/richness of wildlife	Low faunal abundance
Overall ecological value	**Medium**

Table 5.15 Evaluation of Flora Species of Conservation Importance

Scientific Names	Rarity and Distribution in Hong Kong[1 10]	Conservation status[2 3 4 5 6 7 8 9]	Location	
			Application Site	Study Area
Aquilaria sinensis	Common. Found in lowland forest and fung shui woods.	IUCN Red List of Threatened Species (2024): VU; Appendix II of CITES; Threatened Species List of China's Higher Plants: VU; China Plant Red Data Book: VU; Included in Illustrations of Rare & Endangered Plant in Guangdong Province; Listed in "Rare and Precious Plants of Hong Kong"; Cap. 586; State Protection (Category II)	-	Developed area, plantation and woodland
Ichnocarpus frutescens	Very rare, forest.	-	-	Woodland
Persicaria orientalis	Very rare (Corlett *et al.* 2000); Rare (Yip *et al*. 2010)	-	-	Marsh

Table 5.16 Evaluation of Fauna Species of Conservation Importance

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location	
				Application Site	Study Area
Avifauna					

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location	
				Application Site	Study Area
Little Grebe (from reviewed literature)	*Tachybaptus ruficollis*	Common resident. Found in Deep Bay area.	Fellowes et al. (2002): LC	-	Pond
Little Egret (from reviewed literature)	*Egretta garzetta*	Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.	Fellowes et al. (2002): PRC	-	Agricultural land, pond
Eastern Cattle Egret (from reviewed literature)	*Bubulcus coromandus*	Resident and common passage migrant. Widely distributed in Hong Kong.	Fellowes et al. (2002): LC	-	Agricultural land
Chinese Pond Heron	*Ardeola bacchus*	Common resident. Widely distributed in Hong Kong.	Fellowes et al. (2002): PRC	-	Agricultural land, pond
Black-crowned Night Heron	*Nycticorax nycticorax*	Common resident and migrant. Widely distributed in Hong Kong.	Fellowes et al. (2002): LC	-	Agricultural land

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location	
				Application Site	Study Area
Grey Heron	*Ardea cinerea*	Common winter visitor. Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar.	Cap. 170; Fellowes et al. (2002): PRC	-	Agricultural land, pond
Yellow Bittern (from reviewed literature)	*Ixobrychus sinensis*	Uncommon summer visitor and common passage migrant. Found in Deep Bay area, Chek Keng, Tai Long Wan.	Fellowes et al. (2002): (LC)	-	Pond
Black Kite	*Milvus migrans*	Common resident and winter visitor. Widely distributed in Hong Kong.	Fellowes et al. (2002): (RC); Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II	-	Agricultural land, pond
Crested Serpent Eagle	*Spilornis cheela*	Common resident. Widely distributed in shrublands on hillsides throughout Hong Kong.	Fellowes et al. (2002): (LC); Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II; China Red Data Book Status: Vulnerable	-	Grassland/shrubland

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location	
				Application Site	Study Area
Crested Goshawk (from reviewed literature)	*Accipiter trivirgatus*	Common resident. Widely distributed in woodlands and shrublands throughout Hong Kong.	Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II; China Red Data Book Status: Rare	-	Agricultural land
White-throated Kingfisher (from reviewed literature)	*Halcyon smyrnensis*	Common resident. Widely distributed in coastal areas throughout Hong Kong	Fellowes et al. (2002): (LC); List of Wild Animals under State Priority Conservation: Class II	-	Plantation
Greater Coucal	*Centropus sinensis*	Common resident. Widely distributed in Hong Kong.	List of Wild Animals under State Priority Conservation: Class II; China Red Data Book Status: Vulnerable	Wasteland	Agricultural land
Lesser Coucal (from reviewed literature)	*Centropus bengalensis*	Uncommon resident. Widely distributed in Hong Kong.	China Red Data Book Status: VU; List of Wild Animals under State Priority Conservation: Class II	-	Plantation
Collared Crow (from reviewed literature)	*Corvus torquatus*	Locally common resident. Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Chek lap Kok, Shuen Wan, Lam Tsuen.	Cap. 170; IUCN Red List: VU; Fellowes et al. (2002): LC	-	Orchard
Butterfly					

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location	
				Application Site	Study Area
Metallic Cerulean	*Jamides alecto*	Very rare. Victoria Peak, Fung Yuen, Chuen Lung, Mui Wo	-	-	Agricultural land
Plain Hedge Blue (from reviewed literature)	*Celastrina lavendularis*	Very rare. Chuen Lung, Kap Lung, Tai Po Kau, Shing Mun Country Park, Tai Lam Country Park, Kadoorie Farm and Botanic Garden, Ngau Ngak Shan.	Fellowes et al. (2002): LC	-	Wet grassland
Grass Demon (from reviewed literature)	*Udaspes folus*	Rare. Widely distributed throughout Hong Kong.	-	Wasteland	Agricultural land
Swallowtail (from reviewed literature)	*Papilio xuthus*	Rare. Kap Lung, Ma On Shan, Tai Tam, Sha Lo Wan, Kat O, Lung Kwu Tan, Wu Kau Tang, Lung Kwu Chau	-	Wasteland	-
Pigmy Scrub Hopper (from reviewed literature)	*Aeromachus pygmaeus*	Very rare. Cheung Sheung, Yung Shue O, Kuk Po	Fellowes et al. (2002): RC	-	Wet Grassland
Tailed Sulphur (from reviewed literature)	*Dercas verhuelli*	Rare. Widely distributed throughout Hong Kong	-	-	Woodland
Odonate					
Scarlet Basker	*Urothemis signata*	Common. Common in areas with abandoned fish ponds throughout Hong Kong.	Fellowes et al. (2002): LC	-	Agricultural land, developed area, pond
Herpetofauna					

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location	
				Application Site	Study Area
Chinese Bullfrog (from reviewed literature)	*Hoplobatrachus chinensis*	Widely distributed in Lantau Island and New Territories.	Fellowes et al. (2002): PRC; List of Wild Animals under State Priority Conservation: Class II; Red List of China's Vertebrates: EN	-	Agricultural land
Terrestrial Mammal					
Chinese Noctule	*Nyctalus plancyi*	Fairly widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): PRC; Cap. 170	Present	
Chinese Pipistrelle	*Hypsugo pulveratus*	Only several records in the countryside areas at Ting Kau, Ma On Shan and Lin Ma Hang, and several records of stray individuals inside buildings.	Fellowes et al. (2002): (LC); Cap. 170	Present	
Greater Bent-winged Bat	*Miniopterus magnater*	Data deficient.	Fellowes et al. (2002): PRC; Cap. 170	Present	
Himalayan Leaf-nosed Bat	*Hipposideros armiger*	Very common. Widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): (LC); Cap. 170	Present	
Japanese Pipistrelle	*Pipistrellus abramus*	Widely distributed throughout Hong Kong.	Cap. 170	Present	
Least Pipistrelle	*Pipistrellus tenuis*	Ten-something records found in Nam Chung, Sheung Wo Hang, Lin Ma Hang, Plover Cove Country Park, Yuen Long, Shek Pik, Deep Water Bay, Ho Pui and Ho Chung.	Cap. 170	Present	

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location	
				Application Site	Study Area
Lesser Bamboo Bat	*Tylonycteris pachypus*	Fairly widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): (LC); Cap. 170	Present	
Lesser Yellow Bat	*Scotophilus kuhlii*	Uncommon. Fairly widely distributed in countryside areas throughout Hong Kong.	Fellowes et al. (2002): (LC); Cap. 170	Present	
Short-nosed Fruit Bat (from reviewed literature)	*Cynopterus sphinx*	Very widely distributed in urban and countryside areas throughout Hong Kong.	Cap. 170	-	Plantation
Unidentified bat sp. 1 (from reviewed literature)	-	-	Cap. 170	-	Orchard
Unidentified bat sp. 2 (from reviewed literature)	-	-	Cap. 170	-	Developed area, plantation
Porcupine (from reviewed literature)	*Hystrix brachyura*	Very common. Very widely distributed in countryside areas throughout Hong Kong, except for Lantau Island.	Fellowes et al. (2002): PGC; Cap. 170	-	Grassland/shrubland
Freshwater Community					
Small Snakehead (from reviewed literature)	*Channa asiatica*	Uncommon in the wild. Records from a few streams in North district and on Lantau Island. The fish is also cultivated in some fish	Fellowes et al. (2002): LC	-	Agricultural land

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7 8 9 10 11 12 13 14]	Location	
				Application Site	Study Area
		farms and are available from fish market.			
Freshwater Crab (from reviewed literature)	*Somanniathelphusa zanklon*	Distributed quite widely in the northern and western New Territories and Lantau Island of Hong Kong	Fellowes et al. (2002): GC; IUCN Red List Status: EN; Endemic to Hong Kong	-	Modified watercourse

Remark: all wild avifauna species are protected under Cap. 170 Wild Animals Protection Ordinance in Hong Kong[2].

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. Cap. 586 Protection of Endangered Species of Animals and Plants Ordinance.
4. Convention on International Trade in Endangered Species of Wild Flora and Fauna. Appendices I, II and III.
5. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
6. International Union of Conservation for Nature (2023). The IUCN Red List of Threatened Species. Version 2022-2.
7. Jiang, Z. G., Jiang, J. P., Wang, Y. Z., Zhang, E., Zhang, Y. Y., Li, L. L., ... & Dong, L. (2016). Red list of China's vertebrates.
8. List of Wild Animals under State Priority Conservation (2021).
9. Reels (2019). An annotated check list of Hong Kong dragonflies and assessment of their local conservation significance.
10. Stanton & Leven (2016). Distribution, habitat utilisation and conservation status of the freshwater crab, Somanniathelphusa zanklon Ng & Dudgeon, 1992 (Crustacea: Brachyura: Gecarcinucidae) endemic to Hong Kong.
11. Tam *et al.* (2011). The Dragonflies of Hong Kong.
12. Wang (1999). China Red Data Book of Endangered Animals: Mammalia.
13. Zhao & Wang (1998). China Red Data Book of Endangered Animals: Amphibia and Reptilia.
14. Zheng & Wang (1998). China Red Data Book of Endangered Animals: Aves.

- As bats are very mobile, and no specific habitat utilization of the recorded bats was observed (except Short-Nosed Fruit Bat), locations of bats were recorded by within the Application Site or outside the Application Site.

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Conservation Status: CR = Critically Endangered; EN = Endangered; VU = Vulnerable

6 IMPACT IDENTIFICATION AND EVALUATION

6.1 Proposed Construction Works and Operation Mode

6.1.1 The Application Site is about 1.6ha. A total of two 2-storey structures are proposed at the Application Site for warehouses, offices and washrooms, and the remaining area is reserved for parking and loading/unloading spaces and circulation area. The Site was proposed to be to be filled wholly with concrete for site formation of the abovementioned items. However, a piece of wet grassland within the Application was identified during the baseline survey. The wet grassland is now to be preserved despite the Application Site including the wet grassland supported low diversity of flora and fauna. The revised layout plan of the proposed temporary warehouse is shown in **Figure 8**.

6.1.2 The Application Site will be used as warehouse for storage of miscellaneous goods, including but not limited to packaged food, package beverage, apparel, footwear, electronic goods, etc. The operation hours of the proposed development are Monday to Saturday from 7am to 7pm.

6.2 Impact Evaluation Criteria

6.2.1 Ecological impacts of the proposed development were assessed based upon the ecological resources considered at risk. Measures were proposed to mitigate negative impacts, and residual impacts were predicted assuming implementation of all feasible mitigation measures. Impact assessment and planning of mitigation measures were conducted in accordance with the Technical Memorandum (TM) on EIA Process.

6.2.2 The significance of ecological impacts was evaluated based primarily on the criteria set forth in Table 1, Annex 8 of the TM:

- habitat quality;
- species affected;
- size/abundance of habitats/organisms affected;
- duration of impacts;
- reversibility of impacts; and
- magnitude of environmental changes.

6.2.3 Direct, indirect and cumulative impacts are generally ranked as "minor", "moderate" or "severe", although in a few cases a ranking of "insignificant" (less than "minor") may be given. The ranking of a given impact varied based on the criteria listed above. For example, an impact might be ranked as "minor" if it affected only common species and habitats, or if it affected only small numbers of individuals or small areas, whereas it might be ranked as "severe" if it affected rare species or habitats, large numbers of individuals or large areas. The major factors giving rise to a ranking are explained in the text. As noted in Annex 16 of the TM, a degree of professional judgment is involved in the evaluation of impacts.

6.2.4 The potential ecological impacts arising from the construction works, including loss of habitats, removal of vegetation, and disturbance to animals, were assessed with reference to the criteria stated in Annexes 8 and 16 of the EIAO-TM, which are currently the most comprehensive guidance for ecological impact assessment.

6.2.5 The major ecological impacts associated with the proposed works include:

- Direct habitat loss, either permanent or temporary, due to site formation and construction works within the Application Site;
- Direct and indirect impacts to flora and fauna species, in particular those of conservation importance, arising from mortality;
- Disturbance impacts to surrounding habitats and fauna during construction;
- Disturbance impacts to surrounding fauna, habitats and recognized sites of conservation importance during operation;
- Night-time light impacts.

6.3 Construction Phase

Direct Impact – Habitat Loss

6.3.1 Direct impact of the implementation of proposed construction works would be loss of wasteland habitat. The wet grassland within the Application Site will be preserved. The estimated loss of the habitat is shown in **Table 6.1**.

Table 6.1 Estimated Size of Habitats Affected by the Proposed Construction Works

Habitat	Ecological Value	Size of Habitat Loss
Wasteland	Low	1.4ha
Wet grassland	Low	-
Total		1.4 ha

6.3.2 Loss of habitats and associated vegetation due to site formation will constitute direct ecological impacts of the construction. The works area will be limited to the Application Site outside the wet grassland, no additional site clearance is expected.

6.3.3 Estimated habitat loss within the Application Site would be about 1.4ha of wasteland.

6.3.4 The impact of the loss of wasteland and the associated flora and fauna is considered **minor** due to its small extent of low overall ecological value and the presence of low abundance of common species as well as the presence of exotic and invasive plant species. While for the wet grassland will be preserved. No mitigation for the habitat loss is required. Tree loss within the Application Site will be compensated with no less than 1:1 ratio.

Indirect Impact – Disturbance generated during construction phase

6.3.5 Potential indirect impacts for the surroundings during construction phase include construction traffic and construction activities that generate noise, dust, vibration and human disturbance during construction. Sensitive ecological receiver near the Application Site includes the birds in agricultural lands and ponds. Disturbance may discourage terrestrial fauna from using the surrounding habitats as breeding and roosting sites. Terrestrial fauna may be forced to use potential alternative locations in the vicinity. However, the surrounding habitats of the Application Site are already surrounded by developed area, wildlife in the vicinity have been habituated to disturbance. In addition, as no piling works will be involved, the potential impact of construction disturbance would be limited. Due to the temporary

and localized nature of the impacts, potential impacts to flora and fauna are ranked as **minor**, if other good site practices are adopted.

Indirect Impact – Light Glare

6.3.6 If the construction site has strong lightings or flood light, there might be light glare impacts to nocturnal wildlife including firefly in the vicinity during any nighttime construction. However, there will not be nighttime construction works for the Project, and there will be no foreseeable security light source during the construction phase. The impacts due to increased night-time light during construction is therefore i**nsignificant**.

Indirect Impact – Water Quality and Site Run-off

6.3.7 Due to the removal of vegetation cover in wasteland within the Application Site, the watercourse in close proximity might potentially be impacted by surface runoff, especially during rainstorm. Sediments produced from the eroded site surfaces might further pollute the periphery habitats. Furthermore, wash water from dust suppression sprays; and chemicals spillage such as fuel, oil, solvents and lubricants from maintenance of construction machinery and equipment might also pollute the surrounding habitats.

6.3.8 Elevated suspended solid levels caused by site runoff could increase the suspended solids load in the water bodies, and could decrease dissolved oxygen levels. A lower oxygen level would affect stationary species, whilst mobile species would tend to temporarily avoid the area. The result could be a temporary reduction in aquatic life abundance and/or change in distribution.

6.3.9 The watercourse section which locates just outside the Application Site will be potentially impacted by the surface runoff during construction phase. The ecological value of the watercourse is ranked as low to medium but it is considered an agricultural ditch for irrigation purpose. The recorded fauna abundance and diversity is low. It is expected the impact from surface runoff would be transient. Hence the potential impact due to surface runoff is considered **minor to moderate**. To avoid and minimize potential contamination of water, the construction runoff should be controlled by implementation of mitigation measures such as good site practice.

Indirect Impact – Recognized Sites of Conservation Importance and Important Habitats

6.3.10 Recognized sites of conservation importance within the Study Area and in the vicinity include Man Kam To Road Egretry and Ho Sheung Heung Egretry located more than 500m from the Application Site, and the flightlines of the breeding ardeids from these two egretries will not be affected. Hence, potential ecological impacts to these recognized sites are not expected. While the important habitats i.e. ponds and agricultural lands that support a variety of birds are already surrounded by developed area, wildlife in the vicinity have been habituated to disturbance, potential impacts to these habitats are considered **minor** due to the nature and scale of the proposed development.

Indirect Impact – Species of Conservation Importance

6.3.11 Species of conservation importance found within the Application Site from both the survey of present study or reviewed literature included Greater Coucal, Grass Demon and Swallowtail. These species of conservation importance however were of very low abundance. These species are also highly mobile and there are more suitable habitats for the recorded species of conservation importance in the vicinity (such as woodland, agricultural land, grassland/shrubland). No breeding activity was discovered during the survey period neither. Thus, the ecological impacts are considered **minor**, taken consideration of the habitat size and quality (i.e. low ecological value in the Application Site) as well as disturbance. While potential indirect impacts to the species of conservation importance recorded from the survey of present study as well as from AFCD, KFBG or other reviewed literature are also considered **minor**, as no piling works will be involved.

6.3.12 Eurasian Otter is a semi-aquatic mammal which forages in water and nests on land. It also inhabits terrestrial areas adjacent to water bodies, such as rivers, lakes, ponds, streams and coastal areas. As the Application Site comprised of wasteland and wet grassland which are not typical habitats for Eurasian Otter, and there were no records and signs of Eurasian Otter within the survey period, potential impacts to this species are not likely.

6.4 Operational Phase

Direct Impact – Operational Phase Permanent Habitat loss

6.4.1 The direct impacts during operational phase would be the areas permanently occupied by the project elements during construction, and in this case would be the area occupied by the proposed development (i.e. the same as the permanent habitat loss during the construction phase). No additional habitat loss will occur during operational phase.

Indirect Impact – Human Disturbance

6.4.2 Human activities within the Application Site might potentially affect the utilization of surrounding habitats by fauna during operation phase. The Application Site will be operated as temporary warehouse for storage. Only permitted staff and operator will be present within the Application Site, significant disturbance due to human activities during operation phase is not anticipated.

6.4.3 Habitats adjacent to the Project Site included watercourse, agricultural land, pond, wet grassland, orchard and developed area. Compared to habitats further away (e.g., woodland and majority of ponds and agricultural lands), these habitats are more likely to be disturbed by the operation of the warehouse. Due to the temporary nature and scale of the proposed development, the potential impact to these habitats and associated fauna due to human activities is ranked as **minor**.

Indirect Impact – Water Quality

6.4.4 There could be potential indirect impacts to the water quality of the surrounding watercourse from surface run-off and pollution events from the development. This nonpoint pollution may have various impacts to the local freshwater environment. Magnitude of impacts would be dependent upon the pollution type and quantity of pollutant. Increased stormwater runoff may also lead to increased siltation if there are areas with bare soils. The stormwater from the Application Site would be collected by the drainage facilities. Since the watercourse outside the Application

Site has low abundance and diversity of freshwater species, and there will be 3m buffer between the Application Site and the watercourse, the indirect impact caused by stormwater would be **minor**.

Indirect Impacts – Light Glare

6.4.5 The behaviours of nocturnal wildlife including firefly might be affected by the lightings of the proposed warehouse, i.e. nocturnal animals either avoid or are attracted to lighted areas. However, the surroundings of the Application Site in particular the northern and southern sides are developed area, villages and warehouses are already present in nearby localities, and fauna inhabiting in nearby habitats have probably habituated to lighting. Therefore, potential impacts to fauna from this source are ranked as **minor**. However, as a precautionary measure, implementation of good site practices would still be recommended to minimise the impacts of the artificial lighting/glare as much as possible such as limiting the angle of the security lighting.

Indirect Impacts – Bird Collision

6.4.6 Bird collision risk would be more prominent when the building consists of extensive reflective glass façade such that the birds flying nearby are confused by the reflected image inside the glass which is normally the image of the sky and/or nearby environment. Considering that the proposed development of warehouse would not have extensive glass façade, and lack of identified flight lines across the Application Site, the potential bird collision impact is considered **insignificant**.

Potential Impact on Recognized Sites of Conservation Importance, Important Habitat, and Species of Conservation Importance

6.4.7 During the operational phase, the utilization of the proposed warehouse would be limited as the visitors would be controlled. Human disturbances, noises from the proposed operations will be localized. The potential impacts to Man Kam To Road Egretry and Ho Sheung Heung Egretry would be **insignificant**.

6.4.8 As important habitats, the key agricultural lands and ponds that support bird communities are in close proximity of the Application Site. However, limited human disturbance from the operation of the proposed development is expected. Since the habitats within the Study Area are already surrounded by developed area, wildlife in the vicinity have been habituated to disturbance, potential impacts to these habitats as well as the species of conservation importance recorded from the survey of present study, AFCD, KFBG or other reviewed literature are considered **minor**.

7 IMPACT AVOIDANCE, MINIMIZATION AND MITIGATION MEASURES

7.1 General

7.1.1 According to the principles in the EIAO-TM Annex 16 and EIAO Guidance Note 3/2010, ecological impacts on important habitats and the associated wildlife caused by the proposed development should be avoided, minimized and mitigated where practicable.

7.1.2 The potential impacts arising from the construction and operation of the proposed development have been assessed. The following mitigation measures are recommended.

7.2 Impact Avoidance

7.2.1 The proposed development has avoided sensitive habitats such as agricultural lands and ponds with diverse bird species, marsh, and woodland as well as the wet grassland within the Application Site. Only habitats of low ecological value, i.e. wasteland will be affected. Besides, there will be 3m separation between the Application Site and the nearby watercourse to avoid the watercourse being affected by the construction works.

7.2.2 The Application Site will be accessed mainly by existing road network during both construction and operation phases. There will be no impact due to temporary or permanent loss of habitats from construction of access.

7.3 Impact Minimization

Site Hoarding and Good Site Practices

7.3.1 Site hoarding would be erected along the construction site boundary. The site hoarding will be used to separate works area and the wet grassland within the Application Site, and will be erected before any construction works. Together with good site practice would be implemented for dust, noise, water quality and site surface run-off to adopted by the Project, which will be adequate to any potential indirect impacts to the surrounding environment during both construction and operation phase. The minimization measures as follows:

- Implementation of mitigation measures specified in ProPECC PN 1/94 to control site runoff and drainage at all work sites during construction;
- Implementation of noise control measures at all construction sites to reduce impacts of construction noise to wildlife habitats adjacent works area;
- Installation of site hoarding as temporary noise barrier where construction works will be undertaken;
- The use of movable noise barrier;
- The use of temporary noise screening structures or purpose-built temporary noise barriers;
- Implementation of dust control measures at all construction sites to minimise dust nuisance to adjacent wildlife habitats during construction activities;
- Construction debris and spoil should be covered up and/or properly disposed of as soon as possible to avoid being washed into nearby waterbodies by rain;
- Construction effluent, site run-off and sewage should be properly collected and/or treated, Wastewater from a construction site should be managed with the following approach in descending order;
- All dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;
- Proper locations for discharge outlets of wastewater treatment facilities well away from the natural watercourse should be identified;
- Prohibition and prevention of open fires within the work site boundary during construction;

- Regular checking should be undertaken to ensure that the work site boundaries are not exceeded and avoid damage to the vegetation in surrounding areas; and
- Supervisory staff should be assigned to station on site to closely supervise and monitor the works.

7.3.2 In, addition, construction works will be programmed to minimize soil filling works in rainy season (generally from April to September). If filling works could not be avoided in these months or at any time of year when rainstorms are likely, temporarily exposed soil surfaces will be covered (e.g. by tarpaulin), to prevent storm runoff from washing across exposed soil surfaces.

7.3.3 The above measures will all contribute to the minimization of potential construction disturbance to the surrounding habitats and associated fauna. With the implementation of these measures and the screening effects of the hoarding, noise and disturbance impact as well as the water quality impact would be mitigated to an acceptable level and no residual impact is anticipated.

Good Practice of Night-time Light

7.3.4 Although mitigation measures would not be required for the potential nighttime light impact, it is recommended to avoid orientating any external flood light towards outside the Application Site during both construction and operational phases to minimize any potential disturbance.

8 RESIDUAL IMPACTS

8.1.1 The residual environmental impacts refer to the net environmental impacts after the implementation of mitigation measures. The residual impact will be the loss of wasteland (1.4ha) of low ecological value. The loss of these habitats is considered **minor,** and no corresponding mitigation is required. Potential indirect impacts during both construction and operation phases will be mitigated by the recommended measures. With the implementation of the recommended mitigation measures, it is anticipated that all potential ecological impacts will be reduced to an acceptable level. As a result, no adverse residual impact is anticipated during both construction and operational phases.

9 CUMULATIVE IMPACT

9.1.1 No cumulative impacts as no construction project within the vicinity of the proposed construction.

10 CONCLUSION

10.1.1 Information on the ecological baseline conditions of the Application Site was collected through literature review and surveys, and they were integrated into the present EcoIA to support the application.

10.1.2 Within the Application Site, about 1.4ha of wasteland will be lost directly. Due to the low ecological value of the habitat, the potential impact due to loss of those habitats within the Application Site is considered minor.

11 REFERENCE

Agriculture, Fisheries and Conservation Department 2003. Rare and Precious Plants of Hong Kong. Retrieved from: https://www.herbarium.gov.hk/en/publications/books/book2/index.html

Agriculture, Fisheries and Conservation Department 2004. Checklist of Hong Kong Plants 2004. Dong Sheng Printing Co., Guangzhou.

Agriculture, Fisheries and Conservation Department 2022. Hong Kong Biodiversity Information Hub. Retrieved from: https://bih.gov.hk/en/species-database/index.html

Agriculture, Fisheries and Conservation Department 2023. AFCD Website.

Anon. 2022. Summer 2022 Report: Egretry Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site. Report by Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department. Hong Kong Special Administrative Region Government.

Carey, G.J., Chalmers, M.L., Diskin, D.A., Kennerley, P.R., Leader, P.J., Leven, M.R., Lewthwaite, R. W., Melville, D.S., Turnbull, M. and Young, L. 2001. The Avifauna of Hong Kong. Hong Kong Bird Watching Society, Hong Kong.

Chan, A., Cheung, J., Sze, P., Wong, A., Wong, E. and Yau, E. 2011. A Review of the Local Restrictedness of Hong Kong Butterflies. Hong Kong Biodiversity **21**: 1-12.

Chan, K.F., Cheung, K.S., Ho, C.Y., Lam F.N. and Tang, W.S. 2005. A Field Guide to the Amphibians of Hong Kong. Agriculture, Fisheries & Conservation Department, Government of Hong Kong Special Administrative Region.

Chen, Y. 2007. The Ecology and Biology of Amphioxus in Hong Kong (Ph.D. thesis). City University of Hong Kong.

Corlett, R. T., Xing, F. W., Ng, S. C., Chau, L. K. C., & Wong, L. M. Y. 2000. Hong Kong vascular plants: distribution and status. Memoirs of the Hong Kong Natural History Society **23**:1-157.

Dudgeon, D. 2003. Hong Kong Field Guides: Hillstreams. The Department of Ecology & Biodiversity and the Virtual School of Biodiversity, The University of Hong Kong.

Fellowes, J.R., Lau, M.W.N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Carey, G.J., Chan, B.P.L., Kendrick, R.C., Lee, K.S., Leven, M.R., Wilson, K.D.P. and Yu, Y.T. 2002. Wild animals to watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. Memoirs of the Hong Kong Natural History Society **25**: 123-160.

Karsen, S. J., Lau, M. W., & Bogadek, A. 1998. Hong Kong Amphibians and Reptiles. Provisional Urban Council, Hong Kong.

Lee, L. F., Lam, K. S., Ng, K. Y., Chan, K. T., & Young, L. C. 2004. Field guide to the freshwater fish of Hong Kong. Friends of the Country Parks and Cosmos Books Ltd: Hong Kong.

Lo, Y.F.P. 2005. Hong Kong Butterflies. Friends of the Country Parks, Hong Kong.

Qin, H. N., Yang, Y., Dong, S. Y., He, Q., Jia, Y., Zhao, L. N., Yu, S. X., Liu, H. Y., Liu, B., Yan, Y. H., Xiang, J. Y., Xia, N. H., Peng, H., Li, Z. Y., Zhang, Z. X., He, X. J., Yin, L. K., Lin, Y. L., Liu, Q. R., Hou, Y. T., Liu, Y., Liu, Q. X., Cao, W., Li, J. Q., Chen, S. L., Jin, X. H., Gao, T. G.,

Chen, W. L., Ma, H. Y., Geng, Y. Y., Jin, X. F., Chang, C. Y., Jiang, H., Cai, L., Zang, C. X., Wu, J. Y., Ye, J. F., Lai, Y. J., Liu, B., Lin, Q., W. & Xue, N. X. (2017). Threatened species list of China's higher plants. Biodiversity science, **25**(7), 696-744.

Reels, G. T. 2019. An annotated check list of Hong Kong dragonflies and assessment of their local conservation significance. International Dragonfly Fund-Report, (30)

Reels, GT. 2020. A ranking of key dragonfly sites in Hong Kong using a species conservation value assessment metric.

Shek, C.T. 2006. A Field Guide to the Terrestrial Mammals of Hong Kong. Agriculture, Fisheries and Conservation Department, Hong Kong.

Tam, T.W., Leung, K.K., Kwan, B.S.P., Wu, K.K.Y., Tang, S.S.H., So, I.W.Y., Cheng, J.C.Y., Yuen, E.F.M., Tsang, Y.M., AND Hui, W.L. 2011. The Hong Kong Dragonflies. Agriculture, Fisheries and Conservation Department, Friends of Country Park and Cosmos Books Ltd. Hong Kong.

The Hong Kong Bird Watching Society. 2022. HKBWS Field Guide to the Birds of Hong Kong and South China. Hong Kong Bird Watching Society, Hong Kong.

Viney, C., Phillipps, K., Lam, C.Y. 2005. The Birds of Hong Kong and South China. Information Services Department, Hong Kong.

Wilson, K.D.P. 1997. An annotated checklist of the Hong Kong dragonflies with recommendations for their conservation. Memoirs of Hong Kong Natural History Society. 21. 1 – 69.

Wilson, K.D.P. 2004. Field Guide to the Dragonflies of Hong Kong. Agriculture, Fisheries and Conservation Department, Hong Kong.

Wong, L.C. & Woo, C.K. 2003. Summer 2003 Report: Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme- Egretry Counts in Hong Kong, with particular reference to the Mai Po Inner Deep Bay Ramsar Site. Report by The Hong Kong Bird Watching Society Limited. Hong Kong.

Wu, D. L. and Hu. C.X. 1988. Illustrations of Rare and Endangered Plants in Guangdong Province. China Environmental Science Press, Beijing.

Xing, F.W., Ng, S.C., Chau, L.K.C. 2000. Gymnosperms and angiosperms of Hong Kong. Memoirs of the Hong Kong Natural History Society. 23: 21-136.

Yip, J. Y., Yip, J. K. L., Liu, E. K. Y., Ngar, Y. N., & Lai, P. C. C. 2010. A floristic survey of marshes in Hong Kong. Hong Kong Biodiversity **19**: 7-16.

Yiu, V. 2004. Field Guide to Butterfly Watching in Hong Kong. Hong Kong Lepidopterist's Society, Hong Kong.

Yiu, V. 2023. Hong Kong Fireflies. Retrieved from: http://fireflies.hk

Figure 1 The Locations of Application Site, Study Area, and Egretries

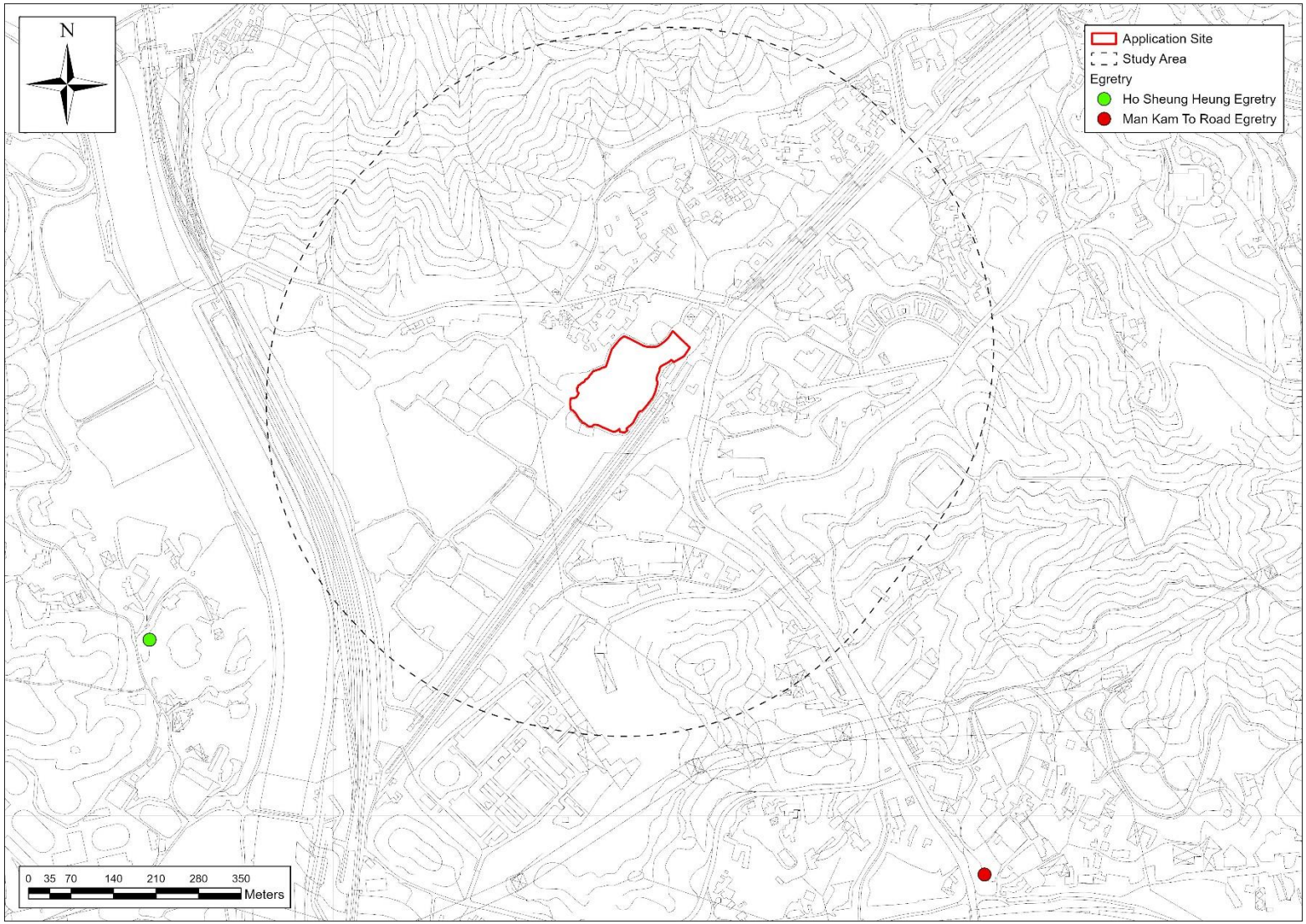


Figure 2 Location of Ecological Survey Transects, Aquatic Sampling Points, Camera Traps

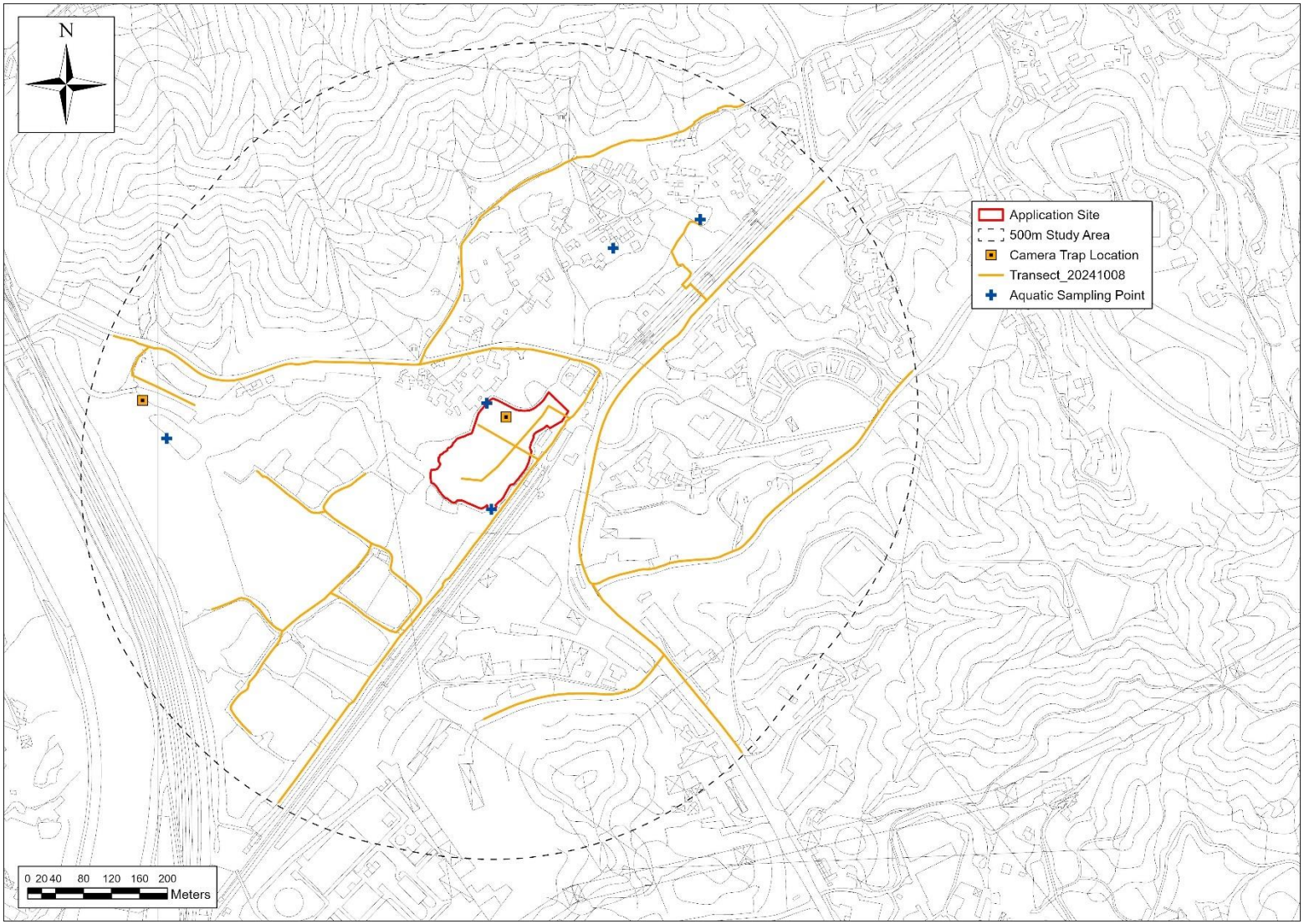


Figure 3 Species of Conservation Importance within the Study Area from Reviewed Literature

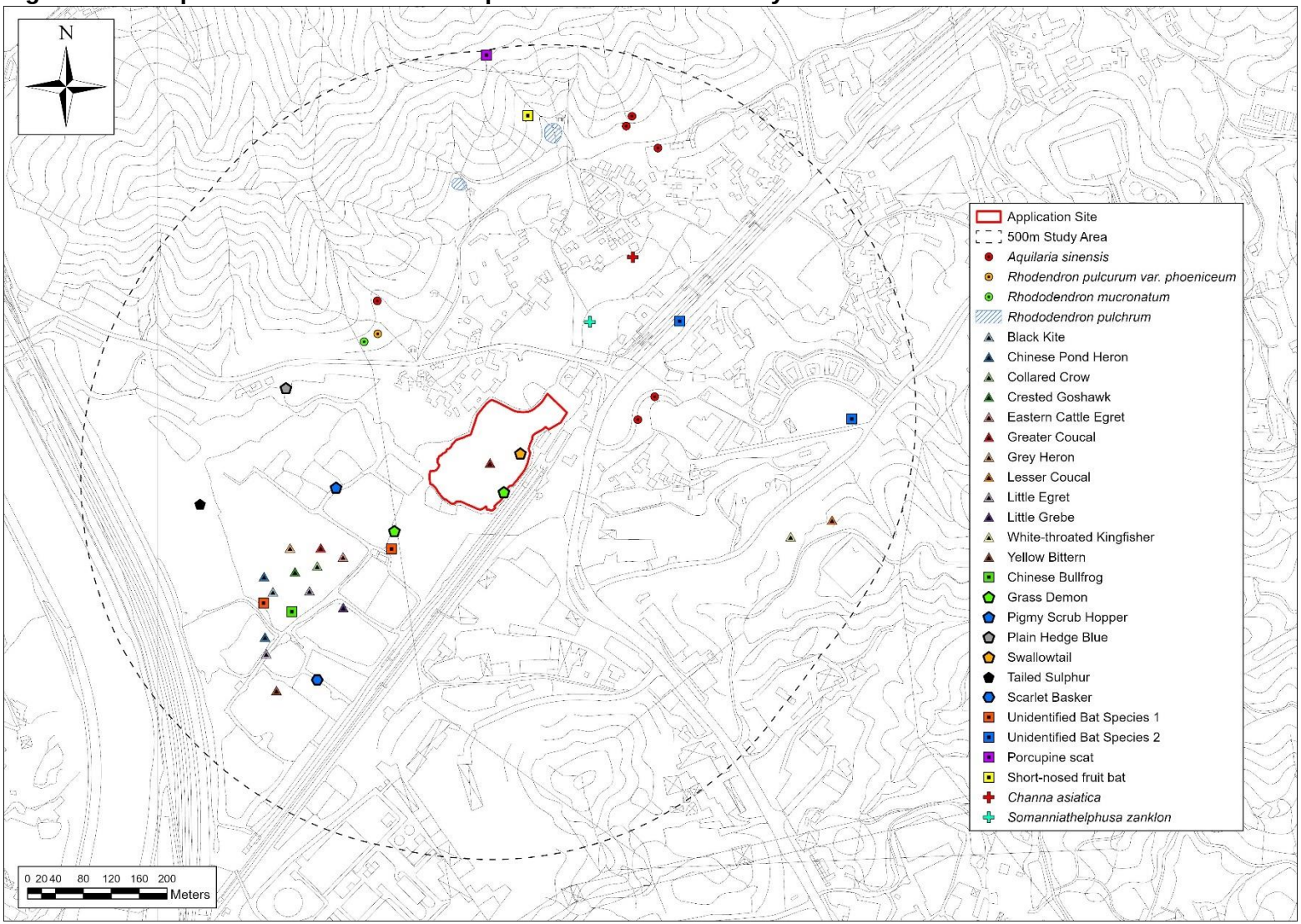


Figure 4a Habitat Map of the Application Site and the Study Area

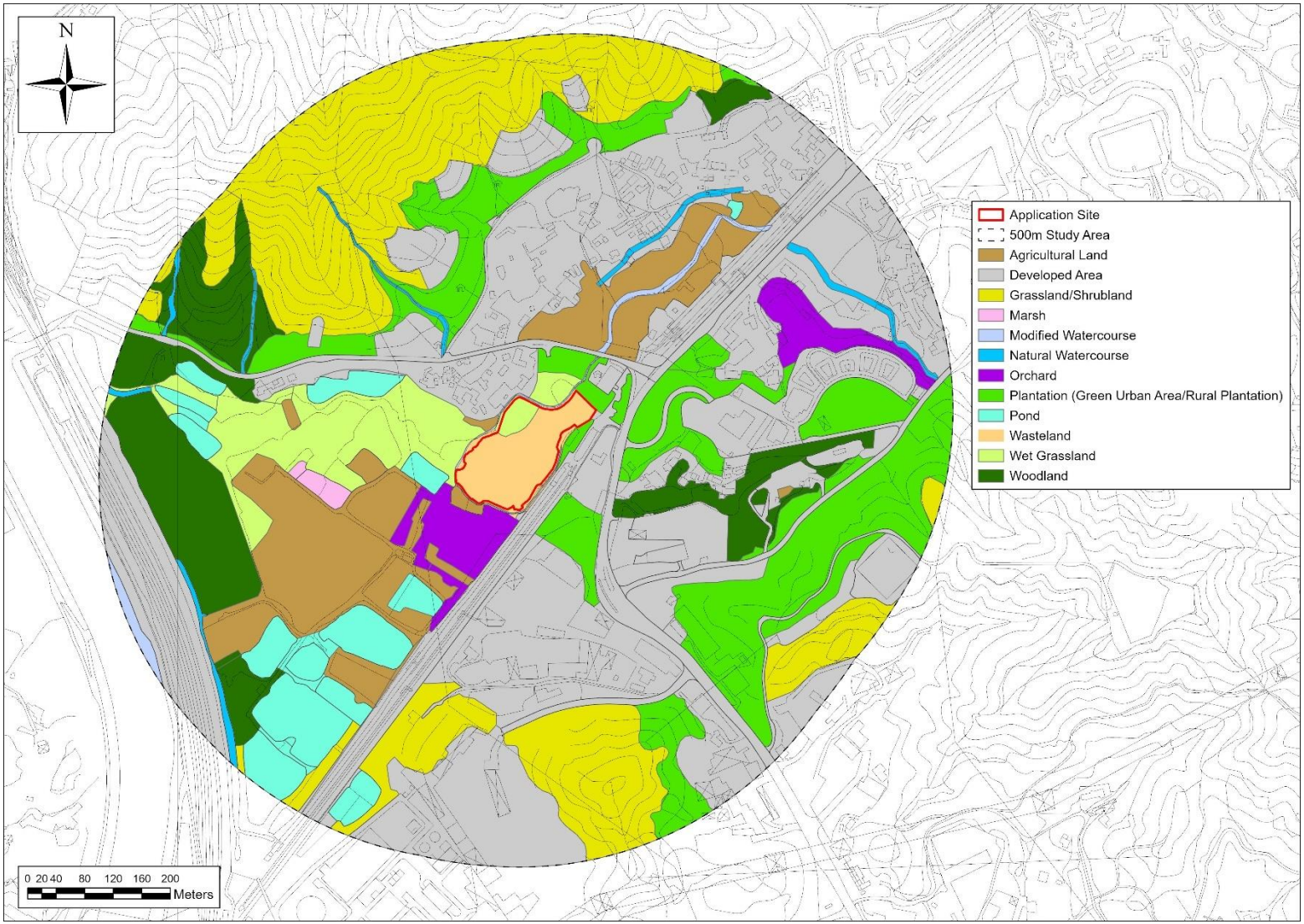


Figure 4b Habitat Map of the Application Site and the Study Area (zoom in)

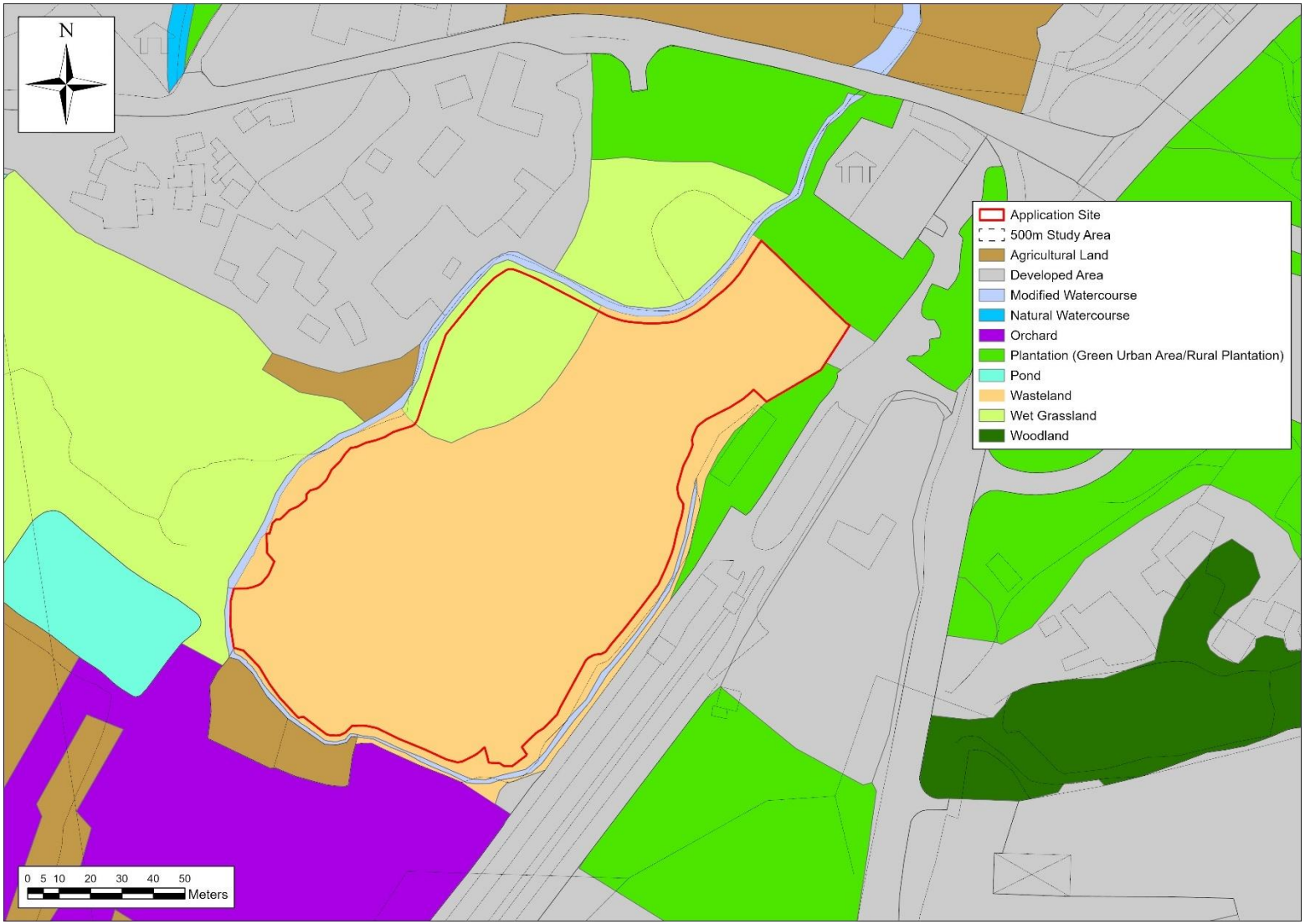
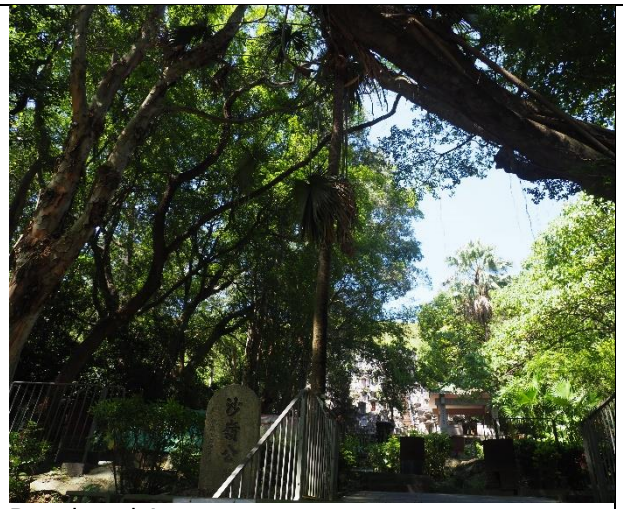


Figure 5 Habitat Photos


Agricultural Land


Developed Area


Grassland/Shrubland


Marsh


Modified Watercourse


Natural Watercourse

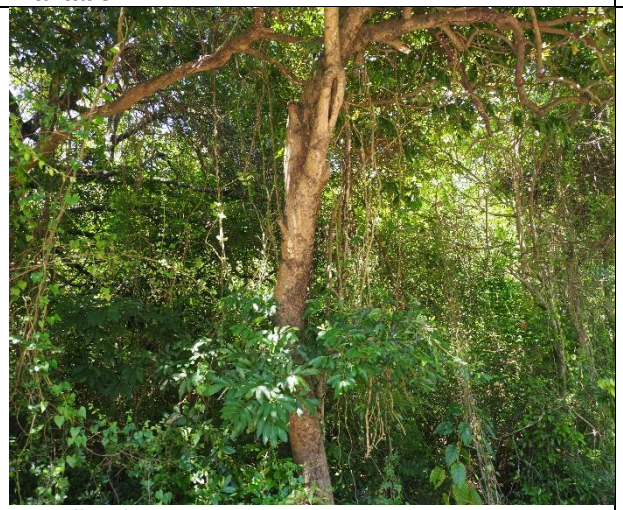
		
Orchard	Plantation	Pond
		
Wet grassland	Woodland	Wasteland

Figure 6 Locations of Species of Conservation Importance

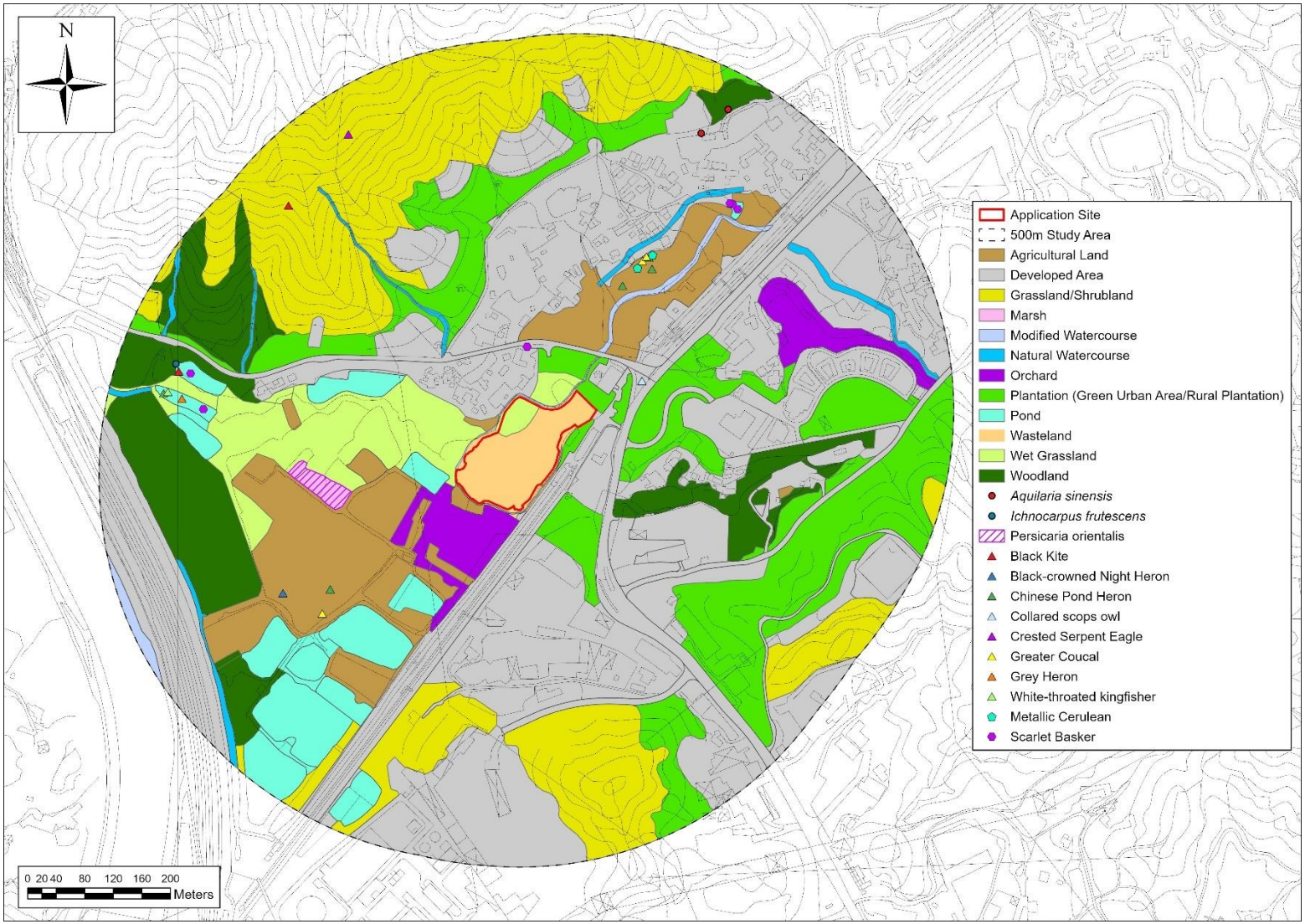
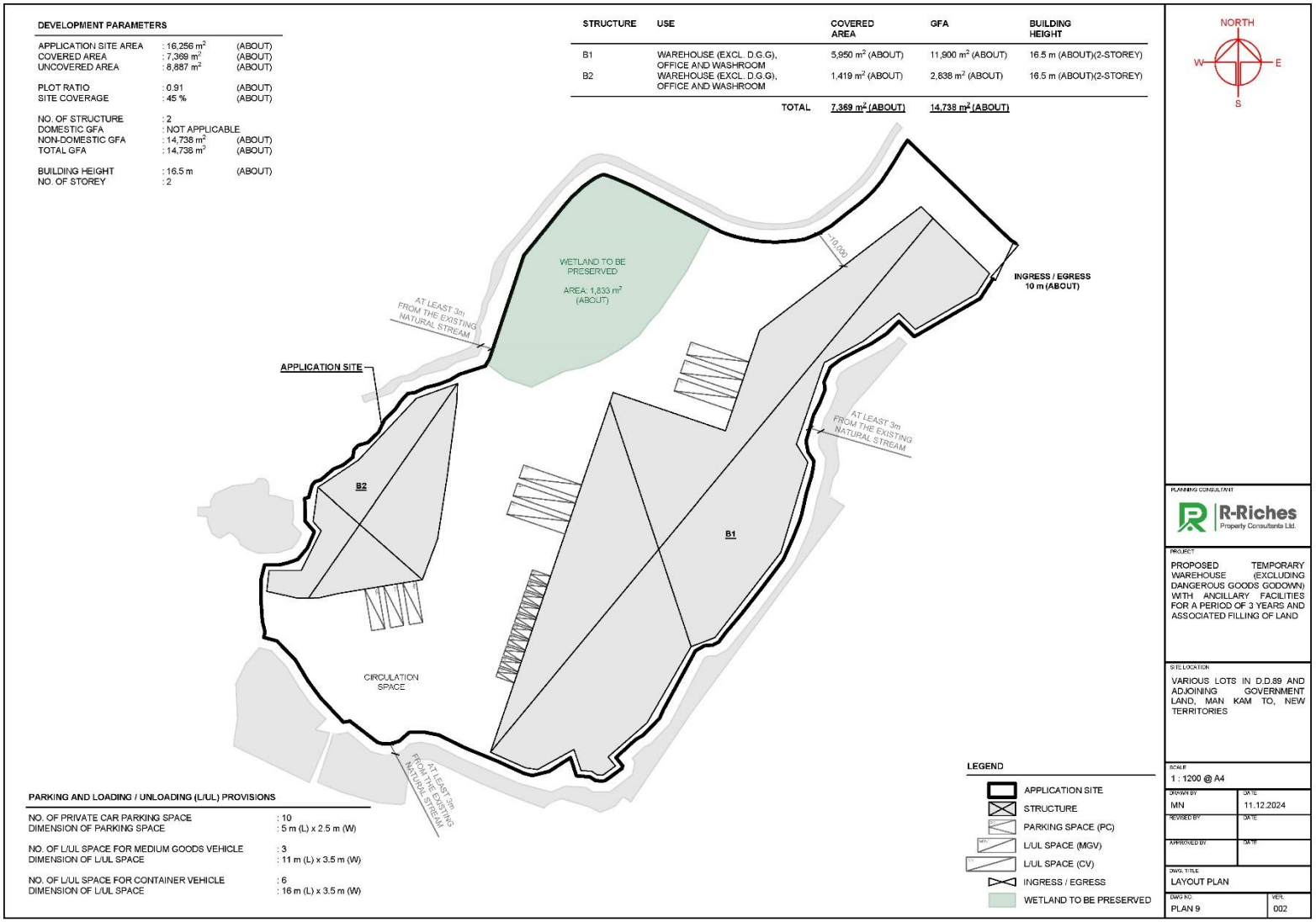


Figure 7 Photos of Plant Species of Conservation Importance

		
Aquilaria sinensis	*Ichnocarpus frutescens*	*Persicaria orientalis*

Figure 8 Layout Plan of the Proposed Temporary Warehouse



Appendix A Flora Species Recorded within the Study Area

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Acacia confusa	台灣相思	Tree	Exotic	-					o						c				
Adenosma glutinosum	毛麝香	Herb	Native	Very common						o									
Aeschynomene americana	美洲合萌	Herb	Exotic	-		s		s										s	
Agave americana	龍舌蘭	Herb	Exotic	-					s						s				
Ageratum conyzoides	藿香薊	Herb	Exotic	Common		s		o	o						s		s		
Aglaonema modestum	廣東萬年青	Herb	Exotic	-								o							
Alangium chinense	八角楓	Tree	Native	Common											s				s
Aleurites moluccana	石栗	Tree	Exotic	-											s				
Alocasia macrorrhizos	海芋	Herb	Native	Very common			o	o					c	o				c	o
Alternanthera philoxeroides	空心莧	Herb	Exotic	Common		o										o	o		
Alysicarpus ovalifolius	圓葉鏈莢豆	Herb	Exotic	-					s										
Alysicarpus vaginalis	鏈莢豆	Herb	Native	Very common		o													
Amaranthus viridis	綠莧	Herb	Native	Very common				o	s										
Ampelopsis heterophylla var. kulingensis	牯嶺蛇葡萄	Climber	Native	Common				s											

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Anredera cordifolia	落葵薯	Climber	Exotic	Restricted				o											
Apluda mutica	水蔗草	Herb	Native	Very common		o												o	
Aporosa dioica	銀柴	Tree	Native	Very common											s				c
Aquilaria sinensis	**土沉香**	**Tree**	**Native**	**Common**	**Cap. 586 Rare and Precious Plants of Hong Kong: NT in China China Plant Red Data Book: VU Illustrations of Rare & endangered plant in Guangdong Province List of Wild Plants under State Priority Conservation: Class 2 Threatened Species List of China's Higher Plants: VU, endemic species IUCN Red List: VU CITES Appendix II**				**s**									**s**
Araucaria heterophylla	異葉南洋杉	Tree	Exotic	-	IUCN Red List: VU				s										

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Asystasia micrantha	小花十萬錯	Herb	Exotic	-					s					o	c				o
Baeckea frutescens	崗松	Shrub	Native	Very common						c									
Bauhinia sp.	羊蹄甲屬	-	-	-										s					o
Bidens alba	白花鬼針草	Herb	Exotic	Very common		c		c	s	s	o	s		o	o			s	
Bischofia javanica	秋楓	Tree	Native	Common															o
Blechnum orientale	烏毛蕨	Herb	Native	Very common						s									
Bombax ceiba	木棉	Tree	Exotic	-		o													
Brachiaria mutica	巴拉草	Herb	Exotic	Common			c	o			c	o						c	
Breynia fruticosa	黑面神	Shrub	Native	Very common						s									
Bridelia tomentosa	土蜜樹	Shrub	Native	Very common				s							s				o
Broussonetia papyrifera	構樹	Tree	Native	Very common			s		s					o					o
Cajanus scarabaeoides	蔓草蟲豆	Climber	Native	Common						s									
Callipteris esculenta	菜蕨	Herb	Native	Common			c	s				c		s				c	
Carica papaya	番木瓜	Tree	Exotic	-				o	s						s				
Catharanthus roseus	長春花	Shrub	Exotic	Common					s						s				
Celtis sinensis	朴樹	Tree	Native	Common				s							s				c

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Centella asiatica	積雪草	Herb	Native	Very common					s			s							
Cinnamomum camphora	樟	Tree	Native	Common					s										c
Citrus limonia	黎檬	Tree	Exotic	-				o											
Citrus reticulata	柑橘	Tree	Exotic	-	List of Wild Plants under State Priority Conservation: Class 2									o					
Claoxylon indicum	白桐樹	Tree	Native	Common										s					
Clausena lansium	黃皮	Tree	Exotic	-				s											o
Cleome rutidosperma	鏃子白花菜	Herb	Exotic	Restricted				s	s										
Clerodendrum japonicum	赪桐	Shrub	Exotic	-										s					
Cocculus orbiculatus	木防己	Climber	Native	Common				s											
Codiaeum variegatum	變葉木	Shrub	Exotic	-					s										
Colocasia esculenta	芋	Herb	Native	-			o						s					c	
Commelina diffusa	節節草	Herb	Native	Common							o	o				o		o	
Conyza bonariensis	香絲草	Herb	Exotic	Very common				s	s										
Corchorus aestuans	甜麻	Herb	Native	Common				s											
Cratoxylum cochinchinense	黃牛木	Tree	Native	Very common						s					s				
Crotalaria pallida var. obovata	豬屎豆	Herb	Exotic	Common															s
Croton crassifolius	雞骨香	Shrub	Native	Very common						s									

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Cuscuta chinensis	菟絲子	Herb	Native	Common			s											s	
Cyclosorus interruptus	間斷毛蕨	Herb	Native	Common			o	s								s		s	
Cyclosorus parasiticus	華南毛蕨	Herb	Native	Very common				s	s			s	o						o
Cymbopogon hamatulus	扭鞘香茅	Herb	Native	Very common						o									
Cyperus difformis	異型莎草	Herb	Native	Very common		s												s	
Cyperus involucratus	風車草	Herb	Exotic	Restricted			o					s						s	
Cyperus iria	碎米莎草	Herb	Native	Common				s										s	
Cyperus odoratus	斷節莎	Herb	Exotic	Rare				s			s					s		s	
Cyperus surinamensis	蘇里南莎草	#REF!	Exotic	-		s			s										
Desmodium heterocarpon var. strigosum	糙毛假地豆	Shrub	Native	-						s									s
Dicranopteris pedata	芒萁	Herb	Native	Very common						c									
Dimocarpus longan	龍眼	Tree	Exotic	Restricted	China Plant Red Data Book: VU List of Wild Plants under State Priority Conservation: Class 2 Threatened Species List of China's Higher Plants: VU									c	o				o

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Dioscorea bulbifera	黃獨	Climber	Native	Common									s						
Diploclisia glaucescens	蒼白秤鈎風	Climber	Native	Common															s
Dracaena fragrans	巴西鐵樹	Shrub	Exotic	-					s					s					
Drymaria cordata	荷蓮豆	Herb	Native	Common								o							
Duhaldea cappa	羊耳菊	Herb	Native	Common						s									
Duranta erecta	假連翹	Climber	Exotic	-										s					
Echinochloa colona	光頭稗	Herb	Native	Very common				c	s									s	
Eichhornia crassipes	鳳眼藍	Herb	Exotic	Common												c			
Elephantopus tomentosus	白花地膽草	Herb	Native	Common											s				
Eleusine indica	牛筋草	Herb	Native	Very common				o											
Embelia laeta	酸藤子	Climber	Native	Very common															s
Emilia sonchifolia	一點紅	Herb	Native	Very common					s						s				
Eragrostis tenella	鯽魚草	Herb	Native	Very common		s									o		s		
Eremochloa ciliaris	蜈蚣草	Herb	Native	Very common						s									
Eriobotrya japonica	枇杷	Tree	Exotic	-				s						o					
Euphorbia hirta	飛揚草	Herb	Exotic	Very common					s										

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Euphorbia hypericifolia	通奶草	Herb	Native	Common		s											s		
Eurya chinensis	米碎花	Shrub	Native	Very common															s
Fallopia multiflora	何首烏	Herb	Native	Restricted										s					
Ficus benjamina	垂葉榕	Tree	Exotic	-											s				
Ficus elastica	印度榕	Tree	Exotic	-											s				
Ficus hirta	粗葉榕	Shrub	Native	Common											s				s
Ficus hispida	對葉榕	Shrub	Native	Very common		s			o					o	o		s	s	o
Ficus microcarpa	榕樹	Tree	Native	Common					c						c				o
Ficus pandurata	琴葉榕	Shrub	Native	Restricted															s
Ficus religiosa	菩提樹	Tree	Exotic	Restricted											s				
Ficus variegata var. chlorocarpa	青果榕	Tree	Native	Common					s										
Fimbristylis dichotoma	兩歧飄拂草	Herb	Native	Very common		s				s							s		
Fimbristylis littoralis	水虱草	Herb	Native	Very common				o											
Flueggea virosa	白飯樹	Shrub	Native	Common					s										
Gymnanthemum amygdalinum	南非葉	Shrub	Exotic	-											s				
Hedyotis corymbosa	傘房花耳草	Herb	Native	-					s										
Helicteres angustifolia	山芝麻	Shrub	Native	Very common						o									
Heterosmilax gaudichaudiana	合絲肖菝葜	Climber	Native	Common															s
Hibiscus mutabilis	木芙蓉	Shrub	Exotic	-		s													

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Hibiscus rosa-sinensis	朱槿	Shrub	Exotic	-											s				
Hydrocotyle verticillata	銅錢草	Herb	Exotic	-												s			
Hylocereus undatus	量天尺	Herb	Exotic	-					s										
Ichnocarpus frutescens	**腰骨藤**	**Climber**	**Native**	**Very rare**															**s**
Ipomoea aquatica	蕹菜	Herb	Exotic	Very common		s												o	
Ipomoea cairica	五爪金龍	Climber	Exotic	Very common			s				s							c	o
Ipomoea triloba	三裂葉薯	Herb	Native	-		c		c									s		s
Ischaemum barbatum	粗毛鴨嘴草	Herb	Native	Very common						o									
Keteleeria fortunei	油杉	Tree	Native	very rare	Cap. 96A Rare and Precious Plants of Hong Kong: VU in China China Plant Red Data Book: VU Illustrations of Rare & endangered plant in Guangdong Province List of Wild Plants under State Priority Conservation: Class 2 Threatened Species List of China's Higher Plants: VU									s					

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
					IUCN Red List: NT														
Kyllinga nemoralis	單穗水蜈蚣	Herb	Native	Very common					o										
Kyllinga polyphylla	水蜈蚣	Herb	Exotic	Common		o		s				c						s	
Lantana camara	馬纓丹	Shrub	Exotic	Very common						s					s				
Leucaena leucocephala	銀合歡	Tree	Exotic	Common		c	s	c						o	o		c	s	o
Ligustrum sinense	山指甲	Tree	Native	Common					s						o				
Lindernia crustacea	母草	Herb	Native	Restricted					s			o							
Lindernia rotundifolia	圓葉母草	Herb	Exotic	-								s							
Liquidambar formosana	楓香	Tree	Native	Common					s										s
Liriope spicata	山麥冬	Herb	Native	Very common									s						s
Litsea glutinosa	潺槁樹	Tree	Native	Very common											s				s

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Litsea rotundifolia var. oblongifolia	豺皮樟	Shrub	Native	Very common															o
Livistona chinensis	蒲葵	Tree	Exotic	-	Threatened Species List of China's Higher Plants: VU				s						s				
Lophostemon confertus	紅膠木	Tree	Exotic	-											s				
Ludwigia erecta	美洲水丁香	Herb	Exotic	-				o				c				o		o	
Ludwigia hyssopifolia	草龍	Herb	Native	-				s				s				o		s	
Lygodium japonicum	海金沙	Herb	Native	Very common											s				
Lygodium scandens	小葉海金沙	Herb	Native	Common					s	s					o				
Macaranga tanarius var. tomentosa	血桐	Tree	Native	Common				o	s			s		o	s			s	c
Maesa perlarius	鯽魚膽	Shrub	Native	Common															o
Mallotus paniculatus	白楸	Tree	Native	Very common															o
Malvastrum coromandelianum	賽葵	Shrub	Native	Common				s											
Mangifera indica	杧果	Tree	Exotic	-				o	s					o					
Manihot esculenta	木薯	Shrub	Exotic	-					s										
Mariscus cyperoides	磚子苗	Herb	Native	Very common				s	s									s	
Melaleuca cajuputi subsp. Cumingiana	白千層	Tree	Exotic	-					c						s				
Melia azedarach	苦楝	Tree	Exotic	Common									s	s	c			s	c
Merremia hederacea	魚黃草	Climber	Native	Restricted														o	

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Michelia figo	含笑	Shrub	Exotic	Very rare	Cap. 96A				s						s				
Microcos nervosa	破布葉	Shrub	Native	Common											s				
Microstegium ciliatum	剛莠竹	Herb	Native	Very common					s					s					
Mikania micrantha	薇甘菊	Herb	Exotic	Very common		o	c	o	s		s	o		o	o	o	o	c	o
Mimosa diplotricha	巴西含羞草	Herb	Exotic	Rare		s													
Mimosa pudica	含羞草	Herb	Exotic	Very common		c			s						s		o		
Miscanthus floridulus	五節芒	Herb	Native	Common		o	s	o	s	s							o		
Morus alba	桑	Tree	Native	Common					s					o					
Murraya paniculata	九里香	Tree	Exotic	-					s					o					
Musa x paradisiaca	大蕉	Herb	Exotic	-				o	s					c					
Myriophyllum aquaticum	粉綠狐尾藻	Herb	Exotic	-												s			
Nelumbo nucifera	蓮	Herb	Exotic	-	List of Wild Plants under State Priority Conservation: Class 2											o		s	
Nephrolepis auriculata	腎蕨	Herb	Native	Common											s				
Neyraudia reynaudiana	類蘆	Herb	Native	Very common						o									
Ocimum basilicum	羅勒	Herb	Native	Very rare					s										
Oxalis corniculata	酢漿草	Herb	Native	Very common											s				

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Paederia scandens	雞矢藤	Climber	Native	Very common		o			s						s		o		o
Palhinhaea cernua	鋪地蜈蚣	Herb	Native	Very common						s									
Panicum maximum	大黍	Herb	Exotic	Common		o		o	s	o	s				o	o			o
Paspalum conjugatum	兩耳草	Herb	Native	Common					s		o								
Paspalum urvillei	絲毛雀稗	Herb	Exotic	Common		o											o		
Passiflora foetida	龍珠果	Climber	Exotic	Very common		s		o							s		s		
Persea americana	鱷梨	Tree	Exotic	-					s					s					
Persicaria barbata	毛蓼	Herb	Native	Common			s					s						s	
Persicaria chinensis	火炭母	Herb	Native	Very Common					s					s					
Persicaria glabra	光蓼	Herb	Exotic	Restricted			s												
Persicaria lapathifolia	大馬蓼	Herb	Native	Common												s		s	
Persicaria orientalis	**紅蓼**	**Herb**	**Native**	**Very rare**							**c**								
Phyllanthus debilis	銳尖葉下珠	Shrub	-	-					s										
Phyllanthus reticulatus	小果葉下珠	Shrub	Native	Common					s						s				s
Pilea microphylla	小葉冷水花	Herb	Exotic	Very common					o										
Pinus elliottii	濕地松	Tree	Exotic	-											s				
Platycladus orientalis	側柏	Tree	Exotic	-					s										

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Pluchea sagittalis	翼莖闊苞菊	Herb	Exotic	-		s													
Plumeria rubra	雞蛋花	Tree	Exotic	-											s				s
Podocarpus macrophyllus	羅漢松	Tree	Native	Restricted	List of Wild Plants under State Priority Conservation: Class 2 Threatened Species List of China's Higher Plants: VU				s										
Praxelis clematidea	假臭草	Herb	Exotic	Very common						s								o	
Psidium guajava	番石榴	Tree	Exotic	Common				s						c					
Psychotria asiatica	九節	Tree	Native	Very common															c
Pteris semipinnata	半邊旗	Herb	Native	Very common					s				s						o
Pteris vittata	蜈蚣蕨	Herb	Native	Very common						s									
Pycreus polystachyos	多枝扁莎	Herb	Native	Very common		s											s		
Rhaphiolepis indica	石斑木	Shrub	Native	Very common															s
Rhododendron pulchrum	錦繡杜鵑	Shrub	Exotic	-											s				
Rhodomyrtus tomentosa	桃金娘	Shrub	Native	Very common						o									

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Rhus hypoleuca	白背鹽膚木	Shrub	Native	Common						o					s				
Ruellia coerulea	蘭花草	Herb	Exotic	-										s					
Sacciolepis indica	囊穎草	Herb	Native	Very common		s													
Sageretia thea	雀梅藤	Shrub	Native	Very common															s
Sapium sebiferum	烏桕	Tree	Native	Common			o												
Schefflera arboricola	鵝掌藤	Climber	Exotic	-					s										
Senna siamea	鐵刀木	Tree	Exotic	-											s				
Sesbania cannabina	田菁	Herb	Exotic	Common		c		o									c		
Sida rhombifolia	白背黃花稔	Shrub	Native	Common					s										
Solanum torvum	水茄	Shrub	Exotic	Common		s								o					
Spermacoce remota	光葉豐花草	Herb	Exotic	-		s				s							s		
Stachytarpheta cayennensis	藍蝶猿尾木	Herb	Exotic	-						s									
Stephania longa	糞箕篤	Climber	Native	Common					s										s
Sterculia lanceolata	假蘋婆	Tree	Native	Very common									s						s
Sterculia nobilis	蘋婆	Tree	Exotic	-										s					
Synedrella nodiflora	金腰箭	Herb	Exotic	Very common					s						s				
Syngonium podophyllum	合果芋	Herb	Exotic	-					s					s					s

Scientific name	Chinese name	Growth form	Origin	Rarity and distribution in Hong Kong[1]	Protection and conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
						Within Application Site		Outside Application Site										
						WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Tabebuia sp.	風鈴木屬	Tree	Exotic	-					c									s
Thysanolaena latifolia	粽葉蘆	Herb	Native	Common		s		s								o		s	
Tinospora sinensis	中華青牛膽	Climber	Native	Common				s					s	s					
Trema tomentosa	山黃麻	Shrub	Native	Common						s					s				
Typha angustifolia	水燭	Herb	Exotic	Rare												s			
Typhonium blumei	犁頭尖	Herb	Native	Restricted					s						s				
Urena lobata	肖梵天花	Herb	Native	Common		s											s	o	
Wedelia trilobata	三裂葉蟛蜞菊	Herb	Exotic	Common		o						o		o	s			c	
Wikstroemia indica	了哥王	Shrub	Native	Common						o									
Total number of flora species recorded within the Study Area					206	35	15	44	67	30	9	18	9	34	54	15	18	34	49

Notes:
1. Corlett *et al.* (2000). Hong Kong vascular plants: distribution and status.
2. Convention on International Trade in Endangered Species of Wild Fauna and Flora (2024). Appendices I, II and III.
3. Forestry Regulations, the subsidiary legislation of the Forests and Countryside Ordinance (Cap. 96A).
4. Fu & Chin (1992). China Plant Red Data Book – Rare and Endangered Plants.
5. Hu *et al.* (2003). Rare and Precious Plants of Hong Kong.
6. International Union of Conservation for Nature. (2024). The IUCN Red List of Threatened Species. Version 2024-1.
7. National Forestry and Grassland Administration and the Ministry of Agricultural and Rural Affairs. (2021). List of Wild Plants under the State Priority Protection.
8. Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).
9. Qin *et al.* (2017). Threatened Species List of China's Higher Plants.
10. Wu *et al.* (1988). Illustration of Rare & endangered plant in Guangdong Province.
11. Species in bold are considered of conservation importance.

- * *Araucaria heterophylla*, *Casuarina equisetifolia*, *Citrus reticulata*, *Dimocarpus longan*, *Euphorbia hirta*, *Euphorbia hypericifolia*, *Hylocereus undatus*, *Lagerstroemia speciosa*, *Litchi chinensis, Livistona chinensis*, *Michelia* x *alba*, *Nelumbo nucifera*, *Opuntia stricta var. dillenii*, *Pterocarpus indicus*, *Rhodoleia championii* and *Tabebuia chrysantha* are all exotic to Hong Kong and not considered of conservation importance.

Abbreviations:

- Habitat: AGR = Agricultural Land; DA = Developed Area; GS = Grassland/Shrubland; MA = Marsh; MW = Modified Watercourse; NW = Natural Watercourse; O = Orchard; PL = Plantation; PO = Pond; WA = Wasteland; WG = Wet Grassland; WL = Woodland
- Protection and conservation status: CR = Critically endangered; EN = Endangered; VU = Vulnerable
- Abundance: c=Common; o=Occasional and s=Scarce

Appendix B Avifauna Species Recorded within the Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area													
				Within Application Site		Outside Application Site											
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Chinese Francolin	*Francolinus pintadeanus*	Common resident. Widely distributed in grassland throughout Hong Kong.	-					1									
Black-crowned Night Heron	***Nycticorax nycticorax***	**Common resident and migrant. Widely distributed in Hong Kong.**	**Fellowes et al. (2002): LC**			**1**											
Chinese Pond Heron	***Ardeola bacchus***	**Common resident. Widely distributed in Hong Kong.**	**Fellowes et al. (2002): PRC**			**5**											
Grey Heron	***Ardea cinerea***	**Common winter visitor. Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar.**	**Fellowes et al. (2002): PRC**											**2**			
Crested Serpent Eagle	***Spilornis cheela***	**Common resident. Widely distributed in shrublands on hillsides throughout Hong Kong.**	**China Red Data Book Status: VU; Fellowes et al. (2002): (LC); Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II**					**1**									
Black Kite	***Milvus migrans***	**Common resident and winter visitor. Widely distributed in Hong Kong.**	**Fellowes et al. (2002): (RC); Cap. 586; List of Wild Animals under State Priority Conservation: Class II; CITES: Appendix II**					**2**									
White-breasted Waterhen	*Amaurornis phoenicurus*	Common resident. Widely distributed in wetland throughout Hong Kong.	-			1											
Spotted Dove	*Spilopelia chinensis*	Abundant resident. Widely distributed in Hong Kong.	-	2		6	2										
Greater Coucal	***Centropus sinensis***	**Common resident. Widely distributed in Hong Kong.**	**China Red Data Book Status: VU; List of Wild Animals under State Priority Conservation: Class II**			**1**											

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area													
				Within Application Site		Outside Application Site											
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Asian Koel	*Eudynamys scolopaceus*	Common resident. Widely distributed in Hong Kong.	-			1											
House Swift	*Apus nipalensis*	Abundant spring migrant and common resident. Widely distributed in Hong Kong.	-			6									4		
Long-tailed Shrike	*Lanius schach*	Common resident. Widely distributed in open areas throughout Hong Kong.	-	1													
Black Drongo	*Dicrurus macrocercus*	Common summer visitor. Widely distributed in open area throughout Hong Kong.	-	4													
Hair-crested Drongo	*Dicrurus hottentottus*	Common migrant and winter visitor, and locally common resident. Widely distributed in wooded area throughout Hong Kong.	-									1		8			
Red-billed Blue Magpie	*Urocissa erythroryncha*	Common resident. Widely distributed in woodland edges throught Hong Kong	-				2						2				
Large-billed Crow	*Corvus macrorhynchos*	Common resident. Widely distributed in Hong Kong	-				1									2	
Cinereous Tit	*Parus cinereus*	Common resident. Widely distributed in Hong Kong.	-										2				4
Red-whiskered Bulbul	*Pycnonotus jocosus*	Abundant resident. Widely distributed in Hong Kong.	-	50		5	4						4				2
Chinese Bulbul	*Pycnonotus sinensis*	Abundant resident. Widely distributed in Hong Kong.	-			4											

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
				Within Application Site		Outside Application Site										
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Yellow-bellied Prinia	*Prinia flaviventris*	Common resident. Widely distributed in Hong Kong.	-	4		2											
Common Tailorbird	*Orthotomus sutorius*	Common resident. Widely distributed in Hong Kong.	-														1
Masked Laughingthrush	*Pterorhinus perspicillatus*	Abundant resident. Widely distributed in shrubland throughout Hong Kong.	-			4											
Swinhoe's White-eye	*Zosterops simplex*	Abundant resident. Widely distributed in Hong Kong.	-														6
Black-collared Starling	*Gracupica nigricollis*	Common resident. Widely distributed in Hong Kong.	-	2		2								2	80		
Oriental Magpie-Robin	*Copsychus saularis*	Abundant resident. Widely distributed in Hong Kong.	-			2	2										
Amur Stonechat	*Saxicola stejnegeri*	Common passage migrant and winter visitor. Widely distributed in open cultivated fields throughout Hong Kong.	-	2													
Scarlet-backed Flowerpecker	*Dicaeum cruentatum*	Common resident. Widely distributed in wooded area throughout Hong Kong.	-				2										
Eurasian Tree Sparrow	*Passer montanus*	Abundant resident. Widely distributed in Hong Kong.	-				30										
Scaly-breasted Munia	*Lonchura punctulata*	Abundant resident. Widely distributed in Hong Kong.	-			6								3			
White Wagtail	*Motacilla alba*	Resident, common passage migrant and winter visitor. Widely distributed in Hong Kong.	-				2										

Remark: all wild avifauna species are protected under Cap. 170 Wild Animals Protection Ordinance in Hong Kong[2].

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. Cap. 586 Protection of Endangered Species of Animals and Plants Ordinance.
4. Convention on International Trade in Endangered Species of Wild Flora and Fauna. Appendices I, II and III.
5. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
6. List of Wild Animals under State Priority Conservation (2021).
7. Zheng & Wang (1998). China Red Data Book of Endangered Animals: Aves.
8. Species in bold are considered of conservation importance.

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Habitat: AGR = Agricultural Land; DA = Developed Area; GS = Grassland/Shrubland; MA = Marsh; MW = Modified Watercourse; NW = Natural Watercourse; O = Orchard; PL = Plantation; PO = Pond; WA = Wasteland; WG = Wet Grassland; WL = Woodland

Appendix C Butterfly Species Recorded within the Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area													
				Within Application Site		Outside Application Site											
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Formosan Swift	*Borbo cinnara*	Common. Widely distributed throughout Hong Kong.	-	1													
Metallic Cerulean	***Jamides alecto***	**Very rare. Victoria Peak, Fung Yuen, Chuen Lung, Mui Wo**	**-**			**8**											
Tailless Line Blue	*Prosotas dubiosa*	Vagrant. North Lantau Island	-	4													
Plum Judy	*Abisara echerius*	Very common. Widely distributed throughout Hong Kong	-	2													
Common Indian Crow	*Euploea core*	Common. Widely distributed throughout Hong Kong	-				2										
Staff Sergeant	*Athyma selenophora*	Common. Widely distributed throughout Hong Kong	-														1
White-edged Blue Baron	*Euthalia phemius*	Common. Widely distributed throughout Hong Kong.	-	1													
Red Ring Skirt	*Hestina assimilis*	Common. Widely distributed throughout Hong Kong.	-														1
Great Eggfly	*Hypolimnas bolina*	Common. Widely distributed throughout Hong Kong	-				1	1									
Common Sailer	*Neptis hylas*	Very common. Widely distributed throughout Hong Kong	-				1						1				
Dark-brand Bush Brown	*Mycalesis mineus*	Very common. Widely distributed throughout Hong Kong	-												2		
Red Helen	*Papilio helenus*	Very common. Widely distributed throughout Hong Kong	-										2				
Great Mormon	*Papilio memnon*	Very common. Widely distributed throughout Hong Kong	-				1										

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area													
				Within Application Site		Outside Application Site											
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Common Mormon	*Papilio polytes*	Very common. Widely distributed throughout Hong Kong	-			1	2						1			2	
Spangle	*Papilio protenor*	Very common. Widely distributed throughout Hong Kong	-				1										1
Lemon Emigrant	*Catopsilia pomona*	Common. Widely distributed throughout Hong Kong	-										4				
Three-spot Grass Yellow	*Eurema blanda*	Common. Widely distributed throughout Hong Kong	-												4		
Common Grass Yellow	*Eurema hecabe*	Very common. Widely distributed throughout Hong Kong	-										4	3	4		
Great Orange Tip	*Hebomoia glaucippe*	Common. Widely distributed throughout Hong Kong	-					1									
Yellow Orange Tip	*Ixias pyrene*	Uncommon. Widely distributed throughout Hong Kong	-											1			
Indian Cabbage White	*Pieris canidia*	Very common. Widely distributed throughout Hong Kong	-			2											

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
3. Species in bold are considered of conservation importance.

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Habitat: AGR = Agricultural Land; DA = Developed Area; GS = Grassland/Shrubland; MA = Marsh; MW = Modified Watercourse; NW = Natural Watercourse; O = Orchard; PL = Plantation; PO = Pond; WA = Wasteland; WG = Wet Grassland; WL = Woodland

Appendix D Odonate Species Recorded within the Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area													
				Within Application Site		Outside Application Site											
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Pale-spotted Emperor	*Anax guttatus*	Common. Widely distributed in ponds and sluggish streams throughout Hong Kong.	-											1			
Orange-tailed Sprite	*Ceriagrion auranticum*	Abundant. Widely distributed in weedy ponds, marshes, abandoned fields or grasslands adjacent to waters.	-	2													
Blue Dasher	*Brachydiplax chalybea*	Common. Widely distributed in marshes and weedy ponds throughout Hong Kong.	-											6			
Forest Chaser	*Lyriothemis elegantissima*	Common. Frequents marshes beside woodlands. Widespread throughout Hong Kong.	-			1											
Russet Percher	*Neurothemis fulvia*	Common. Found in marshes, cultivated areas, streams, tanks and irrigation feeders, sometimes even found in nearly dried out marshy areas. Widely distributed throughout Hong Kong.	-													1	
Green Skimmer	*Orthetrum sabina sabina*	Abundant. Widely distributed in all wetland habitats throughout Hong Kong.	-				2							2			
Wandering Glider	*Pantala flavescens*	Abundant. Widely distributed all over Hong Kong.	-	40		5								10			
Variegated Flutterer	*Rhyothemis variegata arria*	Common. Widely distributed in marshes, ponds and tanks throughout Hong Kong.	-				4										
Crimson Dropwing	*Trithemis aurora*	Abundant. Found in marshes, ponds, streams, andor even ornamental ponds in urban areas. Widely distributed throughout Hong Kong.	-			1											
Scarlet Basker	***Urothemis signata***	**Common. Common in areas with abandoned fish ponds throughout Hong Kong.**	**Fellowes et al. (2002): LC**			**1**	**1**							**4**			
Dingy Dusk-darter	*Zyxomma petiolatum*	Common. Widely distributed in thick undergrowth, tree foliage and shady spots near water courses throughout Hong Kong.	-											1			
Regal Pond Cruiser	*Epophthalmia elegans*	Common. Always patrols along the edge of large ponds with a regular path.	-											1			

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area													
				Within Application Site		Outside Application Site											
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
		Widely distributed in reservoirs and large ponds throughout Hong Kong.															
Yellow Featherlegs	*Copera marginipes*	Abundant. Widely distributded in lowland streams, ditches, and weedy margins of pond throughout Hong Kong.	-														12

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
3. Reels (2019). An annotated check list of Hong Kong dragonflies and assessment of their local conservation significance.
4. Tam *et al.* (2011). The Dragonflies of Hong Kong.
5. **Species in bold are considered of conservation importance.**

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Habitat: AGR = Agricultural Land; DA = Developed Area; GS = Grassland/Shrubland; MA = Marsh; MW = Modified Watercourse; NW = Natural Watercourse; O = Orchard; PL = Plantation; PO = Pond; WA = Wasteland; WG = Wet Grassland; WL = Woodland

Appendix E Firefly Species Recorded within the Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong	Conservation status	Relative Abundance within Study Area													
				Within Application Site		Outside Application Site											
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Rimmed Window Firefly	*Pyrocoelia analis*	Widespread.	-											**3**			

Abbreviations:

- Habitat: AGR = Agricultural Land; DA = Developed Area; GS = Grassland/Shrubland; MA = Marsh; MW = Modified Watercourse; NW = Natural Watercourse; O = Orchard; PL = Plantation; PO = Pond; WA = Wasteland; WG = Wet Grassland; WL = Woodland

Appendix F Herpetofauna Species Recorded within the Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area													
				Within Application Site		Outside Application Site											
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Amphibian																	
Bowring's Gecko	*Hemidactylus bowringii*	Distributed throughout Hong Kong.	-				+										
Chinese Gecko	*Gekko chinensis*	Widely distributed throughout Hong Kong.	-				+										
Reptile																	
Asiatic Painted Frog	*Kaloula pulchra*	Widely distributed in Hong Kong.	-													+	
Butler's Pigmy Frog	*Microhyla butleri*	Widely distributed in Hong Kong.	-							+							
Ornate Pigmy Frog	*Microhyla fissipes*	Widely distributed in Hong Kong.	-							+							
Marbled Pigmy Frog	*Microhyla pulchra*	Widely distributed in Hong Kong.	-							+						+	
Paddy Frog	*Fejervarya limnocharis*	Widely distributed in Hong Kong.	-				+		+			+					
Brown Tree Frog	*Polypedates megacephalus*	Widely distributed throughout Hong Kong.	-									+				+	

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
4. International Union of Conservation for Nature (2023). The IUCN Red List of Threatened Species. Version 2022-2.
5. Jiang, Z. G., Jiang, J. P., Wang, Y. Z., Zhang, E., Zhang, Y. Y., Li, L. L., … & Dong, L. (2016). Red list of China's vertebrates.
6. List of Wild Animals under State Priority Conservation (2021).
7. Zhao & Wang (1998). China Red Data Book of Endangered Animals: Amphibia and Reptilia.

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Conservation Status: CR = Critically Endangered; EN = Endangered; VU = Vulnerable
- Habitat: AGR = Agricultural Land; DA = Developed Area; GS = Grassland/Shrubland; MA = Marsh; MW = Modified Watercourse; NW = Natural Watercourse; O = Orchard; PL = Plantation; PO = Pond; WA = Wasteland; WG = Wet Grassland; WL = Woodland

Appendix G1 Mammal Species Recorded within the Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area												
				Within Application Site		Outside Application Site										
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Eurasian Wild Pig	*Sus scrofa*	Very common. Very widely distributed in countryside areas throughout Hong Kong.	-												+		

Remark: all wild bat species are protected under Cap. 170 Wild Animals Protection Ordinance in Hong Kong[2].

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. Species in bold are considered of conservation importance.
4. Bat species recorded by Acoustic Bat Detector and mammal species recorded by Infrared Camera Trap are excluded.

Abbreviations:
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Habitat: AGR = Agricultural Land; DA = Developed Area; GS = Grassland/Shrubland; MA = Marsh; MW = Modified Watercourse; NW = Natural Watercourse; O = Orchard; PL = Plantation; PO = Pond; WA = Wasteland; WG = Wet Grassland; WL = Woodland

Appendix G2 Bat Species Recorded within the Study Area by Acoustic Bat Detector

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]
Greater Bent-winged Bat	***Miniopterus magnater***	**Data deficient.**	**Fellowes et al. (2002): PRC; Cap. 170**
Himalayan Leaf-nosed Bat	***Hipposideros armiger***	**Very common. Widely distributed in countryside areas throughout Hong Kong.**	**Fellowes et al. (2002): (LC); Cap. 170**
Least Pipistrelle	***Pipistrellus tenuis***	**Uncommon. Ten-something records found in Nam Chung, Sheung Wo Hang, Lin Ma Hang, Plover Cove Country Park, Yuen Long, Shek Pik, Deep Water Bay, Ho Pui and Ho Chung.**	**Cap. 170**
Chinese Noctule	***Nyctalus plancyi***	**Common. Fairly widely distributed in countryside areas throughout Hong Kong.**	**Fellowes et al. (2002): PRC; Cap. 170**
Lesser Yellow Bat	***Scotophilus kuhlii***	**Uncommon. Fairly widely distributed in countryside areas throughout Hong Kong.**	**Fellowes et al. (2002): (LC); Cap. 170**
Chinese Pipistrelle	***Hypsugo pulveratus***	**Rare/Species of Conservation Concern. Only several records in the countryside areas at Ting Kau, Ma On Shan and Lin Ma Hang, and several records of stray individuals inside buildings.**	**Fellowes et al. (2002): (LC); Cap. 170**
Japanese Pipistrelle	***Pipistrellus abramus***	**Very common. Widely distributed throughout Hong Kong.**	**Cap. 170**
Lesser Bamboo Bat	***Tylonycteris pachypus***	**Very common. Fairly widely distributed in countryside areas throughout Hong Kong.**	**China Red Data Book Status: Rare; Fellowes et al. (2002): (LC); Cap. 170**

Remark: all wild bat species are protected under Cap. 170 Wild Animals Protection Ordinance in Hong Kong[2].

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Cap. 170 Wild Animals Protection Ordinance.
3. Wang (1999). China Red Data Book of Endangered Animals: Mammalia.
4. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong

- For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.

5. Species in bold are considered of conservation importance.
6. As bats are highly mobile, and no specific habitat utilization of the recorded bats was observed, locations of bats were recorded by within the Application Site or outside the Application Site.

Abbreviations:

- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern

Appendix H Freshwater Species Recorded within the Study Area

Common Names	Scientific Names	Rarity and Distribution in Hong Kong[1]	Conservation status[2 3 4 5 6 7]	Relative Abundance within Study Area													
				Within Application Site		Outside Application Site											
				WA	WG	AGR	DA	GS	MA	MW	NW	OR	PL	PO	WA	WG	WL
Mosquito fish	*Gambusia affinis*	Introduced as a mosquito-control agent, widespread in local freshwater bodies.	-		+					+	+					+	
Dwarf snakehead	*Channa gachua*	Probably an introduced species. Records from a few streams in North District.								+	+						
Typical Tilapia	*Tilapia* sp.	-	-							+	+					+	
Apple snail	*Ampullariidae* sp.				+	+			+	+	+					+	

Notes:
1. AFCD (2023). AFCD Biodiversity Information Hub.
2. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
   - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
3. International Union of Conservation for Nature (2023). The IUCN Red List of Threatened Species. Version 2022-2.
4. Reels (2019). An annotated check list of Hong Kong dragonflies and assessment of their local conservation significance.
5. Stanton & Leven. (2016). Distribution, habitat utilisation and conservation status of the freshwater crab, Somanniathelphusa zanklon Ng & Dudgeon, 1992 (Crustacea: Brachyura: Gecarcinucidae) endemic to Hong Kong.
6. Tam *et al.* (2011). The Dragonflies of Hong Kong.
7. Species in bold are considered of conservation importance.

Abbreviations:
- Relative abundance: + = scarce, ++ = occasional, +++ = abundant
- Conservation Status in Fellowes *et al.* (2002): GC = Global Concern; LC = Local Concern; PGC = Potential Global Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Conservation Status: EN = Endangered; VU = Vulnerable