Appendix 4

Ecological Impact Assessment

S12A Amendment of Plan Application

Draft Mai Po and Fairview Park OZP No. S/YL-MP/7

Rezoning from "R(D)" to "R(C)1" Zone for a Proposed Residential Development at Various Lots in D.D.104 & the Adjoining Government Land in Yuen Long, N.T.

Ecological Impact Assessment

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1 INTRODUCTION

1.1 Background

1.1.1 The Application Site (AS) lies between Kam Pok Road and Ha Chuk Yuen Road, west of the Sam Tin Highway/Castle Peak Road, covering area of about 6.56 ha. The site lies within the landward periphery of the Wetland Buffer Area (WBA) and comprises mainly grassland/shrubland. In view of its low ecological value and the urbanized nature of the surrounding areas, the AS has long been designated for residential use by the government under the Mai Po and Fairview Park Outline Zoning Plan. The AS was previously approved for housing development (A/YL-MP/193 and 205) with an ecological impact assessment (EcoIA) submitted in line with the Town Planning Board Guidelines No. 12C (TPB-PG No. 12C) and no insurmountable problem envisaged by the relevant government departments.

1.1.2 A Rezoning Application was previously submitted in 2021 (application no. Y/YL-MP/6) with a domestic plot ratio of about 1.8, building height ranging from 3 to 19 storeys with the building facing Ngau Tam Mei Channel being the lowest in order to respect the landscape and ecology of the nearby environment. According to the RNTPC Paper No. Y/YL-MP/6A, Planning Department has no objection to the application. In particular, based on the mitigation measures proposed and noting the Environmental Protection Department (EPD)'s comments that the implementation of mitigation measures can be enforced under the Environmental Permit (EP) to be issued under the Environmental Impact Assessment Ordinance (EIAO), the Agriculture, Fisheries and Conservation Department (AFCD) has no further comment on the application.

1.1.3 Nevertheless, the TPB had decided not to agree to the application on 5.5.2023. Comments were received from the Town Planning Board to review the development density and to consider incorporating more ecological gain into the development. In response to the comments from the Town Planning Board, the currently proposed development has reduced development density with a domestic plot ratio of about 1.5 and medium-rise buildings (from 2-3 storeys to 16 storeys), as well as clubhouses, open spaces and a landscape pond. The landscape pond will have ecological features which would be a major ecological gain element of the currently proposed development.

1.1.4 The EcoIA presented here in support of planning application of a revised residential scheme is based on the findings of the ecological surveys conducted January – May 2024. The assessment is derived from the results of ecological surveys conducted within the AS and the Assessment Area (AA) within 500m of its boundary.

1.2 Key Relevant Amendment under Current Application

1.2.1 In the previous rezoning application i.e., Y/YL-MP/6, as a proactive approach to respect the identified major flightline (along NTMDC), the previous MLP adopted a decreasing building height gradient from east to west across the AS. The taller residential blocks were set back from the northern and southwestern boundaries of the AS, allowing the creation of a landscaped buffer area and a landscape pond. These features were documented in the submitted EcoIA for rezoning application no. Y/YL-MP/6 and were considered to be acceptable by the AFCD.

1.2.2 In response to subsequent comments received from Town Planning Board members, key amendments under Current Application will further minimize the potential impacts identified. These comprise:

- Reduction in total number of residential blocks, and the low-rise residential blocks (i.e. villas) at the northern boundary of the AS are removed under Current Application.

- Reduction in building height of the remaining residential blocks:
    - Two buildings at the west of the AS, reduced from 16-storeys (58.0 mPD) to 14-storeys (53.6 mPD)
    - Two buildings at the middle of the AS, reduced from 16-storeys (58.0 mPD) to 15-storeys (56.7 mPD)
    - Four buildings at the east and south of the AS, reduced from 23-storeys (79.9 mPD) to 16-storeys (59.9 mPD)

- A more ecologically focused design would be adopted for the landscape pond, and it would be named as "Landscape Pond with Ecological Features" to differentiate it from a typical landscape pond found in developments elsewhere.

2 LEGISLATION AND STANDARDS

2.1.1 The Town Planning Board Guidelines for Application for Developments within Deep Bay Area under Section 16 of the Town Planning Ordinance (TPB PG-No. 12C) and Technical Memorandum on Environmental Impact Assessment Process (TM-EIAO), particularly Annexes 8 and 16 of the TM, have been referred during the preparation of the current ecological impact assessment. Other relevant environmental legislation, guidelines and references include:

- Approved Mai Po and Fairview Park Outline Zoning Plan No. S/YL-MP/6;
- Wild Animals Protection Ordinance (Cap. 170);
- Forestry Regulations (subsidiary legislation of the Forests and Countryside Ordinance, Cap.96);
- Town Planning Ordinance (Cap. 131);
- The International Union for Conservation of Nature (IUCN) Red List of Threatened Species

3 BASELINE CONDITIONS

3.1 Application Site and Assessment Area

3.1.1 The AA for this EcoIA includes all areas within 500m distance from the boundary of the AS (**Figure 1**). For clear presentation of data, the AS in this assessment refers to the area within the Site boundary, whereas AA refers to the area within the 500m radius but excluding the AS.

3.1.2 Currently, the AS comprises mainly an area of grassland, with scattered patches of reed and a small piece of plantation. The whole AS is sandwiched by Kam Pok Road to the north and west, and Ha Chuk Yuen Tsuen to the south and east, beyond which lie the Castle Peak Road and the San Tin Highway. The AS lies on the southerly most limit of the Deep Bay wetland system from which it is ecologically isolated. Due to its location and the surrounding land uses, the site is subject to high levels of human disturbance.

3.1.3 Most of the AA is covered by an extensive Urbanized Area (73.17% of the total area), mainly comprising of extensive low-rise residential areas including Fairview Park, and to a lesser extent, Palm Springs and Royal Palms as well as other villages next to the Castle Peak Road. One of the villages, Yau Mei San Tsuen also features large plots of Agricultural Lands that surrounds its village houses.

3.1.4 Amidst the large expanse of Urbanized Area are other man-made habitats. These includes Drainage Channels and roadside Plantations that could be found along the road networks of the AA, as well as isolated patches of Waste Grounds which are open storage areas.

3.1.5 Temporary wetlands located to the northeast of the AS are a temporary mitigation measure under the YMST EIA AEIAR-189/2015. Prior to the construction of the Wetland Restoration Area for that project, part of the inactive farmland was used as a temporary wetland enhancement area. The temporary wetland enhancement area is also used as a refuge site for amphibians. Further north to these temporary wetlands are also some fishponds, forming a mosaic of wetland habitats in the Northern section of the AA, situated between Palm Springs, Yau Pok Road and Fairview Park. It was observed in the habitat and vegetation surveys that despite some ponds within this mosaic have remained active, some ponds have been pre-profiled to become dry Agricultural Lands. Additionally, patches of this temporary wetland are now entirely colonized by wetland vegetation, converting their habitat into Marshes. In one of such cases, a small patch of a pond has been colonized by reed and hence is now identified as a Reedbed. Some of the temporary wetlands, however, have even completely dried up and have become Grasslands.

3.2 Recognized Sites of Conservation Importance

Mai Po Inner Deep Bay Ramsar Site

3.2.1 The Mai Po Marshes and the Mai Po Inner Deep Bay Ramsar Site lie about 1.1-1.2km from the closest points of the AS (**Figure 1**). The Ramsar Site is of particular significance for migratory waterbirds including a number of globally-threatened species and was recognized as such in 1995 through the designation as a Ramsar Site. The core area of the Ramsar Site comprises Mai Po Nature Reserve and much of the intertidal mudflats, which are protected further by being included in the Mai Po Marshes and Inner Deep Bay Sites of Special Scientific Interest (SSSIs). All these sites are well separated from the AS by existing urbanized and disturbed areas, including the large-scale residential developments (e.g. Fairview Park, Palm Springs and Royal Palms), local villages and public road networks.

Wetland Conservation Area (WCA)

3.2.2 Fishponds continuous and adjoining to the Deep Bay Area are designated under TPB PG-No. 12C, as the Wetland Conservation Area (WCA) with the aim of protecting the integrity of the Deep Bay wetland ecosystem. It includes a strip of fishponds southeast of the Mai Po Nature Reserve, in-between the low-rise residential developments of Palm Springs and Fairview Park. Any development in the WCA should normally comply with the "No-Net-Loss in Wetland" principle.

3.2.3 The AS falls outside the WCA (**Figure 1**), which only covers the northern portion of the AA.

Wetland Buffer Area (WBA)

3.2.4 The Wetland Buffer Area (WBA) is also designated under TPB PG-No. 12C to include a buffer of about 500m on the landward side of the WCA. Developments within the WBA are required to demonstrate that ecological impacts on the WCA will be minimized and any negative ecological impacts will be fully mitigated through positive measures. Residential developments which seek to replace existing open storage areas and/or include pond restoration projects should normally be given sympathetic consideration by the Board.

3.2.5 With regard to the current project, part of the AS lies within the landward periphery of the WBA. The southern portion of the AS lies outside of the WBA (**Figure 1**).

Planned Sam Po Shue Wetland Conservation Park

3.2.6 A section of the Planned Sam Po Shue Wetland Conservation Park (WCP) is located within the AA. The indicative boundary is shown in **Figure 1**. Sam Po Shue WCP is the first park to be developed under the WCP System under the Northern Metropolis Development Strategy. It encompasses a total area of about 338 ha, covering mainly the extensive wetland in Lok Ma Chau, San Tin and area next to Fairview Park. From available information, the WCP mainly serves four major functions including: conserving the ecological value of the wetlands and safeguarding the integrity of the wetlands system; developing modernised aquaculture industry; promoting scientific research on aquaculture to facilitate the upgrading and transformation of the agriculture and fisheries industries and providing ecological education and recreational facilities for the public. This WCP would be completed in phases and full completion is anticipated by 2039 or earlier. The construction of the SPS WCP is tentatively to be commenced in 2026/27.

Site of Special Scientific Interest (SSSI) and Egretries

3.2.7 No SSSI or egretry is located within the AS or AA. All SSSIs or egretries are relatively far away from the AS and AA. There are three SSSIs that lie in the range of 1.2km to 2.1km away from the AS. These SSSIs include the Mai Po Marshes SSSI, the Inner Deep Bay SSSI and the Mai Po Village SSSI. Two active egretries lie within the potential foraging distance of breeding egrets (Young 1993), including Mai Po Village egretry (1.8km from the AS) and Mai Po Lung (2.3km from the AS) (**Figure 1**).

4 VERIFICATION SURVEY METHODOLOGY

4.1 Verification Survey Period

4.1.1 Given that a number of previous studies covering the current AS had been conducted including some recent surveys such as the full ecological survey for rezoning application no. Y/YL-MP/6 which had covered a total of 40 months spanning between 2015 and 2020, and the latest ecological verification survey in Dec 2022 for direct EP application for the Light Public Housing in Yau Pok Road Project, there is no information gap identified for assessing the potential ecological impact for the current planning application for the PR 1.5 scheme. The ecological baseline presented in the previous application is also referred to in the current EcoIA.

4.1.2 As the last survey was conducted between Nov 2019 and Oct 2020, verification survey was conducted to supplement the latest ecological baseline and verify the habitat conditions. The survey programme is summarized in **Table 1** below. The methodologies used in these surveys are described in the following sections.

Table 1 *Verification Surveys in 2024*

Verification Surveys	Jan-24	Feb-24	Mar-24	Apr-24	May-24
Habitat		√		√	
Waterbird Flightline	√	√	√	√	√
Avifauna		√	√	√	√
Mammal		√	√	√	√
Herpetofauna			√		√
Butterfly and Odonata			√		√

4.2 Habitat Mapping

4.2.1 A habitat map for the Application Site (AS) and Assessment Area (AA) was originally prepared based on the aerial photographs, then verified following detailed ground-truthing covering during the survey period. The current habitat conditions are provided in **Figure 2**.

4.3 Waterbird Flight Line Survey

4.3.1 Observations were made by two surveyors, at two designated vantage points positioned near the bridges to the north and west of the AS, of which both were at close proximity to the proposed AS, to document the flightline patterns adopted by the target species group. All surveys were commenced 15 minutes before sunrise and lasted for 120 minutes to tally with the peak activity period of avifauna, when birds depart from their night roosts to foraging sites. Related data such as species, number of individuals, direction of flightline and its relative height above ground, along with the time of observation were noted. Flight paths were marked onto a map *in situ*, and later analysed to identify potential flight lines. This method which uses two observers at two vantage points is advantageous over viewing from a single location to provide a wider overall field of view.

4.4 Avifauna Survey

4.4.1 Monthly surveys were undertaken in the AA and the AS. All bird surveys commenced within one hour of sunrise to coincide with peak bird activity. All bird species seen or heard during the survey were noted. Bird species of conservation importance (i.e. species considered as rare in Hong Kong, having special conservation concern by well recognized scientific studies, listed in international conventions for conservation of habitat/wildlife such as IUCN Red List of Threatened Species, protected by local legislation, or endemic to Hong Kong or South China) and/or wetland-dependent birds were enumerated, including details of the habitat in which they were observed, and recorded to individual habitat. Special attention was paid to disturbance-sensitive birds within the AS and in areas where disturbance impacts are predicted.

4.5 Mammal Survey

4.5.1 Transect surveys for mammals were conducted in conjunction with other faunal groups as this group is difficult to observe in the field. Sightings of mammals (including bats) during surveys for other faunal groups (i.e. bird, herpetofauna, butterfly and odonate surveys) are included in the present assessment. In addition to any observations of mammals, suitable locations were searched for evidence of mammal activities (footprints, scats, burrows or food remains etc.).

4.6 Herpetofauna Survey

4.6.1 Herpetofauna (reptiles and amphibians) transect surveys were conducted day-time and night-time monthly. A transect route which covered all major habitat types present was followed through the AS and the AA. Apart from transect survey, active searching was conducted in micro-habitats such as under wooden boards or among piled material, where reptiles/amphibians might be expected to take refuge. Any reptiles and amphibians observed or heard (for amphibians in particular) were identified, counted (or estimated in the case of heard individuals) and their location noted.

4.7 Butterfly and Odonata Survey

4.7.1 Butterfly and odonate surveys were conducted monthly. A transect route was walked and all adult butterflies and odonates encountered were identified and enumerated, and the habitats where the individuals occurred were recorded.

5 SURVEY FINDINGS

5.1 Habitats

5.1.1 The area of each habitat types have been calculated and an overview of the habitats in the AS and AA is presented in **Table 2A** below. Vegetation survey record refers to **Appendix 1**.

5.1.2 The findings of previous survey (i.e., 2015 – 16, 2018, 2019 – 2020) presented for Application No. Y/YL-MP/6 is presented in **Table 2B**.

5.1.3 Compared with the previous survey, the habitat types within the Assessment Area are similar. The increase in Urbanised Area and absence of Abandoned Irrigation Ditch are due to construction of the Light Public Housing to the west of the Application Site. Change in agricultural land was due to cease of farming and succession into grassland. A small piece of reed marsh at the fringe of the Assessment Area was cleared and replaced by agricultural land. The Grassland/Shrubland habitat was classified as Grassland in the current application due to

vegetation management in the area which reduced the coverage of woody vegetation. There were also reprofiling of ponds within the Project Site of AEIAR-189/2015. The total number of plant species recorded were also similar (252 species in the previous surveys versus 234 species in the current surveys). No plant species of conservation importance was recorded.

Table 2A *Area of Habitats in the Application Site and Assessment Area*

Habitat	Application Site		Assessment Area (excluding Application Site)	
	ha	%	ha	%
Agricultural Land	-	-	3.87	2.86
Drainage Channel	-	-	5.81	4.30
Grassland	6.37	97.10	6.96	5.15
Marsh	-	-	1.64	1.21
Plantation	0.11	1.68	7.30	5.40
Pond	-	-	8.52	6.30
Reedbed	0.08	1.22	0.06	0.04
Urbanised Area	-	-	98.95	73.21
Waste Ground	-	-	1.74	1.29
Watercourse	-	-	0.30	0.22
Total	**6.56**	**100.00**	**135.14**	**100.00**

Note: Difference in total due to rounding off.

Table 3B *Area of Habitats in the Application Site and Assessment Area in previous survey findings*

Habitat	Application Site		Assessment Area (excluding Application Site)	
	ha	%	ha	%
Agricultural Land	-	-	5.49	4.06
Drainage Channel	-	-	5.81	4.30
Grassland/Shrubland	6.27	95.58	10.75	7.95
Marsh	-	-	1.45	1.07
Plantation	0.11	1.74	8.23	6.09
Pond	-	-	8.36	6.19
Reed	0.14	2.12	0.45	0.33
Reed Marsh	-	-	0.40	0.30
Urbanized Area	-	-	91.80	67.93
Waste Ground	-	-	0.39	0.29
Abandoned Irrigation Ditch/ Watercourse	-	-	0.42	0.31
Seasonally Wet Grassland	0.04	0.55	1.59	1.18
Total	**6.56**	**100.00**	**135.13**	**100.00**

Note: Difference in total due to rounding off.

5.2 Habitats in the Application Site

Previous Survey Findings

5.2.1 In the previous survey findings (i.e., 2015 – 16, 2018, 2019 – 2020) presented for Application No. Y/YL-MP/6, the **grassland/shrubland** habitat (i.e., grassland habitat currently) was dominated by grasses such as *Brachiaria mutica* and *Panicum maximum*, as well as herbs like *Bidens alba* and *Wedelia trilobata*. The **reed** habitat was dominated by *Phragmites australis*, with surrounding exotic grasses and weedy climbers. The **seasonally wet grassland** was dominated by exotic herbs like *Kyllinga polyphylla* and *Ipomoea aquatica*. Lastly, the **plantation** was dominated by exotic trees such as *Leucaena leucocephala* and *Acacia auriculiformis*. The

Application Site was primarily composed of grassland/shrubland, with smaller areas of reed, seasonally wet grassland, and plantation. The overall flora diversity was low.

Verification Survey Findings

5.2.2 Three habitats were recorded within the AS, they are the Grassland, Plantation and Reedbed (see **Table 2** and **Figure 2**). The habitat composition is the same except seasonally wet grassland was not recorded during the verification survey. Grassland/shrubland was classified into grassland as the coverage of previously recorded shrubs i.e., mainly young *L. leucocephala*, had reduced. No flora species of conservation importance were recorded within the AS.

Grassland

5.2.3 Grassland is a very common lowland habitat type in the New Territories. It is typically found on land which has been relatively recently disturbed where vegetation colonization and succession have commenced. Grassland makes up most of the area in the AS and is dominated by grasses *Brachiaria mutica*, *Neyraudia reynaudiana* and *Panicum maximum* and other common herbs *Bidens alba* and *Wedelia trilobata*. Very small patches of *Cyperus malaccensis var. brevifolius* and *Cyclosorus interruptus* scattered at the eastern portion of the AS.

Plantation

5.2.4 A small area of plantation takes up the small enclosure of the AS across Ha Chuk Yuen Road. This habitat is dominated by the exotic trees *Leucaena leucocephala*, with planted species *Ficus virens* and the invasive climber *Mikania micrantha*.

Reedbed

5.2.5 Small, scattered and isolated patches of reed are common in the northwest New Territories. Reeds (such as *Phragmites australis*) can easily colonize and spread in shallow water. One such patch is located in the eastern portion of the AS (adjacent to some village houses abutting the AS); *Phragmites australis* is the only reed species recorded within the patch of reedbed.

5.3 Habitats in the Assessment Area

Previous Survey Findings

5.3.1 In the previous survey for Application No. Y/YL-MP/6: Urbanized area had a diverse flora, including exotic shrubs and trees used for ornamental and screening purposes. Grassland/shrubland had moderate to high flora diversity, dominated by grasses and isolated shrubs and trees. Agricultural land had moderate flora diversity, including crop plants and fruit trees. Pond had moderate diversity, including grasses and isolated shrubs and trees. Drainage channel had moderate diversity, including grasses and herbs. Seasonally wet grassland had low to moderate flora diversity, including grasses and herbs. Reed had very low diversity, dominated by reed and herbaceous plants. Reed marsh had very low diversity, dominated by reed and invasive exotic herbs. Watercourse/abandoned irrigation ditch had low to moderate diversity, including grasses and herbs. Plantation had moderate to high diversity, including ornamental shrubs and trees. Marsh had low to moderate diversity, including grasses and invasive exotic herbs. Waste ground had very low diversity.

Verification Survey Findings

5.3.2 Ten major habitat types are identified in the wider AA (excluding AS). No flora species of conservation importance were recorded within the AA.

Agricultural Land

5.3.3 Agricultural Land of the AA are manmade habitats maintained by residents from villages in the surrounding area to produce commercial crops and fruiting trees such as *Dimocarpus longan*, *Magnifera indica* and *Psidium guajava*. However, as the vegetation within this habitat is varied, it lacks clearly dominant species aside from the grass *Panicum maximum* that could be found scattered next to roadsides and paving within the habitat.

Drainage Channel

5.3.4 Drainage channels within the AA include the Fairview Park Drainage Channel, which is tidal and highly polluted, the tidal Ngau Tam Mei Drainage Channel (NTMDC) and several small, scattered and concrete-lined drainage channels including the one along Ha Chuk Yuen Road. While most drainage channels are entirely or partly concreted, and therefore, provide very little habitat for floral or faunal use, tidal drainage channels may provide foraging opportunities for birds during favourable tides when mudflats have been exposed. The banks of NTMDC is dominated by the exotic shrub *Leucaena leucocephala* along with grass species such as *Panicum maximum* and native shrubs like *Flueggea virosa*, while small groups of *Derris trifoliata* can be found growing in low tide areas along the channel. Ha Chuk Yuen Drainage Channel is dominated by *Hydrocotyle verticillata* and *Ludwigia erecta* and while exotic invasive herbs such as *Sesbania cannabina* and *Wedelia trilobata* are also recorded occasionally.

Grassland

5.3.5 Grasslands found within the AA are formed after vegetation colonization and succession in abandoned areas of pond, agricultural land, or newly disturbed/filled areas. Vegetation within Grasslands are mostly herbs and grasses, with *Brachiaria mutica* and *Panicum maximum* being the most dominant species, while some roadside shrubs and trees such as *Ficus hispida* and *Macaranga tanarius* var*. tomentosa* could also be found on the edge of this habitat.

Marsh

5.3.6 As stated in the overview, Marshes of the AA are naturally formed from the colonization abandoned fishponds by wetland species. This habitat is found mainly in the mosaic of wetland habitats between Palm Springs, Yau Pok Road and Fairview Park, and is also found on the abandoned fishponds between Chun Shin Road and Chuk Yau Road. Common species recorded in this habitat includes herbs such as *Brachiaria mutica*, *Commelina diffusa* and *Cyclosorus interruptus* as well as the reed *Phragmites australis*.

Plantation

5.3.7 Plantations of the AA are found in pockets along main roads such as Castle Peak Road and Fung Chuk Road. Trees planted along these roads comprise largely fast-growing exotic species which serve landscape and noise reduction functions but offer limited habitat valuable to wildlife. Typical species recorded in the Plantations of AA includes the exotic trees *Crateva unilocularis*, *Ficus virens*, *Melaleuca cajuputi* subsp. *cumingiana* and *Khaya senegalensis*. The exotic shrubs *Calliandra haematocephala* and *Duranta erecta* are commonly planted in the understorey of these Plantation patches, while the seedlings of some native shrubs such as *Broussonetia papyrifera* and are *Morus alba* also common.

Pond

5.3.8 The ponds of the AA includes the active fishponds at the north of the site, several abandoned ornamental ponds that are scattered within the village area, and the retention pond of the Chuk Yuen Storm Water Pumping Station. The dominant vegetation in the open water of this habitat are the herbs *Brachiaria mutica*, *Cyperus involucratus* and *Ludwigia adscendens*. Additionally, some of the abandoned ornamental ponds in the was observed to be dominated by *Eichhornia crassipes*. Vegetation is also recorded in the pond edges in the ponds surrounded by urbanized areas, common vegetation found in these strips include *Cleistocalyx nervosum*, *Leucaena leucocephal*a and *Syzygium cumini*.

Reedbed

5.3.9 Similar to Reedbeds recorded in the AS, patches of vegetation on open water dominated entirely by reed species are recognized as Reedbeds. Aside from the same patch of reed located the eastern portion of the AS which extends beyond the site boundary, a small patch of Reedbed is recorded in one of the fishponds to the North of the AS. In both patches, *Phragmites australis* is the only reed species present.

Urbanized Area

5.3.10 Urbanized area is the largest habitat type within the AA and is under constant human disturbance and management. The area on the other side of NTMDC opposite to the current AA had changed from grassland/shrubland to urbanised area for the development of Light Public Housing. Vegetation in these areas is generally planted for ornamental or commercial purposes, and thus features a large number of exotic species. Representative species of this habitat includes the planted exotic trees *Khaya senegalensis*, *Syzygium cumini* and *Spathodea campanulata*. Ornamental shrubs such as *Duranta erecta* and *Ixora chinensis* as well as exotic herbs such as *Bidens alba* and *Ligustrum sinense* are also commonly found in this habitat.

Waste Ground

5.3.11 A few plots of open storage areas and empty lots within the AA have become Waste Grounds as they are overtaken by fast-growing and rapidly-colonising exotic species such as the herbs *Bidens alba*, *Panicum maximum* and *Sesbania cannabina*, and the climber *Mikania micrantha*.

Watercourse

5.3.12 Two watercourses were recorded within the AA, one north of the section of NTMDC on the side of Tam Mei Road, and the other starts from an irrigation channel within Yau Mei San Tsuen and flows into the fishponds along the outer boundary of Palm Springs. Both watercourses are semi-natural, with a channelized bank but a natural muddy stream bed. Vegetation in this habitat is mostly dominated by wetland herbs such as *Alocasia macrorrhizos*, *Alternanthera philoxeroides* and *Ipomoea cairica*. A number of individuals of the mangrove fern *Acrostichum aureum* is also recorded in the section of water course along the outer fence of Palm Springs.

5.4 Faunal Survey Findings

5.4.1 Faunal survey findings are discussed here to provide an overview of the faunal recorded. Fauna recorded refer to **Appendices 2 – 6**. For details on faunal use of each habitat type, see discussion under habitat evaluation below.

Mammal

5.4.2 No mammal species was recorded within the AS. Pallas's Squirrel was recorded in urbanised area within AA.

Waterbird Flightline

5.4.3 Given that a number of flight line surveys had been conducted for the AS, the flight lines around this area are considered to be well studied. The results of these previously conducted surveys, together with the latest flight line surveys are analyzed below to provide a good understanding of the flight lines and to understand if there are any potential impacts to flight lines.

Table 4 *Flightline Surveys*

Flight Line Survey	Period	Number of Survey
Dry Season	Mar 2015*; Dec 2015 – Feb 2016	5
Wet Season	May 2015; Jul 2015; Apr – May* 2016	5
Wet Season	Jun – Jul# 2018	4
Dry Season	Mar 2019; Nov 2019 – Mar 2020	6
Wet Season	Apr – Aug 2019; Apr – Oct 2020	12
2024 survey (current)	Jan – May 2024	5

* Two surveys were conducted in these months; # Three surveys were conducted.

5.4.4 The following general patterns were observed in these flightline surveys:

i. The flight line(s) following the NTMDC is the primary flight line(s), which was consistent among all surveys and was utilized by more birds.

ii. Other less consistent flight lines were observed. The direction, location and bird number of these flight lines appeared to fluctuate in different surveys. Also, there were fewer birds using these flight lines comparing with the NTMDC main flight line.

iii. A north-south flight line (currently labelled as Flightline 6 in **Figure 3**) was recorded across the AS in 2018 and 2019-2020. However, this flight line was not present in all surveys, and is regarded as a less constant flight line type discussed in (ii) above.

5.4.5 Flightline survey results showed the similar pattern during the surveys conducted in January-May 2024. A total of 367 birds were recorded (refers to **Figure 3**) flying along flightlines. Only 16 of the recorded individuals flew across the AS along Flightline 6 and all were flying at a height approximately 8m or above. The flightline result showed that the flight zone above the AS is rarely used by birds compared with the adjacent NTMDC which is the major flight corridor utilised by most waterbirds around the area.

Avifauna

Previous Survey Findings

5.4.6 Application Site: 48 bird species. Species of Conservation Importance/wetland dependent species: 15 species, including Black-crowned Night Heron, Chinese Pond Heron, Eastern Cattle Egret, and Grey Heron. Abundance: Low numbers, with no species recorded regularly or in significant numbers.

5.4.7 Assessment Area: 95 bird species. Species of Conservation Importance/wetland dependent species: 46 species, including Northern Shoveler, Eurasian Teal, Black-faced Spoonbill, and Little Egret. Habitats: Mainly recorded in agricultural land, ponds, drainage channels, shrubland/grassland, and urbanized areas.

Verification Survey Findings

5.4.8 Twenty-nine bird species were recorded in the AS, of which seven are species of conservation importance and/or wetland-dependent species. The number of individuals for each species was very low. No bird species of conservation importance and/or wetland-dependent birds were recorded regularly or in numbers potentially significant to their Deep Bay populations. Most of the bird species recorded in the AS comprises common and widespread species of anthropogenic habitats.

5.4.9 In the wider AA (excluding AS), a total of seventy-five bird species were recorded, of which thirty-two are species of conservation importance and/or wetland-dependent birds. The bird species were mainly recorded in the habitats of agricultural land, pond, drainage channel, shrubland/grassland and urbanized area, and most species present in these habitats are common and widespread in Hong Kong.

5.4.10 Bird species of conservation importance and/or wetland-dependent species recorded in the AS and the AA are presented in **Table 4**.

Table 5 *Mean Number Per Survey and (Maximum Count) of Bird Species of Conservation Importance and/or Wetland-dependent Birds Recorded in the AS and the AA*

Common Name[a]	Scientific Name[a]	Conservation and Protection Status[b]	AS	AA
Northern Shoveler	***Spatula clypeata***	RC		1.2 (6)
Mallard	***Anas platyrhynchos***	RC		0.2 (1)
Little Grebe	***Tachybaptus ruficollis***	LC		0.2 (1)
Cinnamon Bittern	***Ixobrychus cinnamomeus***	LC		0.2 (1)
Black-crowned Night Heron	***Nycticorax nycticorax***	(LC)	1 (3)	0.2 (1)
Chinese Pond Heron	***Ardeola bacchus***	PRC (RC)	1 (2)	4 (7)
Grey Heron	***Ardea cinerea***	PRC	0.6 (2)	2.2 (3)
Great Egret	***Ardea alba***	PRC (RC)		4.6 (12)
Intermediate Egret	***Ardea intermedia***	RC		0.2 (1)
Little Egret	***Egretta garzetta***	PRC (RC)	0.2 (1)	6.6 (11)
Great Cormorant	***Phalacrocorax carbo***	PRC		6.6 (16)
Besra	*Accipiter virgatus*	CITES(II); Cap.586		0.2 (1)
Black Kite	*Milvus migrans*	(RC); CITES(II); Cap.586	0.2 (1)	0.6 (1)
White-breasted Waterhen	***Amaurornis phoenicurus***	-	0.2 (1)	0.8 (4)
Common Moorhen	***Gallinula chloropus***	-	0.2 (1)	0.4 (2)
Black-winged Stilt	***Himantopus himantopus***	RC		4.2 (10)
Greater Painted-snipe	***Rostratula benghalensis***	LC		0.2 (1)
Common Snipe	***Gallinago gallinago***	-		2.2 (6)
Common Sandpiper	***Actitis hypoleucos***	-		0.4 (1)
Green Sandpiper	***Tringa ochropus***	-		0.8 (2)
Common Redshank	***Tringa totanus***	RC		0.4 (1)
Marsh Sandpiper	***Tringa stagnatilis***	RC		1.6 (8)
Wood Sandpiper	***Tringa glareola***	LC		5 (10)
Common Greenshank	***Tringa nebularia***	RC		2 (5)
White-throated Kingfisher	***Halcyon smyrnensis***	(LC)		0.2 (1)
Common Kingfisher	***Alcedo atthis***	-		1 (3)
Pied Kingfisher	***Ceryle rudis***	(LC)		0.4 (1)
Collared Crow	***Corvus torquatus***	R		0.4 (1)
Chinese Penduline Tit	*Remiz consobrinus*	RC		0.2 (1)
Zitting Cisticola	*Cisticola juncidis*	LC		0.2 (1)
Golden-headed Cisticola	*Cisticola exilis*	LC		0.2 (1)
White-shouldered Starling	*Sturnia sinensis*	(LC)		1 (5)

Common Name[a]	Scientific Name[a]	Conservation and Protection Status[b]	AS	AA

Notes:
a. Wetland-dependent species in bold.
b. Conservation status refers to Fellowes *et al*. (2002) and IUCN (2024). Fellowes *et al.* (2002): LC = Local Concern, PRC = Potential Regional Concern, RC = Regional Concern, GC = Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence; IUCN (2024): NT = Near Threatened, VU = Vulnerable, EN = Endangered.

Herpetofauna (Amphibians)

Previous Survey Findings

5.4.11 Application Site: 5 species. None of conservation importance.

5.4.12 Assessment Area: 10 species. Species of Conservation Importance: Chinese Bullfrog (Potential Regional Concern).

Verification Survey Findings

5.4.13 A total of ten amphibian species were recorded during the entire survey period, of which five were recorded in the AS. A summary of survey data is presented in **Table 5** below. Chinese Bullfrog, a species of Potential Regional Concern (Fellows *et al*. 2002) was recorded in the drainage channel habitat within the AA. This individual, however, was likely to be a released individual.

Table 6 *Mean Number Per Survey and (Maximum Count) of Individuals of Amphibian Species Recorded in the AS and the AA*

Common Name	Scientific Name	Level of Concern (Fellows *et al*. 2002)	AS	AA
Asian Common Toad	*Bufo melanostictus*	-	0.6 (2)	3.6 (4)
Spotted Narrow-mouthed Frog	*Kalophrynus interlineatus*	-		3 (6)
Asiatic Painted Frog	*Kaloula pulchra*	-		1.6 (2)
Ornate Pigmy Frog	*Microhyla ornata*	-	16 (20)	20 (30)
Marbled Pigmy Frog	*Microhyla pulchra*	-		3 (10)
Paddy Frog	*Fejervarya limnocharis*	-	0.6 (1)	4 (5)
Chinese Bullfrog	*Hoplobatrachus rugulosus*	PRC		0.2 (1)
Günther's Frog	*Rana guentheri*	-	1.6 (3)	14.4 (20)
Brown Tree Frog	*Polypedates megacephalus*	-	2 (5)	4 (5)
Greenhouse Frog	*Eleutherodactylus planirostris*	-		1.8 (3)

Herpetofauna (Reptiles)

Previous Survey Findings

5.4.14 Application Site: 3 species. Species of Conservation Importance: Many-banded Krait.

5.4.15 Assessment Area: 8 species. Species of Conservation Importance: Many-banded Krait.

Verification Survey Findings

5.4.16 Seven reptile species were recorded during the entire survey period. Three reptile species was recorded within the AS, including one individual of Many-banded Krait, a species of Potential Regional Concern (Fellowes *et al*. 2002). Details of the surveys are presented in **Table 6** below.

Table 7 *Mean Number Per Survey and (Maximum Count) of Individuals of Reptile Species Recorded in the AS and the AA*

Species Name	Scientific Name	Level of Concern (Fellows *et al*. 2002)	AS	AA
Red-eared Slider	*Trachemys scripta*	-		1.6 (3)
Changeable Lizard	*Calotes versicolor*	-		1 (1)
Long-tailed Skink	*Eutropis longicaudata*	-	0.2 (1)	1 (1)
Reeves' Smooth Skink	*Scincella reevesii*	-		1 (1)
Chinese Gecko	*Gekko chinensis*	-		0.4 (1)
Bowring's Gecko	*Hemidactylus bowringii*	-	0.2 (1)	1.8 (2)
Many-banded Krait	*Bungarus multicinctus*	PRC	0.2 (1)	0.6 (2)

Butterfly

Previous Survey Findings

5.4.17 Application Site: 15 species. No species of conservation importance recorded.

5.4.18 Assessment Area: 43 species. No species of conservation importance recorded.

Verification Survey Findings

5.4.19 A total of forty-three butterfly species were recorded during the entire survey period; of which fifteen were recorded in the AS. All the recorded species are common or very common in Hong Kong according to Chan *et al*. (2011). Detailed counts of the survey are presented in **Table 7** below.

Table 8 *Mean Number Per Survey (Maximum Count) of Individuals of Butterfly Species Recorded in the AS and the AA*

Common Name	Scientific Name	Level of Concern (Fellows *et al*. 2002)	AS	AA
Bush Hopper	*Ampittia dioscorides*	-		0.2 (1)
Contiguous Swift	*Polytremis lubricans*	-		0.6 (1)
Water Snow Flat	*Tagiades litigiosus*	-		0.2 (1)
Plains Cupid	*Chilades pandava*	-		1.2 (2)
Tailed Cupid	*Everes lacturnus*	-		0.2 (1)
Dark Cerulean	*Jamides bochus*	-		2.4 (4)
Long-tailed Blue	*Lampides boeticus*	-		0.6 (1)
Pale Grass Blue	*Pseudozizeeria maha*	-	1 (5)	2.4 (4)
Plum Judy	*Abisara echerius*	-		0.6 (1)
Punchinello	*Zemeros flegyas*	-	0.2 (1)	
Common Tiger	*Danaus genutia*	-	0.2 (1)	0.6 (1)
Common Indian Crow	*Euploea core*	-		0.2 (1)
Blue-spotted Crow	*Euploea midamus*	-		1 (1)
Ceylon Blue Glassy Tiger	*Ideopsis similis*	-		0.2 (1)
Glassy Tiger	*Parantica aglea*	-		1 (1)
Blue Tiger	*Tirumala limniace*	-		1 (1)
Angled Castor	*Ariadne ariadne*	-	0.2 (1)	1 (2)
Rustic	*Cupha erymanthis*	-	0.2 (1)	
Red-ring Skirt	*Hestina assimilis*	-		0.6 (1)
Great Egg-fly	*Hypolimnas bolina*	-		1.8 (2)
Peacock Pansy	*Junonia almana*	-		0.2 (1)
Chocolate Pansy	*Junonia iphita*	-		0.6 (1)
Common Sailer	*Neptis hylas*	-		1 (1)
Common Palmfly	*Elymnias hypermnestra*	-		1 (1)
Common Evening Brown	*Melanitis leda*	-		0.6 (1)
Dark Evening Brown	*Melanitis phedima*	-		0.2 (1)
Dark-brand Bush Brown	*Mycalesis mineus*	-	1.2 (4)	4 (6)
South China Bush Brown	*Mycalesis zonata*	-		0.6 (1)
Common Five-ring	*Ypthima baldus*	-	0.6 (2)	1.6 (2)
Common Mime	*Chilasa clytia*	-		0.6 (1)
Tailed Jay	*Graphium agamemnon*	-		0.2 (1)
Common Bluebottle	*Graphium sarpedon*	-	0.2 (1)	0.2 (1)
Red Helen	*Papilio helenus*	-		0.8 (1)
Great Mormon	*Papilio memnon*	-	0.2 (1)	0.2 (1)
Paris Peacock	*Papilio paris*	-	0.2 (1)	0.2 (1)
Common Mormon	*Papilio polytes*	-	0.2 (1)	2.8 (3)
Spangle	*Papilio protenor*	-		0.6 (1)
Lemon Emigrant	*Catopsilia pomona*	-	1 (3)	3.4 (5)
Three-spot Grass Yellow	*Eurema blanda*	-		0.2 (1)
Common Grass Yellow	*Eurema hecabe*	-	0.4 (1)	5.8 (7)
Red-base Jezebel	*Delias pasithoe*	-		1.6 (4)
Great Orange Tip	*Hebomoia glaucippe*	-	0.2 (1)	1 (1)
Indian Cabbage White	*Pieris canidia*	-	2.8 (7)	5.3 (10)

Odonata

Previous Survey Findings

5.4.20 Application Site: 8 species, none of conservation importance.

5.4.21 Assessment Area: 32 species. Species of Conservation Importance: Coastal Glider, Ruby Darter and Scarlet Basker (Local Concern).

Verification Survey Findings

5.4.22 A total of thirty-two odonate species was recorded during the entire survey period, of which eight were recorded in the AS. Three species of conservation importance were recorded within the AA, namely Coastal Glider, Ruby Darter and Scarlet Basker, which are considered to be Local Concern by Fellows *et al*. (2002). Detailed counts of the survey are presented in **Table 8** below.

Table 9 *Mean Number Per Survey (Maximum Count) of Individuals of Odonata Species Recorded in the AS and the AA*

Common Name	Scientific Name	Level of Concern (Fellows *et al*. 2002)	AS	AA
Orange-tailed Midget	*Agriocnemis femina*	-		11.8 (16)
Wandering Midget	*Agriocnemis pygmaea*	-		4 (8)
Orange-tailed Sprite	*Ceriagrion auranticum*	-	3.6 (11)	25.8 (60)
Common Bluetail	*Ischnura senegalensis*	-		3.6 (5)
Yellow Featherlegs	*Copera marginipes*	-		6.4 (20)
Pale-spotted Emperor	*Anax guttatus*	-		1.6 (4)
Lesser Emperor	*Anax parthenope*	-		0.6 (2)
Common Flangetail	*Ictinogomphus pertinax*	-		2.4 (5)
Golden Flangetail	*Sinictinogomphus clavatus*	-		0.6 (2)
Regal Pond Cruiser	*Epopthalmia elegans*	-		0.6 (1)
Elusive Adjutant	*Aethriamanta brevipennis*	-		1 (1)
Blue Dasher	*Brachydiplax chalybea*	-	0.4 (1)	6.6 (6)
Asian Amberwing	*Brachythemis contaminata*	-		12.4 (20)
Crimson Darter	*Crocothemis servilia*	-		4 (5)
Blue Percher	*Diplacodes trivialis*	-		0.4 (1)
Amber-winged Glider	*Hydrobasileus croceus*	-		0.4 (1)
Coastal Glider	*Macrodiplax cora*	LC		0.4 (1)
Russet Percher	*Neurothemis fulvia*	-		6.4 (10)
Pied Percher	*Neurothemis tullia*	-	0.4 (1)	7.6 (10)
Red-faced Skimmer	*Orthetrum chrysis*	-		1.6 (2)
Common Red Skimmer	*Orthetrum pruinosum*	-	0.4 (1)	1.2 (2)
Green Skimmer	*Orthetrum sabina*	-	1.2 (3)	8.4 (10)
Wandering Glider	*Pantala flavescens*	-	9 (20)	57.4 (80)
Pied Skimmer	*Pseudothemis zonata*	-		1.6 (2)
Ruby Darter	*Rhodothemis rufa*	LC		0.4 (1)
Variegated Flutterer	*Rhyothemis variegata*	-	13 (30)	17.1 (30)
Evening Skimmer	*Tholymis tillarga*	-		2.2 (4)
Saddlebag Glider	*Tramea virginia*	-	1 (3)	5.4 (10)
Crimson Dropwing	*Trithemis aurora*	-		0.6 (2)
Indigo Dropwing	*Trithemis festiva*	-		0.6 (2)
Scarlet Basker	*Urothemis signata*	LC		0.4 (1)
Dingy Dusk-darter	*Zyxomma petiolatum*	-		0.4 (1)

5.4.23 A comparison of the number of faunal species of previous survey and verification survey is summarized in **Table 9**.

Table 9 *Comparing the no. of faunal species of previous survey and verification survey*

Taxa	AS		AA	
	Previous Survey	**Verification Survey**	**Previous Survey**	**Verification Survey**
Avifauna	48 (Species of Conservation Importance: 15)	29 (Species of Conservation Importance: 7)	95 (Species of Conservation Importance: 46)	67 (Species of Conservation Importance: 32)
Herpetofauna (Amphibians)	5 (Species of Conservation Importance: 0)	5 (Species of Conservation Importance: 0)	10 (Species of Conservation Importance: 1)	10 (Species of Conservation Importance: 1)
Herpetofauna (Reptiles)	3 (Species of Conservation Importance: 1)	3 (Species of Conservation Importance: 1)	8 (Species of Conservation Importance: 1)	7 (Species of Conservation Importance: 1)
Butterfly	15 (Species of Conservation Importance: 0)	15 (Species of Conservation Importance: 0)	43 (Species of Conservation Importance: 0)	43 (Species of Conservation Importance: 0)
Odonata	8 (Species of Conservation Importance: 0)	8 (Species of Conservation Importance: 0)	32 (Species of Conservation Importance: 3)	32 (Species of Conservation Importance: 3)

6 EVALUATION OF HABITATS

6.1 Previous Survey Findings

6.1.1 Comparing with the ecological survey conducted between Nov 2019 and Oct 2020, there has been no significant change on the ecological baseline within the AS and the AA. The drainage channel NTMDC remained the same. The bigger change would be that the grassland/shrubland habitat on the opposite side of the NTMDC had become a construction site i.e., urbanised area due to the development of the Light Public Housing. Apart from the Light Public Housing, there has been no development within the Assessment Area. The verification survey covered 5 months recorded highly similar flora and fauna composition within the Assessment Area, and recorded reasonably and proportionally fewer species than the 12 months survey results due to a shorter period. However, it had demonstrated that the ecological baseline has no significant change apart from the Light Public Housing site. The water birds and the avifauna species of conservation importance were still recorded in the verification survey. The habitat evaluation in the EcoIA for Application No. Y/YL-MP/6 is summarized in below table for reference.

Table 10 *Ecological Evaluation of Habitats in Application No. Y/YL-MP/6*

Habitats	**Application Site**	**Assessment Area**
Reed	Low to moderate	Low to moderate
Seasonally wet grassland	Low to moderate	Low
Grassland/shrubland	Low	Low
Plantation	Very low	Very low
Drainage channel	-	NTMDC: Moderate Others: Low
Pond	-	Between Palm Springs and Fairview Park: Moderate; Temporary ponds (AEIAR-189/2015) west of YMST: Moderate; to the east of NTMDC: Low
Reed marsh	-	Low
Agricultural land	-	North of NTMDC: Low to moderate Northeast of AS: Low

Watercourse / abandoned irrigation ditch	-	Very low
Urbanised area	-	Very low
Marsh	-	Low
Waste ground	-	Very low

6.2 Evaluation including Verification Survey Results

6.2.1 The ecological evaluation of grassland, plantation and reedbed within the AS are summarized in **Table 11-13**.

Table 10 *Ecological Evaluation of Grassland within Application Site*

Criteria	Grassland
Naturalness	Natural habitat through succession of abandoned agricultural land and fishponds
Size	6.37ha, large within the AS but small in a Hong Kong context.
Diversity	Low to moderate floral and faunal diversity.
Rarity	A common habitat type in Hong Kong.
Re-creatability	Readily re-creatable.
Fragmentation	Fragmented from other habitats outside.
Ecological linkage	No significant linkages with other important habitats outside.
Potential value	Potential succession to shrubland and then woodland in the absence of human disturbance.
Nursery/ breeding ground	No significant nursery/breeding ground known.
Age	Unknown, possibly formed in various stages in the last decade.
Abundance/ richness of wildlife	Low abundance and diversity of wildlife.
Ecological value	**Low***

*No change to the previous evaluation result on grassland/shrubland habitat in Application No. Y/YL-MP/6.

Table 11 *Ecological Evaluation of Plantation within Application Site*

Criteria	Plantation
Naturalness	Semi-natural habitat developed through succession of low-lying area.
Size	0.11ha, very small within the AS and insignificant in a Hong Kong context.
Diversity	Very low plant diversity.
Rarity	A common habitat type in the New Territories.
Re-creatability	Readily re-creatable.
Fragmentation	Fragmented by road, drainage channel and village areas.
Ecological linkage	No significant linkage with habitats of ecological importance.
Potential value	Potential value is limited due to its very small size and isolation from other wetland habitats.
Nursery/ breeding ground	No significant nursery or breeding ground known.
Age	Established within the past few years.
Abundance/ richness of wildlife	Very low abundance and diversity of wildlife.
Ecological value	**Very Low***

*No change to the evaluation result for this habitat type in Application No. Y/YL-MP/6.

Table 12 *Ecological Evaluation of Reedbed within Application Site*

Criteria	Reedbed
Naturalness	Derived from semi-natural habitat through succession.
Size	0.08ha, small in the AS and very small in a Hong Kong context.
Diversity	Low flora and fauna diversity.
Rarity	A common habitat type in the New Territories.
Re-creatability	Readily re-creatable.
Fragmentation	Somewhat fragmented within the AS and fragmented from other habitats outside.
Ecological linkage	Some ecological linkages to the surrounding lowland grassland/shrubland within the AS; linkages with other habitats are limited.
Potential value	Some potential for improvement if fragmentation impact is removed, ecological linkages with other wetland habitats are improved, and if managed for wildlife and human disturbance is reduced.

Criteria	Reedbed
Nursery/ breeding ground	No significant nursery or breeding ground known.
Age	Established within the past few years.
Abundance/ richness of wildlife	Low abundance and diversity of wildlife.
Ecological value	**Low to moderate***

*No change to the evaluation result for this habitat type in Application No. Y/YL-MP/6.

6.2.2 The ecological evaluation of habitats within the Assessment Area are summarized in **Table 14-23**.

Table 13 *Ecological Evaluation of Agricultural Land within Assessment Area*

Criteria	Agricultural Land
Naturalness	Anthropogenic.
Size	3.87ha, moderate in size within the AA (excl. AS) but small in a Hong Kong context.
Diversity	Moderate plant diversity. Low to moderate faunal diversity
Rarity	A common but decreasing habitat in the New Territories.
Re-creatability	Readily re-creatable.
Fragmentation	The one to the northeast of the AS: fragmented by the urbanized areas; the one to the north of Ngau Tam Mei Main Drainage Channel: fragmented on the southern side but may connect to the fish pond to the northwest.
Ecological linkage	The one to the north of the Ngau Tam Mei Main Drainage Channel: would have some linkage with the ponds within WCA; the one to the immediate northeast of the AS: linkage is weakened by the presence of roads and other urbanized areas.
Potential value	Limited by its size for the agricultural land immediately to the northeast of the AS. Low to moderate for the agricultural land to the north of NTMDC.
Nursery/ breeding ground	Not suitable as a nursery or breeding ground.
Age	Within the last few decades.
Abundance/ richness of wildlife	Low abundance and low to moderate diversity of wildlife.
Ecological value	Agricultural land to the north of the Ngau Tam Mei Main Drainage Channel: **Low to Moderate**; agricultural land to the northeast of the AS: **Low***

*No change to the evaluation result for this habitat type in Application No. Y/YL-MP/6.

Table 14 *Ecological Evaluation of Drainage Channel within Assessment Area*

Criteria	Drainage Channel
Naturalness	Man-made habitat with intense management regime.
Size	5.81ha, small in the AA (excl. AS) and small in a Hong Kong context.
Diversity	Moderate diversity of plants; low to moderate faunal diversity
Rarity	A common habitat in Hong Kong.
Re-creatability	Readily re-creatable.
Fragmentation	Somewhat fragmented from the Deep Bay wetland system by adjacent urbanized areas such as roads (for non-vagile species).
Ecological linkage	Some functional linkages with the Deep Bay wetland system.
Potential value	Some increase in potential value if pollution loads decrease but limited due to management regime.
Nursery/ breeding ground	No significant nursery or breeding ground is known.
Age	Within the past two decades.
Abundance/ richness of wildlife	Generally low abundance and richness of wildlife; but can support high number of foraging Ardeids during favourable tidal conditions in winter.
Ecological value	**Moderate** for Ngau Tam Mei Drainage Channel; **Low** for other drainage channels*

*No change to the evaluation result for this habitat type in Application No. Y/YL-MP/6.

Table 15 *Ecological Evaluation of Grassland within Assessment Area*

Criteria	Grassland
Naturalness	Natural habitat through succession of abandoned agricultural lands.
Size	6.96ha, small to moderate in size within AA but small in a Hong Kong context.
Diversity	Moderate to high vegetation diversity; low to moderate faunal diversity

Criteria	Grassland
Rarity	Very common habitat type in Hong Kong; 16 bird species of conservation importance and/or wetland-dependent birds recorded.
Re-creatability	Readily re-creatable.
Fragmentation	Fragmented by road infrastructure and drainage channel.
Ecological linkage	No significant functional linkages with habitats of ecological significance.
Potential value	Limited due to the isolated nature.
Nursery/ breeding ground	No significant nursery or breeding ground is known.
Age	Unknown, but possibly developed in the recent decade.
Abundance/ richness of wildlife	Low to moderate abundance and richness of wildlife.
Ecological value	**Low***

*No change to the evaluation result for this habitat type in Application No. Y/YL-MP/6.

Table 16 *Ecological Evaluation of Marsh within Assessment Area*

Criteria	Marsh
Naturalness	Natural habitat through succession of abandoned pond and agricultural land.
Size	1.64ha, Small with the AA and negligible in a Hong Kong context.
Diversity	Very low floral and faunal diversity.
Rarity	A common habitat type in Hong Kong.
Re-creatability	Readily re-creatable.
Fragmentation	Fragmented by roads and urbanized area.
Ecological linkage	Linked with adjacent wetlands within WCA between Fairview Park and Palm Springs.
Potential value	Limited due to the isolated nature.
Nursery/ breeding ground	No significant nursery or breeding ground known.
Age	Within the past few years.
Abundance/ richness of wildlife	Very low abundance and richness of wildlife.
Ecological value	**Low***

*No change to the evaluation result for this habitat type in Application No. Y/YL-MP/6.

Table 17 *Ecological Evaluation of Plantation within Assessment Area*

Criteria	Plantation
Naturalness	Man-made and largely dominated by exotic ornamental species for roadside plantations.
Size	7.30ha, small in AA (excl. AS) and small in a Hong Kong context.
Diversity	Moderate to high plant diversity; very low faunal diversity.
Rarity	Common habitat in Hong Kong.
Re-creatability	Readily re-creatable but trees need time to grow to achieve their full functions.
Fragmentation	Fragmented by road infrastructure.
Ecological linkage	Low degree due to the high level of disturbance.
Potential value	Limited due to the high disturbance, management level and small size.
Nursery/ breeding ground	No significant nursery or breeding ground is known.
Age	Decades.
Abundance/ richness of wildlife	Very Low abundance and richness of wildlife.
Ecological value	**Very Low***

*No change to the evaluation result for this habitat type in Application No. Y/YL-MP/6.

Table 18 *Ecological Evaluation of Pond within Assessment Area*

Criteria	Pond
Naturalness	Originally man-made.
Size	8.52ha, small to moderate in size in the AA (excl. AS) and small in a Hong Kong context.
Diversity	Moderate floristic diversity; low to moderate diversity for faunal diversity.
Rarity	A common habitat type in Hong Kong.
Re-creatability	Readily re-creatable.
Fragmentation	Isolated ponds significantly fragmented by developed areas, while ponds between Fairview Park and Palm Springs are contiguous and continuous with the Deep Bay wetland system.
Ecological linkage	Linked with adjacent wetlands within WCA between Fairview Park and Palm Springs; weak linkages with other habitat of ecological importance for other ponds.

Criteria	Pond
Potential value	Value of ponds within WCA could be increased if protected and managed for wildlife; however, limited increase in value for other small and isolated ponds.
Nursery/ breeding ground	No significant nursery or breeding ground known.
Age	Unknown.
Abundance/ richness of wildlife	Low abundance and diversity of wildlife.
Ecological value*	Ponds in between Palm Springs and Fairview Park would have **Moderate** value. Temporary ponds (AEIAR-189/2015) west of YMST are considered to have **Moderate** value. Ponds to the east of the Ngau Tam Mei Channel are considered to have **Low** value.

*No change to the evaluation result for this habitat type in Application No. Y/YL-MP/6.

Table 19 *Ecological Evaluation of Reedbed within Assessment Area*

Criteria	Reedbed
Naturalness	Natural habitat through succession of abandoned pond.
Size	0.06ha, very small within the AA and negligible in a Hong Kong context.
Diversity	Very low flora and faunal diversity.
Rarity	A fairly common habitat in the New Territories.
Re-creatability	Readily re-creatable.
Fragmentation	Fragmented.
Ecological linkage	No significant functional linkages with habitats of ecological significance. Separated from wetlands within WCA between Fairview Park and Palm Springs.
Potential value	Limited due to the isolated nature and small size.
Nursery/ breeding ground	No known significant nursery or breeding ground.
Age	Unknown, possibly developed in the last decade.
Abundance/ richness of wildlife	Very low.
Ecological value	**Low to moderate***

*No change to the evaluation result for this habitat type comparing with the reedbed habitat in Application No. Y/YL-MP/6.

Table 20 *Ecological Evaluation of Urbanised Area within Assessment Area*

Criteria	Urbanised Area
Naturalness	Entirely man-made.
Size	98.95ha, large in the AA, but small in a Hong Kong context.
Diversity	Relatively high floristic diversity. Low diversity of faunal groups.
Rarity	A very common habitat type in Hong Kong.
Re-creatability	Readily re-creatable.
Fragmentation	Highly fragmented.
Ecological linkage	No significant linkages with habitats of ecological importance.
Potential value	Very limited due to high human disturbance.
Nursery/ breeding ground	No significant nursery or breeding ground is known.
Age	Main residential estates and public facility were developed in early 1990s, while the road infrastructure and open storage has been established over the past two or three decades.
Abundance/ richness of wildlife	Moderate abundance or richness of plants, but low abundance and richness for faunal groups.
Ecological value	**Very Low***

*No change to the evaluation result for this habitat type in Application No. Y/YL-MP/6.

Table 21 *Ecological Evaluation of Waste Ground within Assessment Area*

Criteria	Waste Ground
Naturalness	Man-made. The waste ground adjacent to Ha Chuk Yuen Road is formed by dumping of waste materials.
Size	1.74, Small size within the AA.
Diversity	Very low faunal and floral diversity.
Rarity	A common habitat in the New Territories.
Re-creatability	Readily re-creatable.
Fragmentation	Fragmented.

Criteria	Waste Ground
Ecological linkage	No significant functional or ecological linkage with other habitats. The filled ponds were adjacent to the abandoned ponds which may have some linkages with Deep Bay Area.
Potential value	Negligible.
Nursery /breeding ground	No known significant nursery or breeding grounds.
Age	Unknown.
Abundance /Richness of wildlife	Very low abundance and diversity
Ecological value	**Very Low***

*No change to the evaluation result for this habitat type in Application No. Y/YL-MP/6.

Table 22 *Ecological Evaluation of Watercourse within Assessment Area*

Criteria	Watercourse
Naturalness	Semi-natural with moderate to high pollution level and human disturbance for the identified watercourses.
Size	0.3ha, very small in AA and very small in a Hong Kong context.
Diversity	Low to moderate diversity in vegetation; low faunal diversity.
Rarity	Polluted watercourses are a common habitat in Hong Kong.
Re-creatability	Readily re-creatable.
Fragmentation	Fragmented by urbanised areas.
Ecological linkage	Some linkages with the adjacent habitats. Partly linked with adjacent wetlands within WCA between Fairview Park and Palm Springs.
Potential value	Low in view of their small sizes and nearby land use.
Nursery/ breeding ground	No significant nursery or breeding ground known.
Age	Unknown.
Abundance/ richness of wildlife	Very low abundance in general.
Ecological value	**Very Low***

*No change to the evaluation result for this habitat type comparing with watercourse / abandoned irrigation ditch in Application No. Y/YL-MP/6.

7 IDENTIFICATION AND EVALUATION OF ECOLOGICAL IMPACTS

7.1.1 The identified ecological impacts are the same as what have been fully assessed and evaluated in the EcoIA for the rezoning application no. Y/YL-MP/6, since the current Application adopts the same AS with lower plot ratio and similar building layout and design. Based on the verification surveys, ecological impacts were categorized as follows:

- Direct loss of habitats in AS;
- Direct impact to fauna species of conservation importance;
- Potential disturbance to large waterbird flightlines;
- Potential bird collision;
- Indirect impacts to nearby habitats and sites of conservation importance;
- Indirect impacts to fauna of conservation importance and waterbirds;
- Fragmentation impacts
- Cumulative impacts

7.2 Proactive Design in the Building Layout

7.2.1 Assessment of potential ecological impacts will be carried out taking into account the proactive environmentally cautious design in the current proposed development. Given the presence of fishponds, agricultural land and egretries in the Mai Po Inner Deep Bay area, flight lines of large water birds are a potential ecological concern for development in the vicinity of the Wetland Buffer Area (WBA), which is part of the Deep Bay wetland ecosystem. The current project, which is located at the periphery of the WBA, has identified a major water bird flight line within the AA along the Ngau Tam Mei Drainage Channel (NTMDC).

7.2.2 During the design stage of the project, the proposed building layout for this site considered previous and current flight line survey data, and a number of design elements were incorporated in response to reduce potential impact on waterbird flight lines.

7.2.3 As a proactive approach to minimize the potential impact to the major Flight Line No. 1 along NTMDC and other minor Flight Lines flying through mainly the western side of the AS:

- The separation between NTMDC and the nearest residential building of the current scheme is about 50m.
- A landscaped pond with ecological features would be provided next to NTMDC as an ecological-gain element.
- Tree planting between the residential buildings and the landscape pond will act as a visual barrier and provide buffer distance between the houses and the channel.
- Taller buildings would be set back farther from NTMDC on the eastern end of the AS.
- The current proposed development within the AS would not have extensive reflective surfaces, to minimize the risk of bird collision.

7.2.4 Further detailed discussion on the flight path survey results and the impact evaluation is given under **Section 5.4** and **Section 7.4** respectively.

7.3 Direct Habitat Loss and Direct Impact to Fauna Species of Conservation Importance

7.3.1 The AS occupies an area of about 6.56ha, and will incur direct habitat loss. The majority of the AS is dominated by grassland, which is subject to routine vegetation management. This habitat is predominately dry and unlikely to provide feeding or breeding habitats for wetland species. Reedbed and plantation on-site are small and highly fragmented/isolated; therefore, the overall impact significance is **low**.

7.3.2 Eleven bird and one reptile species of conservation importance were recorded within the Application Site. None of the bird species, however, were recorded in significant numbers in comparison to their Deep Bay populations, while the snake Many-banded Krait is widely distributed in the New Territories (AFCD 2016). Most birds recorded were not foraging, but perched on a few abandoned power lines over the site rather than utilizing the shrubland/grassland habitat; no breeding behavior was observed, indicating that the Application Site is an irregular loafing site for only a small number of wetland-dependent birds. Potential direct impacts on these species are considered of **low** significance.

7.4 Potential Impact to Bird Flightline and Potential Bird Collision

7.4.1 Apart from the main flight corridor along NTMDC, the minor flight line across the current AS is less regularly used and is relatively inconsistent. Without the proposed building layout design as described in **Section 7.2**, such impact is considered to be of **low to moderate** significance given the relatively low number of birds involved, the low usage of flight line over AS and the adjacent availability of NTMDC, which is the favoured route for most birds. The flight zone above the AS was rarely used by water birds compared with the main flight corridor along NTMDC that only 16 individuals were recorded flying across the AS during the flight line survey in 2024, comparing with 176 birds using the NTMDC as flight corridor. It should also be noted that the current development has already adopted a set back from the NTMDC together with a landscape pond with ecological features and landscape planting to minimise the potential disturbance to the birds utilising the NTMDC. With the current building layout in place, potential impacts on bird flight lines due to the proposed development would be of **low** significance.

7.4.2 The bird species occurring within the Assessment Area routinely travel around extensive low-rise residential areas including Fairview Park, Palm Springs, Royal Palms and villages. The current proposed development within the Application Site would not have extensive reflective surfaces. No regular flight line has been recorded across the Application Site. Large waterbirds mainly flew along the NTMDC and they are unlikely to be affected by collision risk during the operation phase as the taller residential blocks are set back further away from the NTMDC. Based on the survey findings, generally low densities of smaller birds were recorded within the Application Site and its vicinity, due to the highly disturbed nature of the Assessment Area. Frequent bird movement across the Application Site is not expected. The bird collision risk for waterbirds and other bird species flying in the surrounding areas is thus considered to be **low**.

7.5 Indirect Impacts on Habitat within AA

7.5.1 In the Deep Bay area, large waterbirds are the most disturbance-sensitive species due to their slow escape response, open habitat preference, size, and large numbers present. Potential sources of disturbance accrued from the proposed development include increased human activities, noise and dust to adjacent habitats during the construction phase and the potential impact from glare and noise during the operational phase.

7.5.2 With regard to the current Project, only open habitats that are adjacent to the AS would potentially be subject to increased disturbance from the development. This is due to the presence of certain anthropogenic features that provide a barrier between the source of disturbance and the receptor site; these features include large residential areas, San Tin Highway and other significant roads (Kam Pok Road, Yau Pok Road and Castle Peak Road). Areas potentially to be indirectly disturbed as a result of the proposed development include the agricultural land immediately east of the AS, the Chuk Yuen Stormwater Pumping Station and floodwater storage pond southwest of the AS and Ngau Tam Mei Drainage Channel. However, all are of very low to low ecological value with a low level of faunal utilization, including large waterbirds, except NTMDC which provides foraging opportunities to waterbirds under certain tidal conditions.

7.5.3 It should be noted that the concrete lined bed (average width of 30m) of NTMDC is located about 4 to 6 meters lower than Kam Pok Road. The grasscrete embankment of NTMDC, as well as the existing roadside tree planting, have already provided a certain level of screening, which limits disturbance to waterbirds utilizing NTMDC. The current vehicle use and recreational activities (including vehicle use of Kam Pok Road commuting between Castle Peak Road and open storage areas close to Fairview Park, and resident use of Yau Pok Road and cycle track) have not imposed significant impact to the waterbirds utilizing NTMDC. Some waterbirds, including Black-faced Spoonbills forage within sight of the Castle Park Road, which is subject to very high levels of usage. However, in view of the higher abundance of waterbirds using the Channel, the construction phase disturbance to NTMDC is considered to be **low to moderate** without any measure/good site practices.

7.5.4 Traffic peak hours[1] rarely coincide with peak bird activity (i.e. early morning around 5:30 – 7:00am or low tide, which varies daily). In addition, the proposed residential development will be further separated from Kam Pok Road and NTMDC by the proposed landscape area distancing traffic within the development from the NTMDC; therefore, the increased traffic flow caused by the proposed residential development is not predicted to impose significant additional impact on waterbirds utilizing NTMDC. NTMDC is located at lower elevation than

[1] The Annual Traffic Census 2022 (Available at: https://atc.td.gov.hk/map) Nearest counting station i.e., Core Station 5016: Observed peak traffic flow: 9am and 6pm for Monday to Friday.

Kam Pok Road. It is also flanked by dense tall existing trees on both banks. Thus, existing topography and vegetation will provide adequate buffer. The potential operational phase impact due to increased traffic is low. Therefore, the disturbance impacts during operational phase would be of **low magnitude**. No mitigation is required during operation phase.

7.5.5 The temporary wetland during the construction of the Wetland Restoration Area (WRA) for Yau Mei San Tsuen (YMST) Project is located between Palm Springs and Fairview Park next to the Light Public Housing Site. Once the WRA is in operation, the temporary wetland will become part of the construction site of the residential portion and will be filled up to the proposed site formation level (AEIAR-189/2015). The potential disturbance impact is considered to be **low to moderate** without any measure/good site practices. While the exact operation time frame of the temporary ponds is uncertain, if the temporary ponds cease to operate before the commencement of construction of the current Project, the construction phase impact would be **negligible**. No operational phase impact is anticipated as the wetland is a temporary mitigation measure. No mitigation is required during operation phase.

7.5.6 The proposed development is located within WBA but there would not be significant wetland loss. The proposed landscape pond with ecological features would be an ecological-gain element to the area with a wetland area provided. There would not be direct impact to the WCA and the planned Sam Po Shue Wetland Conservation Park (WCP). The WCA and the planned WCP are about 140m and 90m from the AS respectively, separated by NTMDC. As there would be landscape planting along the current AS boundary, and the taller residential buildings would be located on the eastern side within the AS, potential disturbance impact to the WCA and the future Sam Po Shue WCP to the west of AS would be minimised. Therefore, the operational phase impacts to sites of conservation importance would be **low**. Potential construction phase disturbance due to the current proposed development is anticipated to be **low** given the separation from the AS and that the disturbance would only be temporary.

7.5.7 The nature and level of indirect impacts to nearby habitats during construction and operational phases remain the same as in the assessment for rezoning application no. Y/YL-MP/6. For the newly planned Sam Po Shue WCP which is under study and would be developed, the nature and level of indirect impact to the WCP would be the same as the indirect impact potentially affecting the habitats there. The designation of the WCP boundary, which is not yet finalised, would not lead to significant differences on the nature and level of the indirect impacts from the currently proposed development.

7.6 Indirect Impacts to Fauna of Conservation Importance and Waterbirds

Construction Phase

7.6.1 A total of 51 bird species of conservation importance/ wetland-dependent birds were recorded in the AA (excluding Application Site) in the verification and previous surveys. With regard to potential indirect impacts, only the bird species recorded in adjacent habitats are potentially affected by the proposed development. Waterbirds can be sensitive to percussive noise disturbance from piling works, for which the impacts from within the Application Site will occur only during the construction phase. Traditional steel hammer percussive piling would be avoided. Alternative quieter piling methods include end bearing pile (such as bored pile) and friction pile (such as driven pile) etc., are available. The selection of pile types would be subject to many factors, in particular the soil condition at the site. It is expected that with the avoidance of traditional percussive piling method, it is feasible to reduce the noise and vibration impact to the habitats and associated fauna to **Low to Moderate** level.

Operational Phase

7.6.2 Compared to the construction phase, noise impacts during the operation of the development would be largely reduced. Waterbirds in NTMDC and other wetlands in AA are already habituated to relatively high levels of human activity compared to other wetlands in Hong Kong; therefore, the increase in human activity within the Application Site and the adjoining public roads is lowe. In addition, since the Application Site is situated closed to existing residential developments and extensive existing artificial lighting (such as road lights for the Kam Pok Road and nearby villages), nocturnal species would have already adapted to the environment or otherwise avoided the area. No significant additional glare impact is predicted. In the absence of mitigation measures, the disturbance impact on bird species of conservation importance during the operational phase is predicted to be of **Low Significance.**

7.7 Fragmentation Impact

7.7.1 Part of the current AS is situated on the landward periphery of the WBA. The entire AS is ecologically separated from the continuous and contiguous pond system in the Deep Bay area by the Kam Pok and Yau Pok Roads to the west. The habitats east of AS are considered to be of negligible ecological importance for the protection and conservation of ecological integrity of the Deep Bay Area. Consequently, the current Project is unlikely to result in fragmentation impact on the Deep Bay wetland ecosystem.

7.7.2 Moreover, the AS is already part of a band of developed land that runs on a north-south axis along the Castle Peak Road and is located on the landward periphery of the Wetland Buffer Area. Hence very small or no additional fragmentation impact is predicted from the current Project.

7.8 Cumulative Impact

7.8.1 Relevant approved and potential major projects in the adjacent area include:

- Northern Link EIA (AEIAR-259/2024)
- Light Public Housing at Yau Pok Road, Yuen Long (PP-652/2023),
- Proposed Low-density Residential Development at Various Lots and Their Adjoining Government Land in D.D. 104, east of Kam Pok Road, Mai Po, Yuen Long (AEIAR-205/2017),
- Comprehensive Development and Wetland Protection near Yau Mei San Tsuen (AEIAR-189/2015),
- Proposed Residential Cum Passive Recreation Development within "Recreation" Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T. (AEIAR-182/2014),
- New Territories (NT) Cycle Track Network, i.e., Construction of cycle track and associated supporting facilities from Sha Po Tsuen to Shek Sheung River (AEIAR-133/2009)

7.8.2 Anticipated cumulative impacts of these projects are evaluated based on available information. The construction works related to the Light Public Housing (LPH) at Yau Pok Road has already started as of the start of the verification survey of the current Application. The LPH has turned the grassland/shrubland habitat on the opposite side of NTMDC into developed area. According to the approved PP of the Light Public Housing at Yau Pok Road, Yuen Long, the construction

works of the Light Public Housing will be completed in around 2025. The LPH is planned to operate for five years. As the operation of LPH would be short, long-term cumulative impact is not anticipated. The LPH is anticipated to be completed earlier than the current application, the construction phase cumulative indirect impact is also insignificant.

7.8.3 Construction of NOL is anticipated to commence tentatively in 2025 with a target on completion in 2034. The NOL alignment would be largely underground, and it is located about 700m to the east of the AS. Due to the large separation distance the potential cumulative impact with NOL construction and operation is anticipated to be low.

7.8.4 The Yuen Long to Sheung Shui Section of the NT Cycle Track Network which is adjacent to the current AS but on the opposite side of NTMDC has already been completed. The operation of the cycle track involves only mobilisation of cyclers. Thus, the cumulative impacts of the Cycle Track and the currently proposed development are anticipated to be minimal.

7.8.5 The project area of the proposed residential cum passive recreation development within "Recreation" zone and "Residential (Group C)" zone at various Lots in DD 104, Yuen Long, N.T. (AEIAR-182/2014), is now under construction for temporary residential housing. Construction phase cumulative impact is not anticipated as the construction of the temporary residential housing and the current proposed development is unlikely to be concurrent. The main cumulative impact is anticipated when both the temporary housing and the proposed development are in operation. The construction of the proposed development would be temporary and thus the cumulative impact with the operation of the temporary housing is considered low. The operation of residential development is in general of lower disturbance in nature. The increased traffic would be confined to roads which could be shielded by the existing bankside trees along NTMDC. Thus, the cumulative impact is considered to be low and acceptable.

7.8.6 With regard to the proposed development at Yau Mei San Tsuen (AEIAR-189/2015), the YMST site is surrounded by two large residential estates, Palm Springs and Fairview Park, and bounded by roads to its south and east; it has limited ecological connection with the current AS. A total of 3.0ha wetland habitats including pond, marsh, reed and seasonally wet grassland will be lost due to the YMST development. According to the approved EIA report (AEIAR-189/2015), to comply with the relevant guidelines (e.g. TPB PG No. 12C) and requirements in the statutory plan in the relevant OZP, the loss of these habitats will be fully compensated in the form of a proposed Wetland Restoration Area (WRA) with an area of 3.8ha. The design of the WRA aims to compensate for wetland loss and to maintain ecological linkages between the Deep Bay wetland system to the northwest of the YMST site and the NTMDC to the south. The currently proposed development is located at the south of NTMDC. The residential buildings of the current proposed development would be located further away from the WRA of the YMST Project. And that both the YMST and the current development would provide screening and/or setback from the NTMDC, the cumulative ecological impact is insignificant.

7.8.7 In respect of the adjacent low-density residential development (AEIAR-205/2017) at various lots and their adjoining government land in D.D. 104, east of Kam Pok Road, Mai Po, Yuen Long, habitats in the Project Area support only a low diversity of plants, mostly exotic, and fauna. Existing ecological values were ranked as very low. Although temporary construction phase disturbance impacts are anticipated, a number of mitigation measures were proposed to reduce these to acceptable levels. In addition, construction is likely to occur at a different time from this project. Consequently, cumulative impacts are not predicted.

7.8.8 The proposed developments in AEIAR-189/2015 and AEIAR-205/2017 also include some buffer design elements including: for AEIAR-205/2017: creation / preservation of landscape buffer and planting strip at the periphery of the sites; and for AEIAR-189/2015: minimum 5m wide buffer planting place along the southern edge and a proposed wetland on the southeast, as to mitigate the potential cumulative operational disturbance to waterbirds utilizing NTMDC. The cumulative impact of all the proposed developments above, on waterbirds utilizing NTMDC, is also assessed as of **low significance**.

7.8.9 In conclusion, in view of the comprehensive measures which are and will be in place for different development sites in the area under the current environmental protection and planning systems and other ordinances to protect the Deep Bay wetland ecosystem, significant cumulative impacts arising from the current Project in association with other projects are not predicted, as long as other potential impacts of the proposed Project are fully mitigated. There is no significant change on the nature and level of potential cumulative ecological impacts identified as in the rezoning application no. Y/YL-PM/6. The cumulative ecological impact from LPH project and NOL would be insignificant as discussed in earlier sections.

8 MITIGATION OF IMPACTS

8.1.1 Considering that the proposed development density under the current application is reduced and that the building layout is very similar to the rezoning application no. Y/YL-MP/6 which has received no further comments from the AFCD, the same set of proposed mitigation measures in the rezoning application no. Y/YL-MP/6 would be applicable to the current application (both of which share the same AS).

8.1.2 In order to ensure that disturbance impacts on water birds using the NTMDC, YMST temporary ponds (only if they would be still operating during the construction of the current project) are reduced to an acceptable level, the following measures/good practices are proposed:

- Use of quieter piling method(s), e.g., bored piling and/or hydraulic hammer piling rather than traditional steel hammer percussive piling, during construction of the proposed development to minimize the potential noise disturbance to the birds using the NTMDC and nearby habitats;
- 3m tall opaque and non-reflective noise barrier to be erected along the site boundary during the construction phase;
- Fully enclose the piling head by noise shield;
- Noise absorption material to be added to noise shield (could reduce up to 10 dB(A) noise intensity).

8.1.3 Other mitigation measures to minimize disturbance during construction include good site practice and noise management. The site practices listed below will be followed throughout the construction phase:

- Only well-maintained plant to be operated on-site and plant to be serviced regularly during the construction program;
- Silencers or mufflers on construction equipment to be utilized and to be properly maintained during the construction programme;
- Mobile plant, if any, to be sited as far from NTMDC and other NSRs as possible;

- Machines and plant (such as trucks) that may be in intermittent use to be shut down between work periods or to be throttled down to a minimum;
- Plant known to emit noise strongly in one direction to be, wherever possible, orientated so that the noise is directed away from the NTMDC and nearby NSRs; and
- Material stockpiles and other structures to be effectively utilized, wherever practicable, in screening noise from on-site construction activities.
- Use of quiet Powered Mechanical Equipment (PME);
- Phasing of construction activities to minimise concurrent operation of PME; and
- Use of temporary movable noise barriers wherever possible. In addition, certain types of PME such as generators and compressors can be shielded by machine enclosures, giving a noise reduction of 10dB (A) or more.

9 PROPOSED LANDSCAPE POND WITH ECOLOGICAL FEATURES

9.1 Introduction

9.1.1 Despite only one patch of reed was identified in the current verification survey, there were other patches of reed and seasonally wet grassland in the previous survey. The proposed Landscape Pond with Ecological Feature this time is a net gain more than enough to compensate the loss (and thus complies with "no-net-loss in wetland principle" of the TPB-PG No. 12C) in either case. In response to comments from Town Planning Board on the rezoning application no. Y/YL-MP/6 that ecological-gain elements are recommended to be incorporated into proposed development of the current AS, a Landscape Pond with Ecological Feature is proposed. Different from the landscape pond proposed for the rezoning application no. Y/YL-MP/6, the current design would have specific habitats proposed to cater for different species in the hope of attracting biodiversity. The Landscape Pond with Ecological Features is 0.5 ha and composed of a waterbody with various water depths (deep water area, shallow water area and reedbed) to create a variety of habitats with synergy for wildlife such as dragonflies and other invertebrates to enhance the ecological functions. It also has a long frontage to NTMDC. The pond perimeter will be planted with native trees and shrubs to enhance the adjacent terrestrial habitats.

9.2 Proposed Ecological Features

9.2.1 In response to TPB member's recommendation of ecological gain of the proposed development, a number of proposed ecological features would be provided in the current Landscape Pond and would be described in the following sections.

Shallow water area

9.2.2 The shallow water area would be achieved by gentle slopes with **natural substrate** at bottom. The water depth would be between **0 to 0.8m**. It is located mainly at the periphery of the pond.

9.2.3 Most aquatic invertebrates inhabit the shallow water area. This shallow water area is subject to climatic or seasonal water level fluctuation and is a critical design component for wetland plants and insect species (such as dragonflies, water boatman, etc.).

Table 23 *Potential Choices of Wetland Plants*[2]

Genus/species	Chinese Name	Growth Form
Cyperus spp.	莎草屬	E/H
Eleocharis spp.	荸薺屬	E/H
Fimbristylis spp.	飄拂草屬	E/H
Kyllinga spp.	水蜈蚣屬	E/H
Ludwigia spp.	丁香蓼屬	E
Alternanthera sessilis	蝦鉗菜	E/H
Crinum asiaticum var. sinicum	文殊蘭	E
Equisetum debile	筆管草	E
Juncus effusus	燈心草	E
Nymphaea spp.	睡蓮	S/FL

- E – Emergent; H – Hygrophytic; S – Submerged; FL – Floating-leaved

Reedbed

9.2.4 Reedbed would be created at certain area within the pond. For the reed to establish, the reedbed area would also consist of natural substrate at bottom.

9.2.5 The planting would predominantly be *Phragmites australis* 蘆葦 to form a relatively dense area with the long reed grass.

9.2.6 **Reedbed is suitable habitat for certain bird species** e.g., prinias, munias, buntings and reed warblers etc.

9.2.7 Reeds also offer certain water cleansing capability.

Open water area

9.2.8 The open water area refers to area where emergent vegetation is limited, the area is usually deeper than the shallow water area, the maximum depth would be **around 0.8 to 1.5m**. It would occupy mainly around the centre of the pond but can also be where the aquatic vegetation is less dense. There would also be natural substrate at bottom.

9.2.9 The primary function of open water area is to strategically retain a large buffering water volume for the entire pond to enable biogeochemical processes (e.g. nitrification, denitrification, phosphorus uptake) to occur smoothly and to stabilize the water quality.

Pond-perimeter Terrestrial Planting

9.2.10 Some terrestrial plants would be provided at the pond edge.

Table 24 *Potential Choices of Pond Side Plants are Listed in Below Table*[3]

Species	Chinese Name	Growth Form	Larval Food	Nectar Source	Fruit Source
Rhaphiolepis indica	石斑木	Shrub		✓	✓
Cinnamomum burmannii	陰香	Tree	✓		✓

[2] Reference includes AFCD Newsletter Issue No. 19 (Sep 2010) – A Floristic Survey of Marshes in Hong Kong., AFCD Newsletter Issue No. 11 (February 2006) – Wetland Restoration Trial in Lions Nature Education Centre, Tsiu Hang Special Area., River Park Plan for Tung Chung New Town Extension (West) (EP No. EP-519/2016).
[3] Reference includes Street Tree Selection Guide by Greening, Landscape and Tree Management Section Development Bureau (Available online), Yiu V. and Chan T. (2016) Eco-friendly Plants for Horticulture in Hong Kong.,

Species	Chinese Name	Growth Form	Larval Food	Nectar Source	Fruit Source
Celtis sinensis	朴樹	Tree	✓		✓
Bridelia tomentosa	土蜜樹	Shrub			✓
Cleistocalyx nervosum	水翁	Tree		✓	✓
Rhodomyrtus tomentosa	崗棯	Shrub			✓
Melastoma malabathricum	野牡丹	Shrub			✓
Schefflera heptaphylla	鴨腳木	Tree	✓	✓	✓
Cinnamomum camphora	樟	Tree	✓		

9.2.11 These species are native and are nectar source plants / larval food plants for butterflies. Fruit trees provide food source for other animals e.g., birds. The canopies of the mature trees add habitat diversity by creating microhabitats e.g., roosting site for birds around the landscape pond. The tree leaves falling into the pond will decay and to be part of the natural cycle of organic matters.

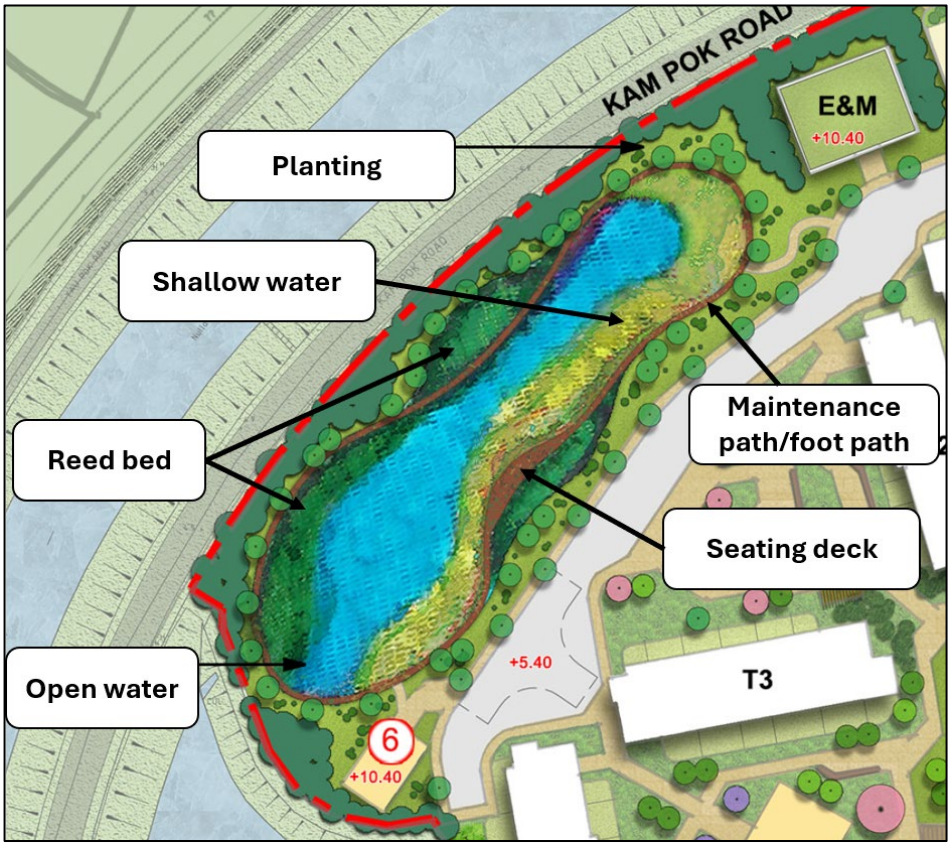

Plate 1 *Indicative Plan of the Proposed Landscape Pond with Ecological Features*

9.3 Water source

9.3.1 The main water sources of the landscape pond would be:

- Rainwater
- Surface run-off

9.3.2 The surface run-off will be desilted before flowing into the landscape pond.

9.3.3 Tap water may be necessary for exceptional drought. But given the large buffering water volume allowed in the open water area, usage of tap water should be minimal.

9.3.4 Excess water during heavy rain will be drained into the adjacent Ngau Tam Mei Drainage Channel.

9.3.5 Water from the NTMDC will not back flow into the landscape pond with ecological features.

9.4 Vegetation management

Open water area

9.4.1 Removal of excess wetland plants.

9.4.2 Removal of aggressive exotic species Water Hyacinth (if any).

Shallow water area/Reedbed

9.4.3 Removal of exotic/invasive species e.g., Mikania, *Brachiaria mutica* etc.

9.4.4 Clearance of excess *Phragmites* in the reedbed habitat when needed.

9.4.5 Regular inspection on the growth of the wetland plants and apply alternative species when necessary if certain species do not grow well when necessary.

Trees

9.4.6 Some standard practices would be applied for the pond side trees:

- Provide adequate growing space for future growth of canopy.
- Provide sufficient growing space between trees and adjacent structures.
- Keep sufficient space clear of vegetation at the base of trees.
- Staking and guying where necessary.
- Regular inspection.
- Avoid excess pruning (e.g. topiary).

Pest control

9.4.7 Pest control measures would be undertaken where necessary. For example, apple snails should be removed from the landscape pond by picking up with hands.

9.4.8 Avoidance of the use of inorganic pesticide or herbicide.

9.5 Access

9.5.1 Proposed footpaths will serve both residents and maintenance crews.

9.5.2 Some passive recreation (such as walking and an admiration of nature) by residents would be allowed under registration entry via the property management in order to avoid excessive disturbance. Residents will be restricted to designated walkable paths. Suitable educational signage of protecting the nature while admiring the nature will be provided throughout the walkable paths. Active recreation uses/activities such as swimming, boating, or playing radio control model boats will not be allowed.

9.6 Maintenance

9.6.1 The property management of the residential development would be responsible for the long-term maintenance of the proposed landscape pond with ecological features.

Table 25 *Summary of Impact Evaluation and Mitigation Measures*

Impact	Habitat Quality	Species	Size/abundance	Duration	Reversibility	Magnitude	Impact Evaluation	Mitigation Measures
Direct loss of habitat in AS	Affected habitats (latest habitat condition) and the ecological values: • Grassland: L • Plantation: VL • Reedbed: L-M *VL= Very Low; L=Low; M=Moderate	Species of conservation importance within Application Site: total 11 avifauna and 1 reptile recorded in current and previous surveys. **Verification survey:** • Avifauna: Black-crowned Night Heron, Chinese Pond Heron, Grey Heron, Little Egret, Black Kite • Reptile: Many-banded Krait **Previous Surveys:** • Avifauna: Black-crowned Night Heron, Chinese Pond Heron, Eastern Cattle Egret, Grey Heron, Great Egret, Little Egret, Great Cormorant, Black Kite, Collared Crow, Red-billed Starling, White-shouldered Starling • Reptile: Many-banded Krait	Latest habitat condition: • Grassland: 6.37ha • Plantation: 0.11ha • Reedbed 0.08ha	Permanent	Irreversible	Low for the affected habitats due to their small size / limited ecological value.	Low	-
Direct impact to fauna species of conservation importance	Refer to above.	Refer to above.	Numbers present in the Application Site are very small in comparison to the Deep Bay population.	Permanent	Irreversible	Magnitude would be very low due to the small numbers of individuals recorded, in comparison to the populations of Deep Bay area, and the availability of similar and/or higher quality habitats nearby.	Low	-
Potential disturbance to large waterbird flightlines	The main flight line used by waterbirds i.e., NTMDC is of Moderate ecological value	**From previous and verification surveys:** Eight large waterbird species of conservation importance using the NTMDC as flight corridor: Black-faced Spoonbill, Chinese Pond Heron, Great Egret, Grey Heron, Intermediate Egret, Little Egret, Black-crowned Night Heron and Great Cormorant. Four species observed flying through the AS: Great Egret, Grey Heron, Little Egret and Great Cormorant.	Flight line bird count / Verification survey / 2019/20 survey Along NTMDC / 176 / 286 Across AS / 16 / 41	Permanent	Irreversible	Low, the birds rarely fly across the AS.	Low	-
Potential bird collision	Refer to above.	From previous and verification surveys: 48 Avifauna species recorded within AS in total. 29 of which were also recorded during verification survey.	From verification and previous surveys, most birds were recorded in low or very low abundance, apart from a few locally common species which were in higher abundance e.g., Crested Myna and Scaly-breasted Munia, and Eurasian Tree Sparrow.	Permanent	Irreversible	Low as the currently proposed development would not have extensive reflective glass façades.	Low	-
Indirect impacts to nearby habitats and sites of conservation importance	Indirectly affected habitats and their ecological values: • Agricultural land: L / L-M • Drainage channel: L / M • Grassland: L • Marsh: L • Plantation: VL • Pond: L / M • Reedbed: L-M • Urbanised area: VL • Waste ground: VL • Watercourse: VL	Species of conservation importance concerned are mainly avifauna and/or wetland dependent species occurring in NTMDC and ponds, etc.	Small to very small sizes of habitats indirectly affected.	Temporary construction phase disturbance; permanent operation phase disturbance	Irreversible for operational phase disturbance	Moderate for construction phase if no mitigation measures; low for operational phase.	• Low to moderate construction disturbance for NTMDC and YMST temporary wetland during construction phase • Negligible impact to YMST temporary wetland if it ceases operate before the construction of the current development • Low to other habitats	• Steel hammer percussive piling would be avoided. Quieter piling methods to be considered, further at-source mitigation measures for noise control during piling works. • 3m tall opaque non-reflective noise barrier • Fully enclose the piling head by noise shield • Noise absorption material to be added to noise shield • Good site practices and noise management
Indirect impacts to fauna of conservation importance and waterbirds	Refer to above.	Assessment Area: 51 avifauna of conservation importance / wetland dependent birds were recorded in previous and current surveys.	Numbers present in the AA are very small in comparison to the Deep Bay population.	Temporary construction phase disturbance; permanent operation	Irreversible for operational phase disturbance	Moderate for construction phase if no mitigation measures; low for operational phase.	• Refer to above	• Refer to above

Impact	Habitat Quality	Species	Size/abundance	Duration	Reversibility	Magnitude	Impact Evaluation	Mitigation Measures
		Drainage Channel: 26 avifauna of conservation importance / wetland dependent birds were recorded in previous and current surveys. Ponds: 34 avifauna of conservation importance / wetland dependent birds were recorded in previous and current surveys.		phase disturbance				
Fragmentation impacts	Refer to above.	Refer to above.	Refer to above.	Permanent	Irreversible	Very small	Low	-

10 CONCLUSION

10.1.1 The AS is designated for residential use by the government under the Mai Po and Fairview Park OZP and a residential scheme was previously approved with an EcoIA submitted and no insurmountable ecological problems envisaged by the government. A recent rezoning application no. Y/YL-MP/6 received comments related to development density and ecological gain from the Town Planning Board. In response to the Town Planning Board members comments, the current revised scheme adopts a lower domestic plot ratio and has incorporated a landscape pond with additional ecological features as an ecological planning gain. The current EcoIA with verification survey results show no significant change in the habitat condition within the AS nor AA. With the implementation of appropriate mitigation measures in regard to preserving the integrity of NTMDC, no unacceptable residual ecological impacts are anticipated. The building layout of the current proposed development has considered a proactive approach to respect major flight line along NTMDC. The positioning of the landscape pond also aims at respecting the nearby Ngau Tam Mei Drainage Channel which is utilized by water birds as flight corridor and foraging ground.

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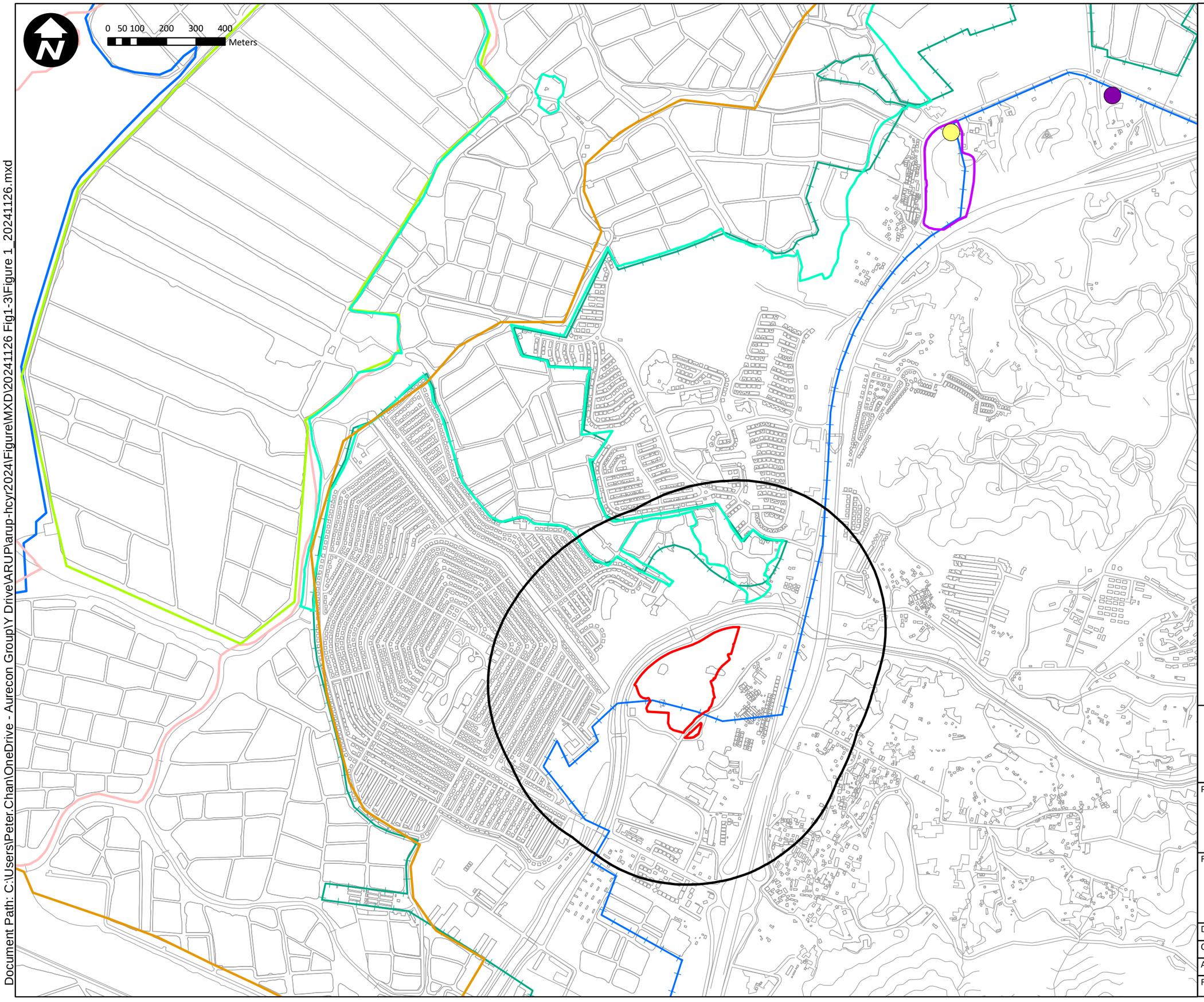

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Figure Title:
Application Site and
Adjacent Areas of Conservation Interest

Drawn by:	PC	Scale:	1:12,000 on A3
Checked By:	MM	Date:	26 Nov 2024
Approved by:	MM		
Figure Number:	Figure 1	Revision:	0

0 50 100 200 300 400 Meters

Palm Spring

Fairview Park Drainage Channel

Fairview Park

Light Public Housing

Yau Pok Road

Kam Pok Road

NTMDC

Ha Chuk Yuen Road

Castle Peak Road

Fung Chuk Road

Chuk Yuen Flood Water Pumping Station

Ha San Wai Road

San Tin Highway

Application Site

Assessment Area

Survey Transect

Habitat

- Agricultural Land
- Drainage Channel
- Pond
- Marsh
- Plantation
- Reedbed
- Grassland
- Watercourse
- Urbanised Area
- Waste Ground

Species of Conservation Importance

Odonata

- Coastal Glider
- Scarlet Basker
- Ruby Darter

Reptile

- Many-banded Krait

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Figure Title:
Habitat Map based on verification surveys in 2024

Drawn by:	PC	Scale:	1:5,000 on A3
Checked By:	NT	Date:	27 Nov 2024
Approved by:	NT		
Figure Number:	Figure 2	Revision:	0

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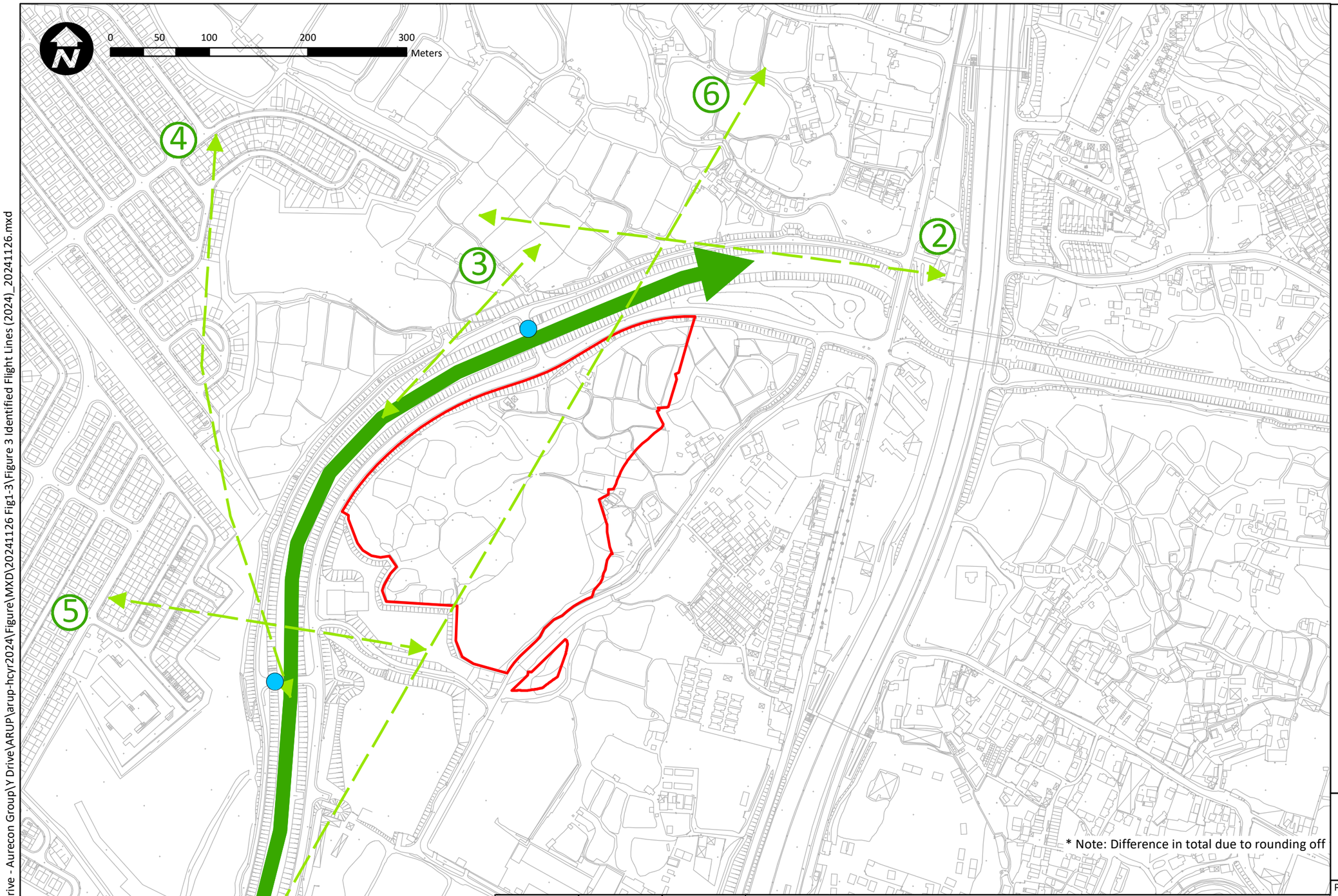

Flightline	No. of birds	%	Mean no. of birds recorded per hour						
			BFS	CPH	GE	GH	LE	NH	GC
1	176	**47.96%**	1.10	0.70	5.60	1.00	2.30	0.80	6.20
2	24	**6.54%**		0.10	1.80	0.10	0.40		
3	29	**7.90%**	0.10		0.20	0.20			2.40
4	87	**23.71%**	0.10		2.10	0.10			6.40
5	35	**9.54%**		0.20	1.20	0.30	0.30		1.50
6	16	**4.36%**		0.10	0.30		0.10	0.20	0.90
Total	**367**	**100%**	**1.30**	**1.20**	**11.30**	**2.00**	**4.00**	**1.00**	**17.60**

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Project Title:
S12A Amendment of Plan Application Draft Mai Po and Fairview Park OZP No. S/YL-MP/7 Rezoning from "R(D)" to "R(C)1" Zone for a Proposed Residential Development at Various Lots in D.D.104 & the Adjoining Government Land in Yuen Long, N.T.

Figure Title:
Identified Bird Flight Lines (2024) with Master Layout Plan overlaid

Drawn by:	PC	Scale:	1:4,000 on A3
Checked By:	MM	Date:	26 Nov 2024
Approved by:	MM		
Figure Number:	Figure 3	Revision:	0

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Appendix 1 Floral Species Recorded within Project Site and Assessment Area

Scientific Name	Chinese Name	Origin[1]	Growth Form[2]	Status in Hong Kong[1]	Application Site[3]			Assessment Area[3]								
					GL	PL	RB	AL	DC	GL	MA	PL	PO	RB	UA	WG	WC
Acacia auriculiformis	耳果相思	Exotic	Tree	Widely cultivated								*			*		
Acacia confusa	台灣相思	Exotic	Tree	Widely cultivated											*		
Acacia mangium	大葉相思	Exotic	Tree	Widely cultivated		*											
Acanthus ilicifolius	老鼠簕	Native	Shrub	Common					*								
Acrostichum aureum	鹵蕨	Native	Herb	Restricted							**						*
Ageratum houstonianum	熊耳草	Exotic	Herb	Common				*									
Aglaia odorata	米仔蘭	Exotic	Shrub/Tree	Cultivated (IUCN: Near Threatened)											*		
Albizia lebbeck	大葉合歡	Exotic	Tree	Cultivated								*			*	*	
Alocasia macrorrhizos	海芋	Native	Herb	Very common	**	*		*	***	*		*	*		**	*	**
Alternanthera philoxeroides	空心莧	Exotic	Herb	Common	**					*							**
Alternanthera sessilis	蝦鉗菜	Native	Herb	Common	*			*	*				*		*		*
Alysicarpus vaginalis	鏈莢豆	Native	Herb	Very common	*												
Annona squamosa	番荔枝	Exotic	Tree	Cultivated				*									
Artemisia indica	五月艾	Native	Herb	-											*		
Artocarpus heterophyllus	菠蘿蜜	Exotic	Tree	Cultivated											*		
Asclepias curassavica	馬利筋	Exotic	Herb	Cultivated				*									
Aster subulatus	鑽形紫菀	Exotic	Herb	Naturalized						*							
Asystasia micrantha	小花十萬錯	Exotic	Herb	Cultivated or naturalized				*					*		*		
Axonopus compressus	地毯草	Exotic	Herb	Common and naturalized											*		
Bambusa sp.	竹屬	-	Bamboo	-	*											*	
Bauhinia sp.	羊蹄甲屬	-	Tree	-								*	*		*		
Bauhinia x blakeana	洋紫荊	Native	Tree	Cultivated								*					
Bidens alba	白花鬼針草	Exotic	Herb	Very common	*	**		*	*	*	*	*	*		**	*	*
Bischofia javanica	秋楓	Native	Tree	Common	*	*									*		
Bischofia polycarpa	重陽木	Exotic	Tree	Cultivated											*		
Blumea megacephala	大頭艾納香	Native	Climber/Herb	Common									*				
Boehmeria nivea	苧麻	Exotic	Shrub	Common								*					*
Bombax ceiba	木棉	Exotic	Tree	Cultivated											*		
Bothriochloa bladhii	臭根子草	Native	Herb	Very common	**												
Bothriochloa ischaemum	白羊草	Native	Herb	Common	*												
Bougainvillea spectabilis	簕杜鵑	Exotic	Climber/Shrub	Cultivated											*	*	
Brachiaria mutica	巴拉草	Exotic	Herb	Very common	*			*		***	**		**				*
Bridelia tomentosa	土蜜樹	Native	Shrub/Tree	Very common	*	*						*	*		*	*	
Broussonetia papyrifera	構樹	Native	Tree	Very common		*						*	*		**		
Brugmansia versicolor	異色曼陀羅	Exotic	Shrub	Cultivated						*							
Byttneria grandifolia	刺果藤	Native	Climber	Very common								*					
Calliandra haematocephala	紅絨球	Exotic	Shrub	Cultivated		**		*				*			*		
Callistemon viminalis	串錢柳	Exotic	Tree	Cultivated								*					
Canna indica	美人蕉	Exotic	Herb	Cultivated	*												
Carica papaya	番木瓜	Exotic	Tree	Cultivated	*			*			*				*		
Caryota maxima	魚尾葵	Exotic	Tree	Cultivated											*		
Caryota mitis	短穗魚尾葵	Exotic	Shrub	Cultivated								*			*		
Cassytha filiformis	無根藤	Native	Climber	Very common		*											
Cayratia corniculata	角花烏蘞莓	Native	Climber	Very common											*		
Celosia argentea	青箱	Native	Herb	Very common				*								*	
Celtis sinensis	朴	Native	Tree	Common and widely planted	*	*						*	*		**	*	
Centella asiatica	崩大碗	Native	Herb	Very common											*		
Centotheca lappacea	假淡竹葉	Native	Herb	Common											*		
Chloris barbata	孟仁草	Native	Herb	Very common		*									*		
Cinnamomum burmannii	陰香	Native	Tree	Common, also cultivated								*			**		
Cinnamomum camphora	樟	Native	Tree	Common, also cultivated								*			*		
Citrus limonia	黎檬	Exotic	Tree	Cultivated				*									
Citrus reticulata	桔	Exotic	Tree	Cultivated	*			*							*		
Clausena lansium	黃皮	Exotic	Tree	Cultivated				*							*		
Cleistocalyx nervosum	水翁	Native	Tree	Common									**				
Cleome rutidosperma	皺子白花菜	Exotic	Herb	Restricted											*		
Clerodendrum thomsonae	龍吐珠	Exotic	Climber/Shrub	Cultivated								*					
Cocculus orbiculatus	木防己	Native	Climber	Common	*					*	*	*	*		*		
Coleus amboinicus	到手香	-	Herb	-											*		

Scientific Name	Chinese Name	Origin[1]	Growth Form[2]	Status in Hong Kong[1]	Application Site[3]			Assessment Area[3]								
					GL	PL	RB	AL	DC	GL	MA	PL	PO	RB	UA	WG	WC
Colocasia esculenta	芋	Native	Herb	Cultivated	*			*									*
Commelina diffusa	節節草	Native	Herb	Common	*	*					**				*		*
Conyza sumatrensis	蘇門白酒草	Exotic	Herb	Common					*		*						
Crateva trifoliata	鈍葉魚木	Exotic	Tree	Cultivated											*		
Crateva unilocularis	樹頭菜	Exotic	Tree	Cultivated				*				**			*		
Cuscuta australis	南方菟絲子	Native	Herb	Common	*										*		
Cuscuta campestris Yunck	田野菟絲子	-	Climber	-	*					*							
Cyclosorus interruptus	間斷毛蕨	Native	Herb	Common	*					*	*						*
Cyclosorus parasiticus	華南毛蕨	Native	Herb	Very common	*			*		*	*				*		*
Cynodon dactylon	狗牙根	Native	Herb	Very common	*	**											*
Cyperus haspan	畦畔莎草	Native	Herb	Common									*				
Cyperus involucratus	風車草	Exotic	Herb	Cultivated or naturalized	*				**	*			***				
Cyperus iria	碎米莎草	Native	Herb	Common											*		
Cyperus malaccensis	茳芏	Native	Herb	Common	**						*						
Cyperus malaccensis var. brevifolius	短葉茳芏	Native	Herb	Common	*					*			*				
Cyrtococcum patens	弓果黍	Native	Herb	Very common											*		
Dactyloctenium aegyptium	龍爪茅	Native	Herb	Common											*		
Delonix regia	鳳凰木	Exotic	Tree	Cultivated											*		
Derris trifoliata	魚藤	Native	Climber/Shrub	Common					***								
Desmodium gangeticum	大葉山蚂蝗	Native	Shrub	Common											*		
Desmos chinensis	假鷹爪	Native	Climber/Shrub	Common								*					
Dimocarpus longan	龍眼	Exotic	Tree	Cultivated (IUCN: Near Threatened)	*	*		*				*			*	*	
Dioscorea alata	大薯	Exotic	Climber	Cultivated	*												
Dioscorea oppositifolia	薯蕷	-	Climber	-				*									
Diospyros kaki	柿	Exotic	Tree	Cultivated											*		
Dracaena fragrans	巴西鐵樹	Exotic	Shrub	Cultivated				*				*					
Dracontomelon duperreanum	人面子	Exotic	Tree	Cultivated												*	
Duranta erecta	假連翹	Exotic	Climber/Shrub	Cultivated								**			**		
Echinochloa colona	光頭稗	Native	Herb	Very common											*		
Eclipta prostrata	鱧腸	Native	Herb	Common	*												
Eichhornia crassipes	鳳眼藍	Exotic	Herb	Common					*				***				
Elephantopus scaber	地膽草	Native	Herb	Common											*		
Emilia sonchifolia	一點紅	Native	Herb	Very common	*			*							*		
Epipremnum aureum	綠蘿	Exotic	Climber	Cultivated											*		
Eragrostis atrovirens	鼠婦草	Native	Herb	Common	*												
Eragrostis tenella	鰂魚草	Native	Herb	Very common											*		
Eucalyptus robusta	大葉桉	Exotic	Tree	Cultivated								*					
Eucalyptus sp.	桉屬	Exotic	Tree	Cultivated											*		
Euphorbia bifida	細齒大戟	Native	Herb	Common											*		
Euphorbia hirta	大飛揚草	Exotic	Herb	Very common				*							*		
Euphorbia hypericifolia	通奶草	Native	Herb	Common	*										*	*	
Euphorbia prostrata	匍匐大戟	Exotic	Herb	-											*		
Euphorbia thymifolia	小飛揚	Native	Herb	Very common											*		
Excoecaria cochinchinensis	紅背桂	Exotic	Shrub	Cultivated								*					
Ficus benjamina	垂葉榕	Exotic	Tree	Cultivated						*		*					
Ficus elastica	印度榕	Exotic	Tree	Cultivated								*					
Ficus fistulosa	水同木	Native	Tree	Common	*												
Ficus hirta	粗葉榕	Native	Shrub/Tree	Common							*				*		
Ficus hispida	對葉榕	Native	Shrub/Tree	Very common	*			*		*	*	*	*		*	*	
Ficus maclellandii 'Alii'	阿里垂榕	Exotic	Tree	-											*		
Ficus microcarpa	細葉榕	Native	Tree	Common and widely cultivated	*							*			*		
Ficus pumila	薜荔	Native	Climber	Very common									*		*		
Ficus religiosa	菩提樹	Exotic	Tree	Restricted but widely planted and locally naturalized	*												
Ficus subpisocarpa	筆管榕	Native	Tree	Common	*				*	*							
Ficus virens	大葉榕	Native	Tree	Common		**						*	*		*		
Flueggea virosa	白飯樹	Native	Shrub	Common	*				**		*	*			*		
Gardenia jasminoides	梔子	Native	Shrub	Common											*		
Hedyotis corymbosa	傘房花耳草	Native	Herb	Very common											*		

Scientific Name	Chinese Name	Origin[1]	Growth Form[2]	Status in Hong Kong[1]	Application Site[3]			Assessment Area[3]									
					GL	PL	RB	AL	DC	GL	MA	PL	PO	RB	UA	WG	WC
Hibiscus rosa-sinensis	大紅花	Exotic	Shrub	Commonly cultivated								*			*		
Hibiscus tiliaceus	黃槿	Native	Tree	Very common								*			*		
Hydrocotyle verticillata	銅錢草	Exotic	Herb	-					*								
Hylocereus undatus	量天尺	Exotic	Herb	Cultivated											*		
Ilex cinerea	灰冬青	Native	Shrub/Tree	Common											*		
Imperata cylindrica var. major	絲茅	Native	Herb	Very common	*												
Indocalamus sinicus	水銀竹	Native	Bamboo	Common											*		
Ipomoea aquatica	通菜	Exotic	Herb	Very common	**												*
Ipomoea cairica	五爪金龍	Exotic	Herb	Very common	*	**				*	*	*			**	*	*
Ipomoea obscura	心葉薯, 紫心牽	Native	Herb	Common	*	*										*	
Ipomoea triloba	三裂葉薯	Exotic	Herb	Common	*										*	*	
Ixora chinensis	龍船花	Native	Shrub	Restricted, also widely cultivated								*			**		
Ixora coccinea	橙紅龍船花	Exotic	Shrub	Often planted											*		
Kalanchoe pinnata	落地生根	Exotic	Herb	Common, cultivated and naturalized											*		
Khaya senegalensis	非洲桃花心木	Exotic	Tree	Cultivated (IUCN: Vulnerable)								**			*		
Kyllinga brevifolia	短葉水蜈蚣	Native	Herb	Common				*									
Kyllinga nemoralis	單穗水蜈蚣	Native	Herb	Very common	*					*							
Kyllinga polyphylla	香根水蜈蚣	Exotic	Herb	Common	***			*		*					*		*
Lagerstroemia speciosa	大花紫薇	Exotic	Tree	Cultivated								*			*		
Lantana camara	馬纓丹	Exotic	Shrub	Very common	*							*	*		*		
Leucaena leucocephala	銀合歡	Exotic	Shrub/Tree	Cultivated or naturalized	*	***		*	*	*	*	*	*		**	*	
Ligustrum sinense	山指甲	Exotic	Shrub/Tree	Common, also widely cultivated									*		**		
Lindernia rotundifolia	圓葉母草	Exotic	Herb	Restricted	*												
Liquidambar formosana	楓香	Native	Tree	Common, also widely planted								*			*		
Litchi chinensis	荔枝	Exotic	Tree	Cultivated				*				*			*		
Litsea glutinosa	潺槁	Native	Tree	Very common								*			*		
Litsea monopetala	假柿木薑子	Native	Tree	Restricted											*		
Livistona chinensis	蒲葵	Exotic	Tree	Cultivated											*		
Lophatherum gracile	淡竹葉	Native	Herb	Very common								*			*		
Loropetalum chinense f. rubrum	紅花檵木	Exotic	Shrub	Cultivated											*		
Ludwigia adscendens	水龍	Native	Herb	Common							*		**				
Ludwigia decurrens	翼莖水丁香	Exotic	Herb	-													*
Ludwigia erecta	美洲水丁香	Exotic	Herb	-					**								
Ludwigia hyssopifolia	草龍	Native	Herb	Restricted	*	*											*
Ludwigia octovalvis	毛草龍	Native	Herb	Common	*					*							
Lycopersicon esculentum	蕃茄	Exotic	Herb	Cultivated	*												
Lygodium japonicum	海金沙	Native	Climber/Herb	Very common	*			*		*					*		*
Lygodium scandens	小葉海金沙	Native	Climber/Herb	Common							*						
Macaranga tanarius var. tomentosa	血桐	Native	Tree	Common	*	**		*	*	*	*	*	*		**	*	
Malvastrum coromandelianum	賽葵	Native	Herb/Shrub	Common	*	*									*	*	
Mangifera indica	杧果	Exotic	Tree	Cultivated				*							*		
Manihot esculenta	木薯	Exotic	Shrub	Cultivated	*			*							*		
Melaleuca cajuputi subsp. cumingiana	白千層	Exotic	Tree	Cultivated								**	*		*		
Melia azedarach	苦楝	Exotic	Tree	Cultivated or naturalized		*				*		*	*		*	*	
Microcos nervosa	布渣葉	Native	Shrub/Tree	Common		*					*	*			*		
Microlepia hancei	華南鱗蓋蕨	Native	Herb	Restricted							**						
Mikania micrantha	微甘菊	Exotic	Climber/Herb	Very common	**	***		*	*	*	*	*	**		**	*	*
Mimosa pudica	含羞草	Exotic	Herb	Very common	*			*		*					*	*	
Morus alba	桑	Native	Shrub/Tree	Common and cultivated	*				**			**	*		**		
Murraya paniculata	九里香	Exotic	Tree	Cultivated or naturalized						*		*			*		
Musa x paradisiaca	大蕉	Exotic	Herb	Cultivated	**			*							*	*	
Neyraudia reynaudiana	類蘆	Native	Herb	Very common	***	*		*		*					*	*	
Oryza sativa	稻	Native	Herb	Cultivated									*				
Oxalis corniculata	酢醬草	Native	Herb	Very common	*			*				*			**	*	
Oxalis debilis subsp. corymbosa	紅花酢漿草	Exotic	Herb	Common								*	*		**		
Pachira aquatica	瓜栗	Exotic	Tree	Planted for ornamental purpose	*			*							*		
Paederia scandens	雞矢藤	Native	Herb	Very common	*	**		*		*	*	*	*		*	*	

Scientific Name	Chinese Name	Origin[1]	Growth Form[2]	Status in Hong Kong[1]	Application Site[3]			Assessment Area[3]								
					GL	PL	RB	AL	DC	GL	MA	PL	PO	RB	UA	WG	WC
Panicum maximum	大黍	Exotic	Herb	Very common	***	**		**	***	*	*	**	**		*	***	**
Panicum repens	鋪地黍	Native	Herb	Very common							*						
Paspalum conjugatum	兩耳草	Native	Herb	Common	*	*		*							*		
Passiflora caerulea	西番蓮	-	Climber	-											*		
Passiflora edulis	雞蛋果	Exotic	Climber	Cultivated				*									
Passiflora foetida	龍珠果	Exotic	Climber	Very common		*		**			*	*	*		**		
Passiflora suberosa	南美西番蓮	Exotic	Climber	Common											*		
Pennisetum alopecuroides	狼尾草	Native	Herb	Common											*		
Persicaria barbata	毛蓼	Native	Herb	Common	*					*							
Persicaria chinensis	火炭母	Native	Herb	Very common				*							*		*
Phoenix loureiroi	刺葵	Native	Tree	Common											*		
Phragmites australis	蘆葦	Native	Herb	Very common	***		****		*	*	***			****			
Phyllanthus debilis	銳尖葉下珠	-	Herb	-				*									
Phyllanthus emblica	油甘子	Native	Shrub/Tree	Very common									*				
Phyllanthus reticulatus	小果葉下珠	Native	Shrub	Common								*					
Phyllanthus tenellus	纖梗葉下珠	-	Herb	-				*							*		
Phyllanthus urinaria	葉下珠	Native	Herb	Common	*			*							*	*	
Pilea microphylla	小葉冷水花	Exotic	Herb	Very common				*							*		*
Plantago major	車前草	Native	Herb	Very common	*										*		
Plumeria rubra	雞蛋花	Exotic	Tree	Commonly cultivated											*		
Pouzolzia zeylanica	霧水葛	Native	Herb	Common	*					*					*		
Praxelis clematidea	假臭草	Exotic	Herb	Very common											*		
Primula malacoides	報春花	Exotic	-	-											*		
Psidium guajava	番石榴	Exotic	Tree	Common and often planted	*			*							*		
Pteris ensiformis	劍葉鳳尾蕨	Native	Herb	Common				*							*		
Pteris vittata	蜈蚣草	Native	Herb	Very common											*		*
Pueraria lobata	葛	Native	Climber	Common						*					*	*	
Pueraria lobata var. montana	葛麻姆	Native	Climber	Common	*												
Quisqualis indica	使君子	Exotic	Climber/Shrub	Restricted											**		
Rhaphiolepis indica	車輪梅	Native	Shrub/Tree	Very common								*			*		
Ruellia coerulea	蘭花草	Exotic	Herb	Cultivated				*									
Saccharum officinarum	甘蔗	Exotic	Herb	Cultivated	**												
Sageretia thea	雀梅藤	Native	Climber/Shrub	Very common								*			*		
Sansevieria trifasciata	虎尾蘭	Exotic	Herb	Cultivated				*									
Sapium sebiferum	烏桕	Native	Tree	Common								*	*		*		
Schefflera arboricola	鵝掌藤	Exotic	Climber/Shrub	Cultivated											*		
Schefflera heptaphylla	鴨腳木	Native	Shrub/Tree	Very common		*									*		
Sesbania cannabina	田菁	Exotic	Herb	Common	*	*			*	*					*	*	
Sida acuta	黃花稔	Native	Herb	Common											*		
Sida rhombifolia	白背黃花稔	Native	Shrub	Common		**			*								
Solanum americanum	少花龍葵	Exotic	Herb	Very common				*							*	*	
Solanum torvum	水茄	Exotic	Shrub	Common												*	
Solena amplexicaulis	茅瓜	Native	Climber	Very common	*	*			*	*		*	*		*	*	
Sonneratia caseolaris	海桑	Exotic	Tree	Naturalized					*								
Spathodea campanulata	火焰木	Exotic	Tree	Cultivated											**		
Sporobolus fertilis	鼠尾粟	Native	Herb	Very common											*		
Stephania longa	糞箕薦	Native	Climber	Common								*			*		
Sterculia lanceolata	假蘋婆	Native	Tree	Very common									*				
Syngonium podophyllum	合果芋	Exotic	Herb	Often planted								*			*		*
Syzygium cumini	海南蒲桃	Exotic	Tree	Cultivated	*	*							**		*		
Syzygium hancei	韓氏蒲桃	Native	Shrub/Tree	Common											*		

Scientific Name	Chinese Name	Origin[1]	Growth Form[2]	Status in Hong Kong[1]	Application Site[3]			Assessment Area[3]								
					GL	PL	RB	AL	DC	GL	MA	PL	PO	RB	UA	WG	WC
Syzygium jambos	蒲桃	Exotic	Tree	Cultivated and naturalized	*			*					*		*	*	
Thryallis gracilis (Bartl.) Kuntze	金英	Exotic	Shrub	-											*		
Trema tomentosa	山黃麻	Native	Shrub/Tree	Common						*							
Tridax procumbens	羽芒菊	Exotic	Herb	Very common											*		
Typha angustifolia	水燭	Exotic	Herb	Cultivated and widely established									*				
Ulmus parvifolia Jacq	榔榆	Exotic	Tree	-											*		
Vernonia cinerea	夜香牛	Native	Herb	Very common	*							*					
Wedelia trilobata	三裂葉蟛蜞菊	Exotic	Herb	Common, also widely cultivated	**	*			**	*	*	**	**		**		
Youngia japonica	黃鵪菜	Native	Herb	Very common	*			*				*					
Numbers of species recorded				**234**	**80**	**34**	**1**	**54**	**23**	**37**	**27**	**65**	**41**	**1**	**149**	**33**	**24**

Notes:

1. Origin and Status in HK refer to:
   a. Cap. 96 = Chapter 96 Forests and Countryside Ordinance, including the associated Chapter 96A Forestry Regulation
   b. Cap. 586 = Chapter 586 Protection of Endangered Species of Animal and Plants Ordinance
   c. Corlett *et al.* (2000);
   d. AFCD (2003);
   e. AFCD (2007);
   f. AFCD (2008);
   g. AFCD (2009);
   h. AFCD (2011a);
   i. AFCD (2024);
   j. IUCN (2021);
   k. Qin *et al.* (2017) (Threatened Species List of China's Higher Plants = TSLCHP);
   l. Status in China Red Data Book is retrieved from AFCD (2003).
2. Growth form follows AFCD (2024).
3. Habitats: AL = Agricultural Land; DC= Drainage Channel; GL = Grassland; MA = Marsh; PL= Plantation; PO= Pond; RB=Reedbed; UA= Urbanised Area; WG=Wasteground; WC = Watercourse

Code for abundance: **** = Abundant, *** = Frequent, ** = Occasional, * = Scarce

Appendix 2. Maximum Number of Bird Species Recorded in Application Site and Assessment Area (Jan - May 2024)

Common Name#	Scientific Name#	Principal Status	Conservation and Protection Status	Application Site		Assessment Area							
				R	GL	Ag	DC	Po	Pl	R	M	W	UA	IF
Northern Shoveler	***Spatula clypeata***	W	RC			6								
Mallard	***Anas platyrhynchos***	W	RC					1						
Little Grebe	***Tachybaptus ruficollis***	P	LC					1						
Cinnamon Bittern	***Ixobrychus cinnamomeus***	M	LC									1		
Black-crowned Night Heron	***Nycticorax nycticorax***	P	(LC)		3			1						
Chinese Pond Heron	***Ardeola bacchus***	P	PRC (RC)		2			7				1		
Grey Heron	***Ardea cinerea***	W	PRC		2			3						
Great Egret	***Ardea alba***	P	PRC (RC)					12		1				
Intermediate Egret	***Ardea intermedia***	M,P	RC			1								
Little Egret	***Egretta garzetta***	P	PRC (RC)		1	1	2	11						
Great Cormorant	***Phalacrocorax carbo***	W	PRC					16						
Besra	*Accipiter virgatus*	R	CITES(II); Cap.586											1
Black Kite	*Milvus migrans*	W,R	(RC); CITES(II); Cap.586		1			1						1
White-breasted Waterhen	***Amaurornis phoenicurus***	R	-		1	1	1	4		2	1	1	2	
Common Moorhen	***Gallinula chloropus***	R	-	1				2						
Black-winged Stilt	***Himantopus himantopus***	W	RC			10								
Greater Painted-snipe	***Rostratula benghalensis***	M,R	LC			1								
Common Snipe	***Gallinago gallinago***	W	-			6		3						
Common Sandpiper	***Actitis hypoleucos***	M,W	-				1	1						
Green Sandpiper	***Tringa ochropus***	W	-			2		1				1		
Common Redshank	***Tringa totanus***	W	RC			1		1						
Marsh Sandpiper	***Tringa stagnatilis***	M,W	RC			8								
Wood Sandpiper	***Tringa glareola***	M,W	LC			10		2						
Common Greenshank	***Tringa nebularia***	M,W	RC			2	1	5						
Rock Dove	*Columba livia*	R	-					5						
Oriental Turtle Dove	*Streptopelia orientalis*	W	-			1		1						
Eurasian Collared Dove	*Streptopelia decaocto*	(Not included)	-					2						
Spotted Dove	*Spilopelia chinensis*	R	-	1	5	6	1	10	2			1	4	
Greater Coucal	*Centropus sinensis*	R	-		1	2	1	2		1		1	2	
Asian Koel	*Eudynamys scolopaceus*	Su,R	-			3	1	2					2	
Plaintive Cuckoo	*Cacomantis merulinus*	Su	-			1								1
Large Hawk-cuckoo	*Hierococcyx sparverioides*	Su	-			1								
House Swift	*Apus nipalensis*	R,SpM	-											9
White-throated Kingfisher	***Halcyon smyrnensis***	AM,P	(LC)					1						
Common Kingfisher	***Alcedo atthis***	AM,P	-					3						
Pied Kingfisher	***Ceryle rudis***	R	(LC)					1						
Long-tailed Shrike	*Lanius schach*	R	-		1	2		2						
Black Drongo	*Dicrurus macrocercus*	M,Su	-		1		1							
Azure-winged Magpie	*Cyanopica cyanus*	(Not included)	-					6						
Red-billed Blue Magpie	*Urocissa erythroryncha*	R	-		1								1	
Collared Crow	***Corvus torquatus***	R	LC; RLCV(NT); IUCN(VU)					1					1	
Large-billed Crow	*Corvus macrorhynchos*	R	-											1
Japanese Tit	*Parus minor*	(Not included)	-			2		3	2			6	2	
Cinereous Tit	*Parus cinereus*	R	-										5	
Chinese Penduline Tit	*Remiz consobrinus*	M,W	RC								1			
Red-whiskered Bulbul	*Pycnonotus jocosus*	R	-		4	7		12	4			6	35	
Chinese Bulbul	*Pycnonotus sinensis*	R	-	2	5	5		15	2	1		2	16	
Sooty-headed Bulbul	*Pycnonotus aurigaster*	R	-		2	3								
Barn Swallow	*Hirundo rustica*	SpM,Su	-		2	7		15					10	30
Yellow-browed Warbler	*Phylloscopus inornatus*	W	-		1			1					1	
Dusky Warbler	*Phylloscopus fuscatus*	W	-			1		20		2	25	2	3	
Zitting Cisticola	*Cisticola juncidis*	W	LC							1				
Golden-headed Cisticola	*Cisticola exilis*	W	LC							1				
Yellow-bellied Prinia	*Prinia flaviventris*	R	-	1	1	1	1	3		10			2	
Plain Prinia	*Prinia inornata*	R	-		1	3		8		6	15		2	
Common Tailorbird	*Orthotomus sutorius*	R	-			1	2		1		1		2	
Masked Laughingthrush	*Pterorhinus perspicillatus*	R	-		5		2	2	2				4	
Swinhoe's White-eye	*Zosterops simplex*	R,?W	-		4	2		3	3			3	6	
Crested Myna	*Acridotheres cristatellus*	R	-	2	4	3	4	25					15	
Common Myna	*Acridotheres tristis*	R	-			2		4					1	
Black-collared Starling	*Gracupica nigricollis*	R	-		4	5		10	6			2	7	
White-shouldered Starling	*Sturnia sinensis*	M,W,Su	(LC)					5						
Chinese Blackbird	*Turdus mandarinus*	W,M	-					1					1	
Oriental Magpie Robin	*Copsychus saularis*	R	-		2	2	2	3	2	3		2	2	
Asian Brown Flycatcher	*Muscicapa dauurica*	M,W	-									1		
Blue Whistling Thrush	*Myophonus caeruleus*	R	-				1					2		
Daurian Redstart	*Phoenicurus auroreus*	W	-		1								1	

Common Name#	Scientific Name#	Principal Status	Conservation and Protection Status	Application Site		Assessment Area							
				R	GL	Ag	DC	Po	Pl	R	M	W	UA	IF
Eurasian Tree Sparrow	*Passer montanus*	R	-		12	4		10					7	
Scaly-breasted Munia	*Lonchura punctulata*	R	-			40	2	18		9	5		4	
Eastern Yellow Wagtail	*Motacilla tschutschensis*	M,W	-			3		1		1				
Grey Wagtail	*Motacilla cinerea*	W	-				1					1		
White Wagtail	*Motacilla alba*	W,R	-		1	2	1	3					1	
Richard's Pipit	*Anthus richardi*	W,R	-		1	1		1						
Olive-backed Pipit	*Anthus hodgsoni*	W	-	2		11		2					1	
Black-faced Bunting	*Emberiza spodocephala*	M,W	-							1	4			
No. of species of conservation importance			**27**	**0**	**5**	**9**	**2**	**16**	**0**	**3**	**1**	**2**	**1**	**2**
No. of species of conservation importance and/or wetland-dependent			**33**	**1**	**6**	**12**	**4**	**22**	**0**	**4**	**2**	**4**	**2**	**2**
Total no. of species recorded			**76**	**6**	**27**	**39**	**17**	**51**	**9**	**13**	**7**	**16**	**28**	**6**

Notes:

Bold for wetland-dependent species

1. Principal status refers to Carey *et al.* (2001): R = Resident; W = Winter Visitor; Su = Summer Visitor; M = Migrant; A = Autumn; Sp = Spring; P = Present all year, exact composition unknown.
2. Conservation and protection status refers to Fellowes *et al.* (2002),, IUCN (2020)
   a. Conservation status by Fellowes *et al.* (2002): LC = Local Concern; RC = Regional Concern; PRC = Potential Regional Concern; GC = Global Concern; PGC = Potential Global Concern. Letters in parentheses indicate assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
   b. Conservation status by IUCN (2020): NT = Near Threatened; VU = Vulnerable; EN = Endangered.
   c. All wild birds in Hong Kong are protected under Cap. 170 Wild Animals Protection Ordinance.
3. Habitats: R = Reed; GL = Grassland; IF = In Flight; DC = Drainage Channel; Po = Pond; Ag = Agricultural Land; W = Watercourse; Pl = Plantation; UA = Urbanized Area; M = Marsh

Appendix 3. Maximum Number of Amphibian Species Recorded in Application Site and Assessment Area (Jan - May 2024)

Common Name	Scientific Name	Conservation and Protection Status	Application Site		Assessment Area								
			R	GL	Ag	DC	Po	Pl	GL	R	M	W	UA
Asian Common Toad	*Duttaphrynus melanostictus*	-		2	4	3	2		2	1		1	1
Spotted Narrow-mouthed Frog	*Kalophrynus interlineatus*	-			6						4		
Asiatic Painted Frog	*Kaloula pulchra*	-			2				1				2
Ornate Pigmy Frog	*Microhyla fissipes*	-	10	20	30		5		10		5		
Marbled Pigmy Frog	*Microhyla pulchra*	-			10								
Paddy Frog	*Fejervarya multistriata*	-	1		5				5		5		
Chinese Bullfrog	*Hoplobatrachus rugulosus*	PRC				1							
Günther's Frog	*Sylvirana guentheri*	-	1	3	3	3	20		4		3	2	1
Brown Tree Frog	*Polypedates megacephalus*	-		5	5	1	3	2	5		1	1	3
Greenhouse Frog	*Eleutherodactylus planirostris*	-						2	1				3
Total no. of species recorded		**10**	**3**	**4**	**8**	**4**	**4**	**2**	**7**	**1**	**5**	**3**	**5**

Notes:

1. Conservation and protection status refers to Fellowes *et al.* (2002), IUCN (2020).
   a. Conservation status by Fellowes *et al.* (2002): PRC = Potential Regional Concern.
2. Habitats: R = Reed; GL = Grassland; DC = Drainage Channel; Po = Pond; Ag = Agricultural Land; W = Watercourse; Pl = Plantation; UA = Urbanized Area; M = Marsh

Appendix 4. Maximum Number of Reptile Species Recorded in Application Site and Assessment Area (Jan - May 2024)

Common Name	Scientific Name	Conservation and Protection Status	Application Site		Assessment Area							
			R	GL	Ag	DC	Po	Pl	M	W	GL	UA
Red-eared Slider	*Trachemys scripta*	-				3	2					
Changeable Lizard	*Calotes versicolor*	-					1	1			1	
Long-tailed Skink	*Eutropis longicaudata*	-	1				1			1		1
Reeves' Smooth Skink	*Scincella reevesii*	-					1		1		1	
Chinese Gecko	*Gekko chinensis*	-									1	
Bowring's Gecko	*Hemidactylus bowringii*	-		1	2						2	2
Many-banded Krait	*Bungarus multicinctus*	PRC		1	2							
Total no. of species recorded		**8**	**1**	**2**	**2**	**1**	**4**	**1**	**1**	**1**	**4**	**2**

Notes:

1. Conservation and protection status refers to Fellowes *et al.* (2002), IUCN (2020)
   a. Conservation status by Fellowes *et al.* (2002): PRC = Potential Regional Concern
2. Habitats: Habitats: R = Reed; GL = Grassland; DC = Drainage Channel; Po = Pond; Ag = Agricultural Land; W = Watercourse; Pl = Plantation; UA = Urbanized Area; M = Marsh

Appendix 5. Maximum Number of Butterfly Species Recorded in Application Site and Assessment Area (Jan - May 2024)

Common Name	Scientific Name	Status in HK	Application Site		Assessment Area								
			R	GL	Ag	DC	Po	Pl	GL	R	M	W	UA
Bush Hopper	*Ampittia dioscorides*	Uncommon			1								
Contiguous Swift	*Polytremis lubricans*	Common										1	1
Water Snow Flat	*Tagiades litigiosus*	Common					1						
Plains Cupid	*Chilades pandava*	Uncommon							2				2
Tailed Cupid	*Everes lacturnus*	Common							1				
Dark Cerulean	*Jamides bochus*	Common					1					3	4
Long-tailed Blue	*Lampides boeticus*	Common							1			1	
Pale Grass Blue	*Pseudozizeeria maha*	Very Common		5	4	1	4	4	3	2	1	1	4
Plum Judy	*Abisara echerius*	Very Common					1		1				
Punchinello	*Zemeros flegyas*	Common		1									
Common Tiger	*Danaus genutia*	Common		1	1		1						
Common Indian Crow	*Euploea core*	Common						1					
Blue-spotted Crow	*Euploea midamus*	Very Common			1		1				1		
Ceylon Blue Glassy Tiger	*Ideopsis similis*	Very Common						1					
Glassy Tiger	*Parantica aglea*	Common			1		1						1
Blue Tiger	*Tirumala limniace*	Common			1		1		1				
Angled Castor	*Ariadne ariadne*	Common		1					2				
Rustic	*Cupha erymanthis*	Very Common	1										
Red-ring Skirt	*Hestina assimilis*	Common			1					1			
Great Egg-fly	*Hypolimnas bolina*	Common			1		1		1			1	2
Peacock Pansy	*Junonia almana*	Common									1		
Chocolate Pansy	*Junonia iphita*	Common					1				1		
Common Sailer	*Neptis hylas*	Very Common			1		1		1				1
Common Palmfly	*Elymnias hypermnestra*	Common					1					1	1
Common Evening Brown	*Melanitis leda*	Common					1						1
Dark Evening Brown	*Melanitis phedima*	Uncommon					1						
Dark-brand Bush Brown	*Mycalesis mineus*	Very Common		4	6		3					2	2
South China Bush Brown	*Mycalesis zonata*	Common										1	1
Common Five-ring	*Ypthima baldus*	Very Common		2			2					1	2
Common Mime	*Chilasa clytia*	Common						1	1				
Tailed Jay	*Graphium agamemnon*	Common					1						
Common Bluebottle	*Graphium sarpedon*	Very Common		1			1						
Red Helen	*Papilio helenus*	Very Common							1	1		1	1
Great Mormon	*Papilio memnon*	Very Common	1									1	
Paris Peacock	*Papilio paris*	Very Common		1	1								
Common Mormon	*Papilio polytes*	Very Common		1	1		2		1			2	3
Spangle	*Papilio protenor*	Very Common								1			1
Lemon Emigrant	*Catopsilia pomona*	Common		3	1		1		2	1			5
Three-spot Grass Yellow	*Eurema blanda*	Common											1
Common Grass Yellow	*Eurema hecabe*	Very Common	1	1	2	2		2	2	2			7
Red-base Jezebel	*Delias pasithoe*	Very Common							1				4
Great Orange Tip	*Hebomoia glaucippe*	Common		1	1		1		1	1			1
Indian Cabbage White	*Pieris canidia*	Very Common	2	7	8	3	2	3	8	2		7	10
Total no. of species recorded		**43**	**4**	**13**	**16**	**3**	**22**	**6**	**17**	**8**	**4**	**13**	**21**

Notes:

1. Status in Hong Kong refers to Hong Kong Biodiversity Database (AFCD 2020).
2. Habitats: R = Reed; GL = Grassland; DC = Drainage Channel; Po = Pond; SWG = Seasonally Wet Grassland; Ag = Agricultural Land; W = Watercourse; Pl = Plantation; UA = Urbanized Area; M = Marsh

Appendix 6. Maximum Number of Odonate Species Recorded in Application Site and Assessment Area (Jan - May 2024)

Common Name	Scientific Name	Conservation and Protection Status	Application Site		Assessment Area								
			R	GL	Ag	DC	Po	Pl	GL	M	R	W	UA
Orange-tailed Midget	*Agriocnemis femina*	-			12		16			10		1	
Wandering Midget	*Agriocnemis pygmaea*	-					8			5			
Orange-tailed Sprite	*Ceriagrion auranticum*	-	1	11	1		60		1	20		1	3
Common Bluetail	*Ischnura senegalensis*	-				4	5		3	5			1
Yellow Featherlegs	*Copera marginipes*	-					20					1	
Pale-spotted Emperor	*Anax guttatus*	-				1	4						
Lesser Emperor	*Anax parthenope*	-					2						
Common Flangetail	*Ictinogomphus pertinax*	-				1	5			2			
Golden Flangetail	*Sinictinogomphus clavatus*	-					2						
Regal Pond Cruiser	*Epopthalmia elegans*	-				1	1						
Elusive Adjutant	*Aethriamanta brevipennis*	-			1		1					1	
Blue Dasher	*Brachydiplax chalybea*	-	1		5		6		2	5		1	1
Asian Amberwing	*Brachythemis contaminata*	-				10	20			10		1	
Crimson Darter	*Crocothemis servilia*	-			4		5		2			1	
Blue Percher	*Diplacodes trivialis*	-			1								
Amber-winged Glider	*Hydrobasileus croceus*	-					1						
Coastal Glider	*Macrodiplax cora*	LC											1
Russet Percher	*Neurothemis fulvia*	-					10			10			1
Pied Percher	*Neurothemis tullia*	-		1	2		10		2	10			
Red-faced Skimmer	*Orthetrum chrysis*	-			1		2			2			
Common Red Skimmer	*Orthetrum pruinosum*	-		1			2					2	
Green Skimmer	*Orthetrum sabina*	-	1	3	1	2	10		4	5	1	3	2
Wandering Glider	*Pantala flavescens*	-	5	20	20	25	10	10	10	5	1	20	80
Pied Skimmer	*Pseudothemis zonata*	-					2			2		1	
Ruby Darter	*Rhodothemis rufa*	LC			1								
Variegated Flutterer	*Rhyothemis variegata*	-	12	30	6	20	30	10	30	30	1	3	20
Evening Skimmer	*Tholymis tillarga*	-				1	4			2			
Saddlebag Glider	*Tramea virginia*	-		3	3		10		2	2			1
Crimson Dropwing	*Trithemis aurora*	-					2						
Indigo Dropwing	*Trithemis festiva*	-				2							
Scarlet Basker	*Urothemis signata*	LC					1						
Dingy Dusk-darter	*Zyxomma petiolatum*	-			1								
Total no. of species recorded		**32**	**5**	**7**	**14**	**10**	**27**	**2**	**9**	**16**	**3**	**12**	**9**

Notes:

1. Conservation and protection status refers to Fellowes *et al.* (2002), IUCN (2020).
   a. Conservation status by Fellowes *et al.* (2002): LC = Local Concern.
2. Habitats: R = Reed; GL = Grassland; DC = Drainage Channel; Po = Pond; Ag = Agricultural Land; W = Watercourse; Pl = Plantation; UA = Urbanized Area; M = Marsh

Appendix 8 Representative Photographs of Habitats within the Application Site and Assessment Area

Application Site

Grassland 	**Plantation** 
Reedbed 	**BLANK**

S12A Amendment of Plan Application
Draft Mai Po and Fairview Park OZP No. S/YL-MP/7
Rezoning from "R(D)" to "R(C)1" Zone for a Proposed Residential Development
at Various Lots in D.D.104 & the Adjoining Government Land in Yuen Long, N.T.

Assessment Area

Agricultural Land

Drainage Channel

Grassland

Marsh

S12A Amendment of Plan Application
Draft Mai Po and Fairview Park OZP No. S/YL-MP/7
Rezoning from "R(D)" to "R(C)1" Zone for a Proposed Residential Development
at Various Lots in D.D.104 & the Adjoining Government Land in Yuen Long, N.T.

Plantation

Pond

Reed

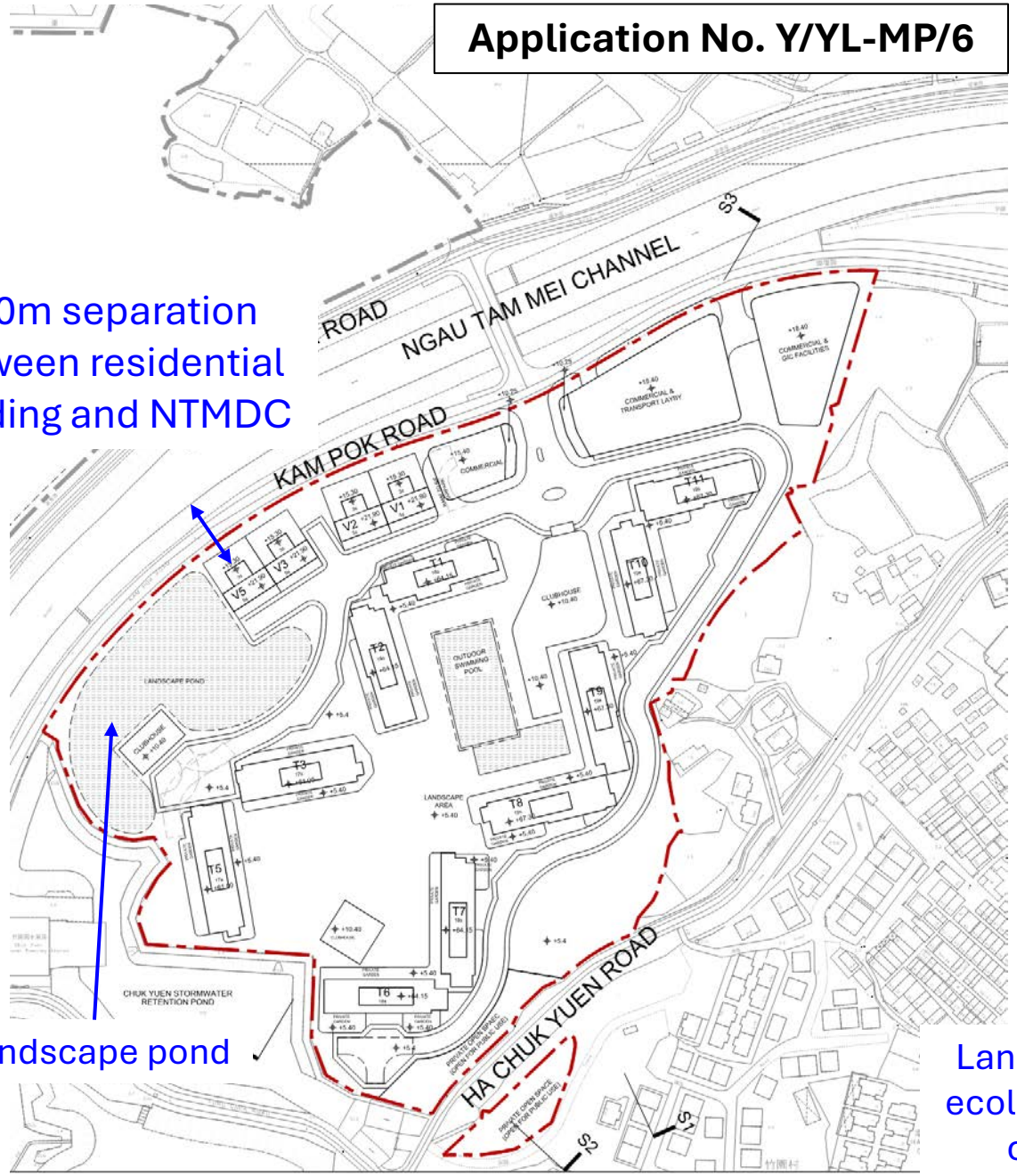
Urbanised Area

S12A Amendment of Plan Application
Draft Mai Po and Fairview Park OZP No. S/YL-MP/7
Rezoning from "R(D)" to "R(C)1" Zone for a Proposed Residential Development
at Various Lots in D.D.104 & the Adjoining Government Land in Yuen Long, N.T.

Waste Ground	**Watercourse**
	

Appendix 8 – Comparison of Development Layouts in Application No. Y/YL-MP/6 and the Current Application

Application No. Y/YL-MP/6



Current Application