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ECOLOIGCAL ASSESSMENT FOR A PROPOSED HOTEL, SERVICED APARTMENTS AND COMMERCIAL DEVELOPMENT WITH PLAZA AT SITE 2 AUSTRALIA AVENUE, SYDNEY OLYMPIC PARK

Dear Michael,

The purpose of this letter is to assess the need for formal biodiversity assessment under the Biodiversity Offsets Scheme to support the proposed development application for a hotel, serviced apartments and commercial development with plaza at Site 2 Australia Avenue, located to the south of the intersection between Australia Avenue and Murray Rose Avenue in Sydney Olympic Park NSW (hereafter referred to as the 'project').

This assessment considers the entire land area covered by the proposed development (Lot 71 DP 1134933), hereafter referred to as the 'subject site' with particular respect to the areas to be impacted by the project. Additional areas of vegetation surrounding the subject site have been considered in this assessment, as part of the 'study area' (see **Figure 1**).

Our assessment is set out below, with figures provided in **Appendix A**, flora species lists provided in **Appendix B** and threatened species records and likelihood of occurrence summarised in **Appendix C**. Based on our assessment of biodiversity at Sydney Olympic Park, we recommend that a waiver for the preparation of a Biodiversity Development Assessment Report (BDAR) be sought from the Department of Planning and Environment (DP&E).

1. Background

1.1 Site Context

The current Sydney Olympic Park site at Homebush has a long history of agricultural and industrial uses; including a large area used as a State Abattoir in the early to mid-1900. More recently, Sydney Olympic Park has been used as a

major sporting venue and includes a central commercial and residential precinct, recreational facilities, and large areas of wetlands and parklands.

Important conservation areas occur in the Sydney Olympic Park site, namely the Brickpit and Badu Mangroves. The Brickpit supports a large and established breeding population of the Green and Golden Bell Frog and provides habitat for bat species and a high diversity of bird species, including migratory birds protected under international agreements; JAMBA (Japan-Australia Migratory Birds Agreement) and CAMBA (China-Australia Migratory Birds Agreement) treaties. Badu Mangroves is known habitat for listed migratory waterbirds and is listed on the Register of the National Estate as a "Wetland of Ecological Significance'.

Swamp Oak Floodplain Forest, Freshwater Wetlands on Coastal Floodplains and Coastal Saltmarsh Endangered Ecological Communities (EECs), as listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) occur in association with the wetlands of Sydney Olympic Park, including proximate to the subject site, along Bennelong Parkway and within Badu Mangroves. Within the saltmarsh community, a threatened flora species is known to occur; *Wilsonia backhousei* (Narrow-leaf Wilsonia), which is listed as vulnerable under the BC Act.

1.2 The Proposed Development

The project comprises the redevelopment of an existing car park site for a hotel, serviced apartments, commercial offices and retail, and basement car parking. A large outdoor plaza is also proposed to be constructed within the area between the proposed buildings and Australia Avenue. All existing vegetation, which has been previously planted, will be removed, except for the large *Ficus macrophylla* (Morton Bay Fig) which is present in the north west corner of the subject site.

1.3 Assessment Requirements for State Significant Development

The project is classified as Stage Significant Development under Clause 15 of Schedule 1 of State Environmental Planning Policy (State and Regional Development) 2011, (SEPP SRD) identifies development which is declared to be State Significant. Clause 2 of Schedule 2 of the Policy provides that:

"Development that has a capital investment value of more than $10 million on land identified as being within any of the following sites on the State Significant Development Sites Map: (f) Sydney Olympic Park Site,".

Section 7.9 of the NSW *Biodiversity Conservation Act 2016* (BC Act), requires all development applications for State Significant Development to be accompanied by a Biodiversity Development Assessment Report (BDAR) unless both the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values.

The main steps in the biodiversity assessment process for State Significant Development are as follows:

1. The Planning Agency Head and the Environment Agency Head determines if the Biodiversity Offsets Scheme applies to the State Significant Development and specifies the environmental assessment requirements;

2. The proponent engages an accredited person to assess the development site using the Biodiversity Assessment Method (BAM) and a BDAR is prepared;

3. The approval authority considers any serious and irreversible impacts and determines whether there are additional and appropriate measures to minimise impacts;

4. The approval authority sets an offset obligation as part of the Conditions of Approval; and

5. The proponent meets their offset obligation and begins their development.

The Biodiversity Assessment Method (BAM) sets out clear and repeatable methods to conduct an assessment of direct and indirect impacts. The BAM is supported by the BAM Tool, which is a web-based tool that quantifies direct impacts using 'biodiversity credits'. Two types of credits are generated by the BAM Tool, ecosystem credits and species credits. Ecosystem credits are calculated based on a number of variables including landscape features, native vegetation and ecosystem credit species (species that are reliably predicted by habitat surrogates). Species credits are calculated based on the number of individuals (flora) or the area of habitat (fauna) of species credit species (species that are not reliably predicted by habitat surrogates).

The BAM includes a requirement to prepare a BDAR for the development site. The BDAR must be prepared by an accredited assessor. A proponent is required to submit the BDAR as part of an Environmental Impact Statement for a State Significant Development.

1.4 Waiver of requirement to prepare a Biodiversity Development Assessment Report

Section 7.9 of the BC Act indicates that there are some circumstances in which the Planning Agency Head and the Environment Agency Head will determine that a proposed development is not likely to have a significant impact on biodiversity values and as such, a BDAR is not required to be prepared. Biodiversity values are defined under the BC Act and the *Biodiversity Conservation Regulation 2017* (BC Regulation), and include:

- Vegetation integrity—being the degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state;

- Habitat suitability—being the degree to which the habitat needs of threatened species are present at a particular site;

- Threatened species abundance—being the occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site;
- Vegetation abundance—being the occurrence and abundance of vegetation at a particular site;
- Habitat connectivity—being the degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range;
- Threatened species movement—being the degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle;
- Flight path integrity—being the degree to which the flight paths of protected animals over a particular site are free from interference;
- Water sustainability—being the degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.

For a waiver to be applied for future development at the subject site, it needs to be demonstrated that the above listed biodiversity values will not be significantly impacted.

1.5 Native Vegetation Definition

For the purpose of the BC Act, native vegetation has the same definition as per the *Local Land Services Act 2013*. The definition of native vegetation is as follows:

> *60B Meaning of "native vegetation"*
>
> *(1) For the purposes of this Part, native vegetation means any of the following types of plants native to New South Wales:*
>
> *(a) trees (including any sapling or shrub or any scrub),*
>
> *(b) understorey plants,*
>
> *(c) groundcover (being any type of herbaceous vegetation),*
>
> *(d) plants occurring in a wetland.*
>
> *(2) A plant is native to New South Wales if it was established in New South Wales before European settlement. The regulations may authorise conclusive presumptions to be made of the species of plants native to New South Wales by adopting any relevant classification in an official database of plants that is publicly accessible.*
>
> *(3) For the purposes of this Part, native vegetation extends to a plant that is dead or that is not native to New South Wales if:*

(a) the plant is situated on land that is shown on the native vegetation regulatory map as category 2-vulnerable regulated land, and

(b) it would be native vegetation for the purposes of this Part if it were native to New South Wales.

(4) For the purposes of this Part, native vegetation does not extend to marine vegetation (being mangroves, seagrasses or any other species of plant that at any time in its life cycle must inhabit water other than fresh water). A declaration under section 14.7 of the Biodiversity Conservation Act 2016 that specified vegetation is or is not marine vegetation also has effect for the purposes of this Part.

2. Methods

2.1 Site Inspection

Two ecologists from Cumberland Ecology visited the subject site on 9 August 2018. The subject site was inspected by traversing the existing landscaped areas, with records of flora species and potential fauna habitat noted. Vegetation within the subject site was assessed in relation to Plant Community Types (PCTs) known to occur within the locality.

A single BAM plot was surveyed, within the central garden bed present on the subject site, as shown in **Figure 2** in **Appendix A**. The plot was orientated at a right angle, to accomadate the shape and small size of the largest garden bed present on the subject site. Random meander transects were conducted throughout all other vegetation present on the subject site, and parts of the study area (**Figure 2**), in which flora species encountered were recorded. During the site inspection, notes and photographs were taken documenting vegetation and habitat features throughout the study area.

2.2 Database Analysis

Database searches were conducted to identify threatened species, populations, that occur within the locality (5 km) using the NSW Office of Environment and Heritage (OEH) BioNet Atlas database (OEH 2018a). The BioNet Atlas search facility was used to generate records of threatened flora and fauna species and populations listed under the BC Act within the search area. The number, age, and location of such records were considered to provide an indication of the species that could have the potential to occur on or around the subject site.

Additionally, a number of management plans have been prepared for the Sydney Olympic Park site, and those of relevance have been reviewed, including the Plan of Management for the Parklands of Sydney Olympic Park (Young 2003) and the Environmental Guidelines for Sydney Olympic Park (SOPA 2008). Extensive ecological monitoring occurs at Sydney Olympic Park, conducted by various bird observer groups and the Sydney Olympic Park Authority. The results are submitted regularly to the BioNet Atlas.

2.3 GIS Mapping

A desktop analysis was completed to identify whether any vegetation communities were present on or nearby the subject site. To do this, the subject site was plotted against the broad scale mapping compiled by the OEH for the Sydney Metropolitan area (OEH 2016). A vegetation map of the subject site was then produced based upon observations of vegetation during the site inspection.

The results from the OEH BioNet Atlas search were downloaded and plotted onto an aerial image (Nearmap; dated 17/07/2018) corresponding to the subject site. This subsequently displayed any threatened species within the locality to determine the potential for the species to be present within the subject site.

3. Key Findings

The subject site is predominantly an artificial landscape with planted garden beds and isolated trees situated throughout the subject site. The study area includes the subject site, and also proximate street trees that have previously been planted along Australia Avenue, Parkview Drive and Murray Rose Avenue.

3.1 Native Vegetation Desktop Study

The desktop study of the broad scale native vegetation mapping of the Sydney metropolitan area revealed that a number of native vegetation communities exist within the locality; however none have been mapped as occurring within the subject site as shown in **Figure 3** (OEH 2016). The entirety of the vegetation within the subject site and the majority of the vegetation of the immediate surrounds are mapped as “Urban Exotic/Native”. The subject site is currently used as a carpark, and is located on reclaimed land, developed as part of the Sydney Olympic Park site. Therefore the original soil and landscape features are no longer present on the subject site.

The most abundant communities in the locality are; Estuarine Mangrove, which is listed as Key Fish Habitat under the *Fisheries Management Act 1994* (FM Act), Estuarine Swamp Oak Forest, which conforms to Swamp Oak Floodplain Forest EEC, as listed under the BC Act and EPBC Act, and Estuarine Reedland, which conforms to Freshwater Wetlands EEC (and can conform to Swamp Oak Floodplain Forest) listed under the BC Act (OEH 2016). These communities are associated with the Parramatta River estuarine habitats within and surrounding Sydney Olympic Park (OEH 2016). The closest mapped occurrence of native vegetation is a small patch of Estuarine Reedland located approximately 277 m to the east of the subject site, within the Badu Wetlands (OEH 2016).

Additionally, a small patch of Sydney Turpentine Ironbark Forest, which is listed as an EEC under the BC Act and a Critically Endangered Ecological Community under the EPBC Act, occurs within Newington Nature Reserve, located approximately 1.6km to the north of the subject site.

3.2 Vegetation of the Subject Site

The majority of the vegetation within the subject site has been planted within recent decades. A single old growth *Ficus macrophylla* (Morton Bay Fig) is present in the north west of the subject site (**Photograph 1**), which appears to have been planted prior to 1943 (based on review of historic aerial imagery (NSW Government 2018).

All of the plants described as being 'native' meet the definition of native vegetation as defined in ***Section 1.4***. Species that are not locally endemic to the Sydney region have been noted as such in the following descriptions of vegetation within the subject site.

Generally, the composition, structure and function of vegetation within the subject site and the surrounding landscape have been altered significantly from a near natural state and do not resemble any naturally occurring PCTs. Subsequently, the woody vegetation within the subject site has been condensed into single mapping unit as described below and as shown in **Figure 3**.

Urban Native/Exotic vegetation has been mapped wherever canopy is present on the subject site, and in the study area. This is represented by planted garden beds, and also street trees, as shown in **Photograph 2** and **Photograph 3** respectively. The largest garden bed contained no canopy, but has a small tree and shrub layer dominated by species native to NSW (but not native to the locality), including; *Acacia binervia* (Coastal Myall), *Callistemon viminalis* (Weeping Bottlebrush), *Exocarpos cupressiformis* (Cherry Ballarat). Groundcover species were dominated by exotic herbs, including; *Biden pilosa* (Cobbler's Peg), *Sonchus oleraceus* (Common Sowthistle) and *Trifolium repens* (White Clover), and exotic grasses; *Ehrharta erecta* (Panic Veldtgrass), *Cenchrus setaceus* (Fountain Grass) and *Sporobolus africanus* (Parramatta Grass).

Street trees included a mix of species native to NSW, but not endemic to the locality, including; *Lophostemon confertus* (Brush Box), *Eucalyptus microcarpa* (Western Grey Box) and *Corymbia citriodora* (Lemon-scented Gum). Understorey species were generally limited to grasses, including *Cenchrus clandestinus* (Kikuyu) and *Cynodon dactylon* (Common Couch).

Photograph 1 **Ficus macrophylla located in the north west of the subject site**

Photograph 2 **Planted garden bed located in the centre of the subject site (BAM plot 1)**

Photograph 3 Street trees on the southern boundary of the subject site

3.3 Fauna Habitat of the Sydney Olympic Park Site

A characteristic feature of Sydney Olympic Park is the diversity of land uses including large recreational and commercial facilities, and also natural environments managed for conservation. The study area is a direct example of this, as the subject site provides limited and unnatural fauna habitats, while adjoining lands are sensitive natural ecosystems.

The study area supports a wide variety of habitat types ranging from highly disturbed areas of low quality habitat to areas of relatively low disturbance with high quality habitat. The flower, nectar and seed producing tree and shrub species provide a seasonal foraging resource for a range of arboreal mammal and bird species.

The Brickpit and Badu Mangroves, with their associated aquatic habitats provide habitat for a number of bird, mammal, reptile and amphibian species, including a large number of BC Act and EPBC Act listed fauna species.

The cleared areas and landscaped gardens associated with the commercial development precinct provide habitat for mostly exotic bird and mammal species.

3.4 Fauna Habitat of the Subject Site

The primary habitat for native fauna within the subject site is the native and exotic plantings throughout the garden beds and street tree plantings. This vegetation may fall within the foraging range of a number of non-threatened highly mobile or aerial groups of species including birds such as birds, microchiropteran bats and arboreal mammals. This vegetation

may form part of the foraging range of a number of threatened highly mobile or aerial species including birds such as the Powerful Owl (*Ninox strenua),* the Grey-headed Flying Fox (*Pteropus poliocephalus*) and threatened microchiropteran bats as discussed below.

Nectivorous and frugivorous species may utilise the native and exotic vegetation within the subject site to feed on flowers and fruit whilst insectivorous species such as microchiropteran bats may forage for insects throughout the canopy layer. The flowers of the numerous planted *Corymbia citriodora* (Lemon-scented Gum) within the subject site would be expected to provide foraging resources for common species such as the Rainbow Lorikeet *(Trichoglossus moluccanus*) which were observed within the subject site. The large *Ficus macrophylla* (Morton Bay Fig) tree would be likely to provide foraging habitat for Grey-headed Flying-fox when it is fruiting.

No hollow-bearing trees were observed during the site inspection. The subject site does not contain roosting habitat for small or large birds, arboreal mammals or microchiropteran bats species requiring hollows with the potential to occur such as the Powerful Owl as no tree hollows were observed.

3.5 Threatened Communities and Species

3.5.1 Threatened Ecological Communities

As the vegetation within the subject site is of a planted origin situated throughout garden beds and rows of trees, it has been assessed as not conforming to any threatened ecological communities listed under either the BC Act or the EPBC Act known from the locality.

3.5.2 Threatened Flora

No threatened flora species were recorded on the subject site and no existing records occur in the study area.

Threatened species are known to occur within the locality (see **Appendix C**). Due to the lack of nearby records and the highly developed nature of the subject site, it is considered unlikely that any threatened flora species would occur within the subject site. Additionally, the site inspection did not reveal any locally endemic threatened flora species within the subject site.

3.5.3 Threatened Fauna and Associated Habitat

A large number of threatened fauna species are known to occur within the locality of the subject site (see **Appendix C**), although these records are centred on the wetlands of Sydney Olympic Park and conservation reserves, including Newington Nature Reserve. No existing BioNet Atlas records of threatened fauna species are present on the subject site, however a number of records occur within the locality. The only threatened fauna that would be expected to occur within the subject site are highly mobile, aerial species. The Grey-headed Flying-fox (*Pteropus poliocephalus*) and Powerful Owl (*Ninox strenua*) and are amongst the most notable threatened fauna that occur in the northern and western areas of Sydney. The Grey-headed Flying Fox is listed as Vulnerable under the BC Act and the EPBC Act whilst the Powerful Owl is listed as Vulnerable under the BC Act.

The Sydney Olympic Park site has one of the largest populations of Green and Golden Bell Frog (*Litoria aurea*), which is listed as endangered under the BC Act and the EPBC Act. Habitat for Green and Golden Bell Frogs occurs in the Brickpit, located to the north of the subject site, and Badu Wetlands to the east. However, no potential breeding, basking or overwintering habitat for this species is present on the subject site. There is frog-proof fencing separating the known habitat for this species located within the wetlands of Sydney Olympic Park, and the development areas, including the existing carpark present on the subject site.

A large number of threatened and migratory waders known from the locality, and extensive habitat is present in proximate areas, including Badu Wetlands to the east of the subject site. However, no habitat is present for these species on the subject site. At best, these species may fly over the developed areas within the study area on association, but would not utilise the habitats present.

There are many records of Grey Headed Flying Fox near within the locality as there has been a substantial colony of the species roosting in the Parramatta River area, (located approximately 5km to the west) for many years. (Department of the Environment and Energy 2015). The Grey Headed Flying Fox is known to forage within 20km of a camp site and may fly over the subject site in search of foraging resources such as nectar and pollen (OEH 2018c). Whilst Grey-headed Flying Foxes are likely to occur, the subject site does not contain a roosting camp however the Grey Headed Flying Fox may occasionally and opportunistically utilise the foraging resources within the subject site.

The Powerful Owl occupies a territory of up to 4000 ha and may occasionally and opportunistically hunt for arboreal mammal prey species such as the Common Ringtail Possum (*Pseudocheirus peregrinus*) within the subject site as part of a larger foraging range (OEH 2018e); however the subject site would not be expected to support an abundance of prey species. Nonetheless, the Powerful Owl may utilise the limited foraging values within the subject site to hunt for prey such as Ring-tailed Possums (*Pseudocheirus peregrinus*) which have the potential to occur.

Some microchiropteran bats are also known to forage in urban areas. These include but are not limited to threatened bentwing-bats (*Miniopterus australis* and *Miniopterus schreibersii oceanensis*) which are both listed as Vulnerable under the BC Act. These two species of bats are insectivorous cave roosting bats that often frequent buildings and infrastructure, sheltering in roofs, pipes and culverts, etc. (OEH 2018d, b). These species may occasionally and opportunistically forage within the vegetation present. No roosting habitat was observed for any of these microbat species on the subject site.

3.6 Impacts to Biodiversity Values

Direct impacts of the proposed development include the construction of the commercial buildings and associated landscaping, and will result in the removal of approximately 0.34 ha of Urban Native/Exotic vegetation, which has been previously been planted in garden beds or rows of street trees. The large *Ficus macrophylla* will be retained, and the future development will include landscaping with similar planted species, which will provide foraging habitat for common

urban-adapted species. The removal of this area of vegetation is unlikely to impact on any species or ecological communities listed under the BC Act or EPBC Act.

There is potential for proximate areas of wetland habitat to be impacted indirectly by run-off from the future development. However, stringent mitigation measures have been implemented for the entire Sydney Olympic Park site to protect water quality, and the future development will be designed to comply with these guidelines. Furthermore, the proposed development is located within an existing carpark and commercial development precinct, and such impacts are already in operation. Assuming that watercycle management is managed appropriately, indirect impacts on threatened and migratory species and ecological communities listed under the BC Act and/or EPBC Act are not expected to be exacerbated by the proposed development.

4. Biodiversity Values Assessment

The BC Act and the BC Regulation list a suite of biodiversity values that are relevant to assessments that must take place under the BC Act. To demonstrate that the project at Sydney Olympic Park will not impact upon biodiversity, **Table 1** systematically comments upon the relevance of each value.

Table 1 Assessment of biodiversity values within the subject site

Biodiversity Value	Assessment within subject site
BC Act - Part 1 Section 1.5 (2)	
(a) vegetation integrity—being the degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state,	Based upon analysis of historic aerial photography, and knowledge of the history of the Sydney Olympic Park site, having been developed on reclaimed land, it is not considered that remnant vegetation occurs on the subject site. Based upon the results of floristic surveys, it has been concluded that the existing vegetation is comprised predominantly of planted exotic and native species within garden beds and in rows. A single large mature Fig is present, but this would also have been planted, as the species is not endemic to the locality. It appears to have been planted prior to 1943, based on aerial imagery. The composition, structure and function of vegetation within the subject site and the surrounding landscape are considered to have been altered significantly from a near natural state and do not resemble any naturally occurring PCTs known from the locality.
(b) habitat suitability—being the degree to which the habitat needs of threatened species are present at a particular site,	As discussed above, the subject site has little potential to provide habitat for threatened species other than highly mobile, aerial species. Threatened species with the highest likelihood to utilise the subject site include the Grey Headed Flying Fox and the Powerful Owl. Additionally, threatened microchiropteran bats may forage over the subject site, as part of a large range.

Table 1 Assessment of biodiversity values within the subject site

Biodiversity Value	Assessment within subject site
	These highly mobile species may occasionally and opportunistically utilise the limited foraging resources of the subject site as part of a larger foraging range.
(c) biodiversity values, or biodiversity-related values, prescribed by the regulations.	See below.
BC Regulation - Part 1 Clause 1.4	
(a) threatened species abundance—being the occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site,	No threatened species were observed during the site inspection. Only highly mobile, aerial fauna species would be expected to utilise the subject site occasionally and opportunistically.
(b) vegetation abundance—being the occurrence and abundance of vegetation at a particular site,	As described above, the subject site is predominantly cleared and contains scattered plantings consisting of exotic and native species. The project is expected to result in the clearing of garden bed plantings and rows of planted trees mostly comprised of exotic and non-endemic species native to NSW. The vast majority of planted trees, shrubs and groundcover are to be retained throughout the subject site.
(c) habitat connectivity—being the degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range,	The subject site may contribute to the habitat connectivity throughout the largely cleared and artificial landscape that dominates much of the Sydney Olympic Park site. Trees within the subject site and its immediate surroundings may function as stepping stone habitat for highly mobile fauna, providing a degree of habitat connectivity between the patches of vegetation within the proximate wetlands, foreshore vegetation and reserves of the locality such as Badu Wetlands to the east and Newington Nature Reserve to the north.
(d) threatened species movement—being the degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle,	As above, the subject site does not contribute to the movement of threatened species other than highly mobile, aerial species. Impacts within the subject site would not be expected to have any impact on the lifecycle of such species.
(e) flight path integrity—being the degree to which the flight paths of protected animals over a particular site are free from interference,	The proposed building heights are consistent with others present at the Sydney Olympic Park site. Subsequently the project is not expected to impact upon free-flying animals (threatened or otherwise) by interfering with flight paths.
(f) water sustainability—being the degree	Sydney Olympic Park is located is close proximity to the

Table 1 Assessment of biodiversity values within the subject site

Biodiversity Value	Assessment within subject site
to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.	Parramatta River, although it is separated by a series of complex wetlands. Water cycle management is closely planned and managed throughout the Sydney Olympic Park site, and the proposed development will be consistent with the strategies in place to protect water quality in Parramatta River.

5. Conclusion

The proposed development for a hotel, serviced apartments and a commercial building with plaza, located within an existing carpark at Sydney Olympic Park, are considered unlikely to have significant impacts upon defined biodiversity values. At most, such redevelopment could impact mixed native and exotic planted vegetation comprising potential, marginal habitat within the broad habitat ranges of highly mobile threatened species such as the Grey-headed Flying Fox, microchiropteran bats and the Powerful Owl. The proximate areas of habitat for the Green and Golden Bell Frog and threatened and migratory waders will not be indirectly impacted by the proposed development, due to the implementation of stringent mitigation measures implemented for the site to protect water quality of run-off exiting the subject site.

When assessing impacts likely from the project at Sydney Olympic Park, there is limited justification for considering impacts to threatened species with the detail required under the Biodiversity Offsets Scheme. The project may result in marginal reduction in the foraging habitat of highly mobile, aerial threatened species. When assessing impacts likely from the project in its current form, there is very little likelihood of significant impacts to threatened species.

On the basis of our investigations, we believe that the preparation of a BDAR is not necessary due to the low likelihood of impacts to biodiversity values. Therefore, we recommend that a waiver for the preparation of a BDAR be sought from the Department of Planning and Environment for the proposed project at Sydney Olympic Park, constituting State Significant Development.

Yours sincerely

David Robertson
Director
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Appendix A

Figures

Figure 1. Location of the subject site and study area

Legend

- Subject Site
- Study Area
- BAM Plot Locations
- Random Meander Locations

Coordinate System: MGA Zone 56 (GDA 94)

Image Source:
Image © NearMap 2018
Dated: 17/7/2018

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I:\...\18113\Figures\Letter 2\20180813\Figure 2. Survey locations

Figure 2. Survey locations

0 20 m

Legend

- Subject Site
- Study Area

Vegetation Communities (CE)

- Urban Native & Exotic Cover

Vegetation Community (OEH 2016)

- Urban_E/N: Urban Exotic/Native

Coordinate System: MGA Zone 56 (GDA 94)

Image Source:
Image © NearMap 2018
Dated: 17/7/2018

Data Source:
OEH (2016). The Native Vegetation of the Sydney Metropolitan Area. Office of Environment and Heritage NSW.

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I:\...\18113\Figures\Letter 2\20180813/Figure 3. Vegetation_study area

Figure 3. Vegetation of the study area

0 40 m

Appendix B

Flora Species List

Table 2 Flora Species Recorded on the Subject Site

Family	Scientific Name	Common Name	Native	Exotic	High Threat Weed	BAM Plot		Random Meander
						Cover	Abundance	Presence
Aizoaceae	Carpobrotus aequilaterus	Angled Pigface		YES	#N/A	0.5	10	
Asteraceae	Bidens pilosa	Cobbler's Pegs		YES	#N/A	0.5	100	X
Asteraceae	Hypochaeris albiflora	White Flatweed		YES	#N/A	0.1	1	
Asteraceae	Soliva sessilis	Bindyi		YES	#N/A	0.1	3	
Asteraceae	Sonchus oleraceus	Common Sowthistle		YES	#N/A	0.1	20	
Bignoniaceae	Jacaranda mimosifolia	Jacaranda		YES	#N/A	0.1	1	
Brassicaceae	Capsella bursa-pastoris	Shepherd's Purse		YES	#N/A	0.1	5	
Caryophyllaceae	Polycarpon tetraphyllum	Four-leaved Allseed		YES	#N/A	0.1	2	
Fabaceae (Faboideae)	Trifolium repens	White Clover		YES	#N/A	0.1	10	X
Fabaceae (Faboideae)	Vicia sativa	Common vetch		YES	#N/A			X
Fabaceae (Mimosoideae)	Acacia binervia	Coastal Myall	YES		#N/A	20	10	
Lamiaceae	Stachys arvensis	Stagger Weed		YES	#N/A	0.1	10	X
Malvaceae	Malva parviflora	Small-flowered Mallow		YES	#N/A	0.1	10	
Moraceae	Ficus macrophylla		YES		#N/A			X
Myrtaceae	Callistemon viminalis	Weeping Bottlebrush	YES		#N/A	30	40	

Table 2 Flora Species Recorded on the Subject Site

Family	Scientific Name	Common Name	Native	Exotic	High Threat Weed	BAM Plot		Random Meander
Fabaceae (Faboideae)	Trifolium repens	White Clover		YES	#N/A	10	20	X
Alliaceae	Nothoscordum gracile	Onion Weed		YES	#N/A			X
Solanaceae	Solanum nigrum	Black-berry Nightshade		YES	#N/A			X
Myrsinaceae	Lysimachia arvensis	Scarlet Pimpernel		YES	#N/A			X
Apocynaceae	Araujia sericifera	Moth Vine		YES	YES			X
Ulmaceae	Celtis sinensis	Japanese Hackberry		YES	#N/A			X
Malvaceae	Modiola caroliniana	Red-flowered Mallow		YES	#N/A			X
Oxalidaceae	Oxalis debilis var. corymbosa			YES	#N/A			X
Phormiaceae	Dianella caerulea	Blue Flax-lily	YES		#N/A			X
Poaceae	Cenchrus setaceus	Fountain Grass		YES	#N/A	0.2	5	X
Poaceae	Ehrharta erecta	Panic Veldtgrass		YES	YES	0.25	100	X
Poaceae	Sporobolus africanus	Parramatta Grass		YES	#N/A	0.1	10	X
Santalaceae	Exocarpos cupressiformis	Cherry Ballart	YES		#N/A	0.25	1	
Myrtaceae	Lophostemon confertus	Brush Box	YES		#N/A			X
Lomandraceae	Lomandra "Tanika"	Spiny-headed Mat-rush		NO	#N/A			X
Poaceae	Themeda triandra	Kangaroo Grass	YES		#N/A			X
Poaceae	Cynodon dactylon	Common Couch	YES		#N/A			X

Table 2 Flora Species Recorded on the Subject Site

Family	Scientific Name	Common Name	Native	Exotic	High Threat Weed	BAM Plot	Random Meander
Poaceae	Cenchrus clandestinus	Kikuyu Grass		YES	#N/A		X
Fabaceae (Faboideae)	Hardenbergia violacea	False Sarsaparilla	YES		#N/A		X
Apocynaceae	Trachelospermum jasminoides			YES	#N/A		X
Phyllanthaceae	Glochidion ferdinandi	Cheese Tree	YES		#N/A		X
Myrtaceae	Eucalyptus microcarpa	Western Grey Box	YES		#N/A		X
Myrtaceae	Corymbia citriodora	Lemon-scented Gum		YES	#N/A		X
Asteraceae	Senecio madagascariensis	Fireweed		YES	#N/A		X
Caryophyllaceae	Paronychia brasiliana	Chilean Whitlow Wort, Brazilian Whitlow		YES	#N/A		X
Asteraceae	Cotula australis	Common Cotula YES			#N/A		X

Key: X = present

Appendix C

Threatened Species Likelihood of Occurrence Assessment

Table 3 Threatened Flora Likelihood of Occurrence on the Subject Site

Family	Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
Campanulaceae	Tadgell's Bluebell in the local government areas of Auburn, Bankstown, Baulkham Hills, Canterbury, Hornsby, Parramatta and Strathfield	*Wahlenbergia multicaulis*	E		In western Sydney, found particularly in the Villawood soil series, a poorly drained podsolic extensively permeated with laterite. Typically occurs in damp, disturbed sites, amongst other herbs rather than in the open.	Unlikely. No suitable habitat.
Convolvulaceae	Narrow-leafed Wilsonia	*Wilsonia backhousei*	V		Margins of salt marshes and lakes.	Unlikely. No suitable habitat.
Ericaceae		*Epacris purpurascens var. purpurascens*	V		Found in a range of habitat types, most of which have a strong shale soil influence.	Unlikely. No suitable habitat.
Fabaceae (Faboideae)		*Dillwynia tenuifolia*	V		In western Sydney, may be locally abundant particularly within scrubby/dry heath areas within Castlereagh Ironbark Forest and Shale Gravel Transition Forest on tertiary alluvium or laterised clays.	Unlikely. No suitable habitat.
Fabaceae (Mimosoideae)	Downy Wattle	*Acacia pubescens*	V	V	Found in open woodland and forest, in typically gravely alluvium, shale or shale/sandstone soils.	Unlikely. No suitable habitat.
Myrtaceae	Netted Bottle Brush	*Callistemon linearifolius*	V		Grows in dry sclerophyll forest on the coast and adjacent ranges.	Unlikely. No suitable habitat.
	Narrow-leaved Black Peppermint	*Eucalyptus nicholii*	V	V	Typically grows in dry grassy woodland, on shallow soils of slopes and ridges.	Unlikely. No suitable habitat.

Table 3 Threatened Flora Likelihood of Occurrence on the Subject Site

Family	Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
					Found primarily on infertile soils derived from granite or metasedimentary rock.	
	Wallangarra White Gum	*Eucalyptus scoparia*	E	V	Found in open eucalypt forest, woodland and heaths on well-drained granite hilltops, slopes and rocky outcrops.	Unlikely. No suitable habitat.
	Magenta Lilly Pilly	*Syzygium paniculatum*	E	V	Grey soils over sandstone, restricted mainly to remnant stands of littoral (coastal) rainforest.	Unlikely. No suitable habitat.
Proteaceae	Beadle's Grevillea	*Grevillea beadleana*	E	E	Usually found on steep granite slope in open eucalyptus forests with shrubby understorey.	Unlikely. No suitable habitat.
Rhamnaceae	P. prunifolia in the Parramatta, Auburn, Strathfield and Bankstown Local Government Areas	*Pomaderris prunifolia*	E		Known from only three sites within the listed local government areas, at Rydalmere, within Rookwood Cemetery and at The Crest of Bankstown	Unlikely. No suitable habitat.
Zannichelliaceae		*Zannichellia palustris*	E		Grows in fresh or slightly saline stationary or slowly flowing water.	Unlikely. No suitable habitat.

Key: V = vulnerable, E = Endangered

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

	Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
Amphibia						
Hylidae	Green and Golden Bell Frog	*Litoria aurea*	E	V	Permanent or ephemeral swamps, dams and slow flowing streams with emergent vegetation such as reeds, particularly those containing bulrushes (Typha spp.) and Spikerushes (Eleocharis spp.). Optimal habitat includes water-bodies that are unshaded, free of predatory fish such as Plague Minnow (Gambusia holbrooki), have a grassy area nearby and sheltering sites available. Can occur in highly disturbed areas. It inhabits a variety of forest types including coastal forest, open woodland and cleared areas.	Unlikely, no suitable habitat present on the subject site. The extensive habitat present at Sydney Olympic Park is disconnected from the subject site by a frog-proof fence, and barriers including roads.
Aves						
Apodidae	Fork-tailed Swift	*Apus pacificus*		C,J,K	Forages aerially over a variety of habitats usually over coastal and mountain areas with a preference for wooded areas.	Unlikely. No suitable habitat.
Ardeidae	White-throated Needletail	*Hirundapus caudacutus*		C,J,K	Almost exclusively aerial; can occur over most habitats.	Unlikely. This species is exclusively aerial, and hence would not utilise the habitats present on the subject site.
	Cattle Egret	*Ardea ibis*		C,J	Grasslands, wooded lands and terrestrial wetlands. Commonly associated with the habitats of farm animals and is known to follow earth-	Unlikely. No suitable habitat

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

	Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
					moving machinery.	
	Australasian Bittern	*Botaurus poiciloptilus*	E	E	Favours permanent freshwater wetlands with tall, dense vegetation, particularly bulrushes (Typha spp.) and spikerushes (Eleocharis spp.).	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Threskiornithidae	Black Bittern	*Ixobrychus flavicollis*	V		Inhabits both terrestrial and estuarine wetlands, generally in areas of permanent water and dense vegetation. Where permanent water is present, the species may occur in flooded grassland, forest, woodland, rainforest and mangroves.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Accipitridae	Glossy Ibis	*Plegadis falcinellus*		C	Freshwater marshes at the edges of lakes, rivers, lagoons, floodplains and swamps.	Unlikely. No suitable habitat
	Spotted Harrier	*Circus assimilis*	V		Occurs in grassy open woodland including Acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands.	Unlikely. No suitable habitat
	White-bellied Sea-Eagle	*Haliaeetus leucogaster*	V	C	Coastal habitats and terrestrial wetlands, characterises by the presence of large areas of open water.	Possible, although unlikely to frequently visit the marginal habitats of the subject site. Could occasionally occur as part of a large area covered by migratory

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

	Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
						route.
	Little Eagle	*Hieraaetus morphnoides*	V		Occupies open eucalypt forest, woodland or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used.	Unlikely. No suitable habitat
Charadriidae	Eastern Osprey	*Pandion cristatus*	V		Coastal habitats of open water, especially mouths of large rivers, lagoons and lakes.	Possible, although unlikely to frequently visit the marginal habitats of the subject site. Could occasionally occur as part of a large area covered by migratory route.
Rostratulidae	Pacific Golden Plover	*Pluvialis fulva*		C,J,K	Coastal habitats such as beaches, mudflats and sandflats.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Scolopacidae	Australian Painted Snipe	*Rostratula australis*	E	E	Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
	Common Sandpiper	*Actitis hypoleucos*		C,J,K	A wide range of coastal and sometimes inland wetlands.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
	Ruddy Turnstone	*Arenaria interpres*		C,J,K	Coastal regions with exposed rock coastlines or	Unlikely. No suitable habitat

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
				coral reefs.	
Sharp-tailed Sandpiper	*Calidris acuminata*		C,J,K	Prefers muddy edges of shallow fresh or brackish wetlands.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Red Knot	*Calidris canutus*		E,C,J,K	Intertidal mudflats, sandflats and sandy beaches of sheltered coasts.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Curlew Sandpiper	*Calidris ferruginea*	E	CE,C,J,K	Generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Pectoral Sandpiper	*Calidris melanotos*		J,K	Shallow fresh to saline lagoons usually in coastal areas.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Red-necked Stint	*Calidris ruficollis*		C,J,K	Coastal areas, including sheltered inlets, bays, lagoons and estuaries with intertidal mudflats	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Great Knot	*Calidris tenuirostris*	V	CE,C,J,K	Coastal areas, including sheltered inlets, bays, lagoons and estuaries with intertidal mudflats	Unlikely, no suitable habitat on the subject site. The species is likely to

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
					frequent the wetland habitats of the Sydney Olympic Park site.
Latham's Snipe	*Gallinago hardwickii*		C,J,K	Freshwater wetlands on or near the coast, generally among dense cover.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Broad-billed Sandpiper	*Limicola falcinellus*	V	C,J,K	Sheltered coastal areas including sandflats and mudflats, lagoons and saltmarshes. May occasionally be found in freshwater lagoons. Roosts on banks and beaches.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Bar-tailed Godwit	*Limosa lapponica*		C,J,K	A variety of coastal habitats including large intertidal sandflats, estuaries and coastal lagoons.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Black-tailed Godwit	*Limosa limosa*	V	C,J,K	Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Eastern Curlew	*Numenius madagascariensis*		CE,C,J,K	Sheltered coasts with large intertidal mudflats or sandflats.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Grey-tailed Tattler	*Tringa brevipes*		C,J,K	Sheltered coasts with reefs and rock platforms or	Unlikely, no suitable habitat on the

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

	Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
					with intertidal mudflats.	subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
	Common Greenshank	*Tringa nebularia*		C,J,K	A wide variety of inland wetlands and sheltered coastal habitats of varying salinity.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
	Marsh Sandpiper	*Tringa stagnatilis*		C,J,K	Permanent or ephemeral wetlands of varying salinity.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Laridae	Terek Sandpiper	*Xenus cinereus*	V	C,J,K	Favours mudbanks and sandbanks located near mangroves, but may also be observed on rocky pools and reefs, and occasionally up to 10 km inland around brackish pools.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
	Gull-billed Tern	*Gelochelidon nilotica*		C	Occurs at freshwater swamps, brackish and salt lakes, beaches and estuarine mudflats, floodwaters, sewage farms, irrigated croplands and grasslands.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
	Caspian Tern	*Hydroprogne caspia*		C,J	Mostly in sheltered coastal embayments, especially those with sandy or muddy margins.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

	Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
	Common Tern	*Sterna hirundo*		C,J,K	All marine zones, particularly near-coastal and sheltered waters	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Psittacidae	Little Tern	*Sternula albifrons*	E	C,J,K	Almost exclusively coastal, preferring sheltered environments; however may occur several kilometres from the sea in harbours, inlets and rivers.	Unlikely, no suitable habitat on the subject site. The species may utilise the wetland habitats of the Sydney Olympic Park site as secondary habitat.
	Little Lorikeet	*Glossopsitta pusilla*	V		Forages primarily in the canopy of open Eucalyptus forest and woodland, yet also finds food in Angophoras, Melaleucas and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. Also utilises isolated flowering trees in open country, e.g. paddocks, roadside remnants and urban trees. Roosts in treetops, often distant from feeding areas. Nests in proximity to feeding areas if possible, most typically selecting hollows in the limb or trunk of smooth-barked Eucalypts.	Possible, although unlikely to frequently visit the marginal habitats of the subject site. Could occasionally occur as part of a large foraging area
Strigidae	Swift Parrot	*Lathamus discolor*	E	CE	Migratory, forage on winter-flowering eucalypts and/or lerp-infested trees.	Possible, although unlikely to frequently visit the marginal habitats of the subject site. Could occasionally occur as part of a

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

	Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
						large foraging area
Tytonidae	Powerful Owl	*Ninox strenua*	V		A variety of forest types including woodland, open sclerophyll forest, tall open wet forest, rainforest and occasionally fragmented areas. Territories may be as large as 1450 ha and nesting occurs in large tree hollows of old, mature trees.	Possible, although unlikely to frequently visit the marginal habitats of the subject site for foraging. No nesting or roosting habitat is present. Could occasionally occur as part of a large foraging area
Meropidae	Eastern Grass Owl	*Tyto longimembris*	V		Tall grass habitats in swampy, grassy plains and floodplains. Breeds exclusively on the ground.	Unlikely. No suitable habitat
Meliphagidae	Rainbow Bee-eater	*Merops ornatus*		J	Open woodlands, beaches, dunes and mangroves.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
	Regent Honeyeater	*Anthochaera phrygia*	E	CE	Occurs in dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak. Forages mainly on nectar from a small number of high volume nectar-producing species such as the Mugga Ironbark, Yellow Box, White Box and Swamp Mahogany.	Unlikely. No suitable habitat.
	White-fronted Chat	*Epthianura albifrons*	V		Usually found foraging on bare or grassy ground in wetland areas, singly or in pairs.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

	Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
						the Sydney Olympic Park site.
	White-fronted Chat population in the Sydney Metropolitan Catchment Management Area	*Epthianura albifrons*	E		Regularly observed in the saltmarsh of Newington Nature Reserve (with occasional sightings from other parts of Sydney Olympic Park and in grassland on the northern bank of the Parramatta River). Current estimates suggest this population consists of 8 individuals.	Unlikely, no suitable habitat on the subject site. The species is likely to frequent the wetland habitats of the Sydney Olympic Park site.
Artamidae	Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	V		Prefers dry, open eucalypt forests and woodlands, can also be found in shrublands or around farmland.	Unlikely. No suitable habitat
Petroicidae	Scarlet Robin	*Petroica boodang*	V		Occurs singly or in pairs in dry eucalypt forests and woodlands with an abundance of fallen timber and logs. It can occasionally be found in wetlands and swamps.	Unlikely. No suitable woodland habitat
	Flame Robin	*Petroica phoenicea*	V		Breeds in upland tall, moist, eucalypt forests and woodlands, often on ridges and slopes. Groundlayer of breeding habitat is dominated by native grasses. It occasionally occurs in herbfields, heathlands, shrublands, and sedgelands at high altitudes. In winter the species migrates to drier, more open habitats in the lowlands. The species forages from low perches, pouncing on small invertebrates on the ground or off logs, and other coarse woody material.	Unlikely. No suitable woodland habitat

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

	Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
Mammalia						
Pteropodidae	Grey-headed Flying-fox	*Pteropus poliocephalus*	V	V	Occurs in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.	Possible to occur. May foraging on the fruiting vegetation of the subject site, as part of a large foraging range. No camps are known to occur.
Emballonuridae						
Molossidae	Yellow-bellied Sheathtail-bat	*Saccolaimus flaviventris*	V		Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	Possible to occur. May forage over the subject site. No suitable roosting habitat is present
Vespertilionidae	Eastern Freetail-bat	*Mormopterus norfolkensis*	V		Occur in dry sclerophyll forest and woodland east of the Great Dividing Range. Roost mainly in tree hollows but will also roost under bark or in man-made structures.	Possible to occur. May forage over the subject site. No suitable roosting habitat is present
	Eastern False Pipistrelle	*Falsistrellus tasmaniensis*	V		Prefers moist habitats, with trees taller than 20 m. Generally roosts in eucalypt hollows, but has also been found under loose bark on trees or in buildings.	Possible to occur. May forage over the subject site. No suitable roosting habitat is present

Table 4 Threatened Fauna Likelihood of Occurrence on the Subject Site

Common Name	Scientific Name	BC Act	EPBC Act	Habitat Requirements	Likelihood on the subject site
Eastern Bentwing-bat	*Miniopterus schreibersii oceanensis*	V		Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Hunt in forested areas, catching moths and other flying insects above the tree tops.	Possible to occur. May forage over the subject site. No suitable roosting habitat is present
Southern Myotis	*Myotis macropus*	V		Roosts in groups of up to fifteen, in caves, mine shafts, tree hollows, dense foliage, or in man-made structures. Forages over streams and pools.	Unlikely. No suitable habitat on the subject site. This fishing-bat is likely to utilise the habitats of Sydney Olympic Park for foraging.
Greater Broad-nosed Bat	*Scoteanax rueppellii*	V		Commonly occurs in tall wet forests. Roost mainly in tree hollows but will also roost in man-made structures.	Possible to occur. May forage over the subject site. No suitable roosting habitat is present

Key: V = Vulnerable, E = Endangered, CE = Critically Endangered, C/J/K = Protected under International migratory species agreements with China, Japan and Korea