



Flora and Fauna Impact Assessment Report

Proposed Ancillary Dwelling 3 Patrick Street, Avalon Beach NSW 2107

11 January 2020





Report:	Flora and Fauna Impact Assessment Report Proposed Ancillary Dwelling 3 Patrick Street, Avalon Beach NSW 2107
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Report Certification

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Glossary

Acronym/ Term	Definition
BC Act	New South Wales Biodiversity Conservation Act 2016
BDAR	Biodiversity Development Assessment Report
CEEC	Critically Endangered Ecological Community
DA	Development Application
DCP	Development Control Plan
Development	The use of land, and the subdivision of land, and the carrying out of a work, and the demolition of a building or work, and the erection of a building, and any other act, matter or thing referred to in section 26 that is controlled by an environmental planning instrument but does not include any development of a class or description prescribed by the regulations for the purposes of this definition (Environmental Planning and Assessment Act 1979).
DPIE	Department of Planning Industry and Environment
EEC	Endangered Ecological Community
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
Ha	Hectares
Km	Kilometre
KTP	Key Threatening Process (as listed in the BC Act)
LEP	Local Environmental Plan
LGA	Local Government Area
Locality	The area within a 10km radius of the Subject site. The same meaning when describing a local population of a species or local occurrence of an ecological community.
M	metres
Mm	millimetres
NPWS	NSW National Parks and Wildlife Services
NSW	New South Wales
OEH	Office of Environment and Heritage (now the Department of Planning Industry and Environment)
Proposal	The development, activity or action proposed.
ROTAP	Rare or Threatened Australian Plants
SIS	Species Impact Statement pursuant to s. 5A of the Environmental Planning and Assessment Act 1979
subject site	Location of the proposed ancillary dwelling within the subject property.
subject property	3 Patrick Street, Avalon, NSW 2106 (Lot 11 /- /DP20292)
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1, 1A and 2 and <i>threatened species, population or ecological community</i> means a species, population or ecological community specified in any of those Schedules.
TPZ	Tree Protection Zone

1. Introduction

1.1 Background and Project Proposal

Land Eco Pty Ltd (Land Eco) was engaged by Granny Flat Solutions to deliver a Flora and Fauna Impact Assessment Report (FFA) for a proposed development application (DA) at 3 Patrick Street, Avalon Beach, NSW 2106 (Lot 11/-/DP20292) (the subject property).

1.1.1 Proposed Development

The proposed development includes the construction of a two bedroom ancillary dwelling (granny flat) at the rear (south-western end) of the subject property (**Figure 1**). The proposed development includes a driveway which will allow vehicular access from Patrick Street to the ancillary building (**Figure 1**).

1.1.2 Proposed Impact

The proposed development will not involve the removal of any trees.

In the event tree protection zones (TPZ) were impacted, the DA would remove a maximum of five trees (tall shrubs) including:

- One *Tibouchina* sp.
- One *Callistemon viminalis*
- One *Jacaranda mimosifolia*
- One *Callistemon citrinus*
- One *Syagrus romanzoffiana*

These trees/shrubs were all historically planted. Only two of these trees are native to the state of NSW, *Callistemon citrinus* and *Callistemon viminalis*. Only one is native to the local area (*Callistemon citrinus*). Two of the trees are listed as 'Exempt' under the 'Pittwater 21 Development Control Plan' (DCP), they are *Jacaranda mimosifolia* and *Syagrus romanzoffiana*. Both trees can be removed without the need for an application.

The proposed development will also involve the permanent removal of approximately 70m² of exotic-dominated groundcover (mowed lawn) to facilitate the dwelling construction.

1.1.3 Site Description and Location

The subject site is located on Patrick Street in the suburb of Avalon Beach. The prevailing land use consists of medium-density urban residential landholdings. Most landholdings contain an extended front and rear garden with established mature exotic and native trees. There are no native bushland reserves adjoining the subject site.

1.1.4 Soils and Geology

The Soil Landscape that underlies the subject property is the 'Erina' Soil Landscape (Chapman and Murphy 1989).

This soil landscape is comprised of undulating to rolling rises and low hills on fine-grained sandstones and claystones of the Terrigal Formation of the Narrabeen Group.

1.1.5 Hydrology

There are no mapped watercourses or riparian corridors in or around the subject property.

1.2 Matters for Consideration

The following list of legislation and policy are addressed in this report (**Table 1**).

Table 1. Relevant legislation and policy addressed

Legislation/ Policy	Relevance	Triggered	Action Required
Environmental Planning and Assessment Act 1979 (EP&A Act)	The proposed development is being assessed under Part 4 of the EP&A Act. This requires the development to be assessed of impacts to threatened species, populations or communities that are listed under the BC Act.	Yes	This Flora and Fauna Impact Assessment Report includes a Test of Significance under section 7.3 of the BC Act, as required for a DA under Part 4 of the EP&A Act.
Pittwater Local Environmental Plan 2014 (LEP)	The proposed development is being assessed under Part 4 of the EP&A Act. This requires the development to be assessed under the LEP.	Yes	This Flora and Fauna Impact Assessment Report includes information on how the project meets the requirements of LEP, as required for a DA under Part 4 of the EP&A Act.
Pittwater 21 Development Control Plan 2015 (DCP)	The proposed development is being assessed under Part 4 of the EP&A Act. This requires the development to be assessed under the LEP.	Yes	This Flora and Fauna Impact Assessment Report includes information on how the project meets the requirements of DCP, as required for a DA under Part 4 of the EP&A Act.
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	There are Matters of National Significance (MNES) on the subject site.	No	No further action.
Biodiversity Conservation Act 2016 (BC Act)	No important habitat for threatened species or populations will be impacted by the proposed development.	Yes	No Test of Significance (5-part Test) in accordance with Section 7.3 of the BC Act was undertaken to assess the impact of the proposed development on the removal of historically planted trees in an urban garden.
Biosecurity Act 2015 (Bio Act)	There were following Priority Weeds identified on the site.	No	No further action.
Water Management Act 2000 (WM Act)	The proposed development is not located on or near 'waterfront land'	No	No further action.
State Environmental Planning Policy No 19 - Bushland in Urban Areas (SEPP 19)	SEPP 19 does apply to the proposed development as the Subject site is within Schedule 1 Areas and part areas to which the Policy applies	No	No further action.
State Environmental Planning Policy (Coastal Management) 2018	State Environmental Planning Policy (Coastal Management) 2018 does not apply to the Subject site. It is not located in the Coastal Zone and contains no mapped Littoral Rainforest or Coastal Wetlands.	No	No further action.
State Environmental Planning Policy No. 44 - Koala Habitat Protection (SEPP 44)	The Subject site has an area less than 1ha therefore this SEPP does not apply.	No	None

1.3 Pittwater Local Environmental Plan 2014

1.3.1 Zoning

The Subject Property is zoned R2: Low Density Residential.

1 Objectives of zone

- To provide for the housing needs of the community within a low-density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.
- To provide for a limited range of other land uses of a low intensity and scale, compatible with surrounding land uses.

2 Permitted without consent

Home businesses; Home occupations

3 Permitted with consent

Bed and breakfast accommodation; Boarding houses; Boat sheds; Building identification signs; Business identification signs; Centre-based child care facilities; Community facilities; Dual occupancies; Dwelling houses; Environmental protection works; Exhibition homes; Group homes; Health consulting rooms; Home-based child care; Home industries; Jetties; Oyster aquaculture; Places of public worship; Pond-based aquaculture; Respite day care centres; Roads; Secondary dwellings; Tank-based aquaculture; Veterinary hospitals; Water recreation structures

4 Prohibited

Any development not specified in item 2 or 3

The proposed development is permitted with consent.

1.3.2 Biodiversity (7.6)

(1) The objective of this clause is to maintain terrestrial, riparian and aquatic biodiversity by—

- (a) protecting native fauna and flora, and
- (b) protecting the ecological processes necessary for their continued existence, and
- (c) encouraging the conservation and recovery of native fauna and flora and their habitats.

(2) This clause applies to land identified as “Biodiversity” on the Biodiversity Map.

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider—

- (a) whether the development is likely to have—
 - (i) any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and
 - (ii) any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and
 - (iii) any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and
 - (iv) any adverse impact on the habitat elements providing connectivity on the land, and
- (b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—

- (a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or
- (b) if that impact cannot be reasonably avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact, or
- (c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

The Subject Site is mapped on the OEH 'Terrestrial Biodiversity' map (**Figure 2**). This mapping is the reason why this Flora and Fauna Impact Assessment Report has been produced to accompany the DA.

It is confirmed that the development is not likely to have—

- (i) any adverse impact on the condition, ecological value and significance of the fauna and flora on the land;
- (ii) any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna; and
- (iii) any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land.

This report contains appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

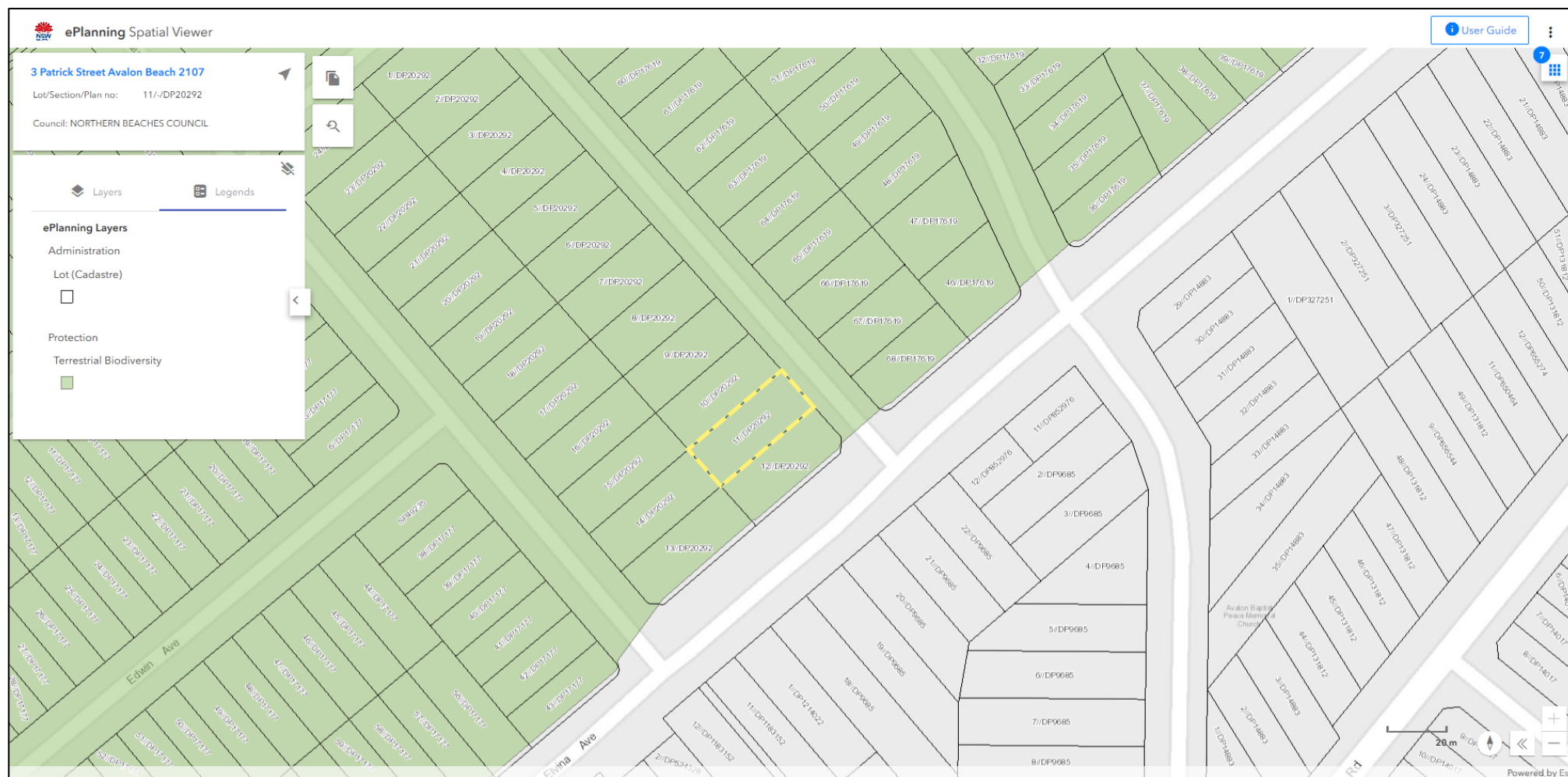


Figure 2. Pittwater Local Environmental Plan Terrestrial Biodiversity Mapping (DPIE 2020a)

1.3.3 Riparian Land and Waterways

No 'Riparian Land' is mapped within the Subject Property under the Pittwater LEP 'Riparian Land Map'. As such, the objectives of the clause do not require further address within this report.

1.4 Pittwater Development Control Plan 2015

1.4.1 Controls Relating to the Natural Environment (B4)

The Subject Site exists within land mapped as 'CO3' (**Figure 3**) which is described as 'Residential areas with some tree cover but requiring supplementary planting to aid fauna movements.

1.4.1.1 Landscape and Flora and Fauna Enhancement Category 3 Land (B4.5)

Land to which this control applies

Land in the Pittwater LGA not covered by other Natural Environment Controls - P21DCP-BCMDCP064

Outcomes

The long-term viability and enhancement of locally native flora and fauna and their habitats.

Controls

- Development shall retain and enhance habitat for threatened species, endangered populations, endangered ecological communities and locally native species.
- Development shall provide flora and fauna habitat by active restoration, regeneration, and / or creation. Development shall result in no significant onsite loss of canopy cover or a net loss in native canopy trees.
- Landscaping is not to include environmental weeds.

Variations

Council may consider variation to this control:

- For those activities listed in adopted Plans of Management for public reserves.
- Where a development is proposed in the area of least impact on native vegetation and where there will be no significant net loss of native vegetation.

Information to be included in the Statement of Environmental Effects

An analysis of the proposed development clearly stating the extent of the impact on the natural environment demonstrating that it has been designed to minimise any impact on flora and fauna.

Technical Reports and Supporting Information

(a) Development that disturbs/removes less than 40m² of vegetation, does not including tree removal/modification and is where habitat for NPWS Threatened species/populations/communities does not occur on the site.

(b) Development that may impact/remove up to five native trees, including those within 5m of excavation, fill or changes in soil level.

- A tree survey and Arborist Report indicating location, species, health and size of all trees within 5m of proposed development. Clearly indicating all trees that may be impacted on or removed.
- A 5-part test is to be provided where existing native canopy trees are proposed for removal.
- 5-part tests for any DPIE listed species/populations/communities.

(c) Development that disturbs between 40m² and 500m² of vegetation and/or more than five native trees and/or installation of an on-site waste-water disposal systems.

The following are the minimum requirements, where trees are proposed for removal/modification an Arborist Report is also required.

- Ecological Site Assessment hyperlink to requirements of ESA (also stated in Biodiversity DCP to be updated)
- Biodiversity Impact Assessment hyperlink to requirements BIA (also stated in Biodiversity DCP to be updated)
- Ecological Sustainability Plan hyperlink to requirements of ESP (also stated in Biodiversity DCP to be updated)
- or combined report covering all issues.

(d) Development that disturbs more than 500m² of vegetation and/or the subdivision of land.

The following are the minimum requirements where trees are proposed for removal/modification an Arborist Report is also required. Information required for development types (c) and (d) is the same, however the survey intensity required for developments in category (d) is greater minimum requirements given below.

- Ecological Site Assessment hyperlink to requirements of ESA (also stated in Biodiversity DCP to be updated)
- Biodiversity Impact Assessment hyperlink to requirements BIA (also stated in Biodiversity DCP to be updated). Survey intensity required increases with area being disturbed.

- Ecological Sustainability Plan hyperlink to requirements of ESP (also stated in Biodiversity DCP to be updated)
- or combined report covering all issues.

This DA is proposed in the area of the Subject Property that will incur least impact on native vegetation as most of the area consists of lawn and exotic/exempt ornamental trees. There will be no significant net loss of native vegetation.

An Ecological Site Assessment and Biodiversity Impact Assessment have been undertaken and detailed in this present report.

The proposed DA will result in the removal of only one indigenous native tree (a planted *Callistemon citrinus*) and one non-indigenous native tree (a planted *Callistemon viminalis*) this will not incur a significant impact to any threatened species, population or ecological community.

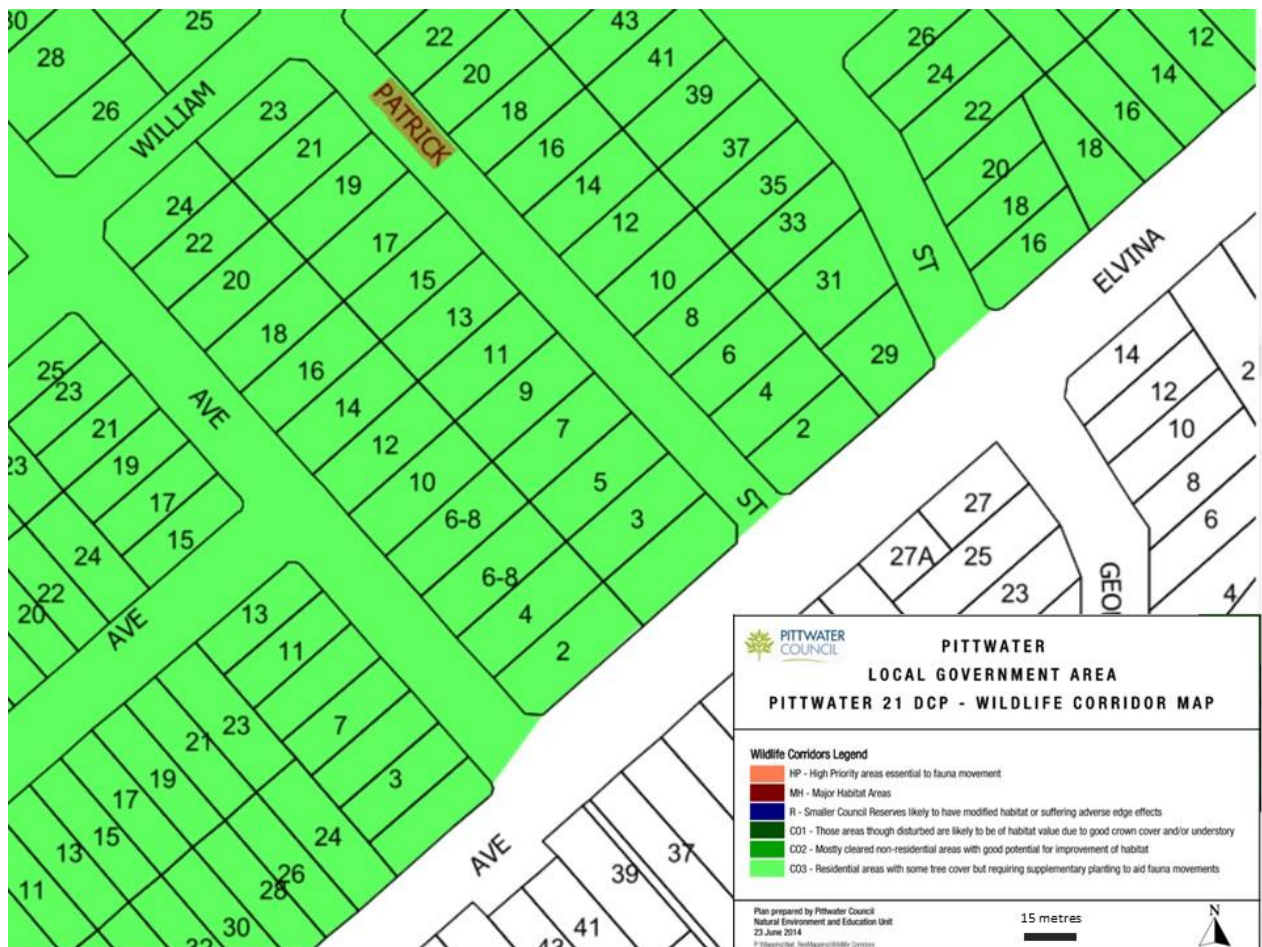


Figure 3. Closeup of Pittwater 21 DCP Wildlife Corridor Map

1.4.1.2 Wildlife Corridors (B4.6)

Land to which this control applies

Land mapped as Wildlife Corridor but excluding where this land is covered in other Natural Environment Controls - P21DCP-BCMDCP065

Outcomes

Retention and enhancement of wildlife corridors ensuring/providing the connection of flora and fauna habitats. (En)

Controls

- Development shall not directly impact on / or significantly reduce / degrade habitat for locally native species, threatened species, endangered populations or endangered ecological communities.
- Development shall retain, and provide an adequate buffer to, wildlife corridors.
- Development shall provide wildlife corridors via creation, restoration, and / or regeneration of habitat.
- Development shall not result in a significant loss of canopy cover or a net loss in native canopy trees.
- Development shall ensure that at least 60% of any new planting incorporates native vegetation (as per species listed in *Native Plants for Your Garden* available on the Pittwater Council website). Landscaping is to be outside areas of existing bushland and not include environmental weeds.
- Planting is to maximise linkage within the wildlife corridor.
- Caretakers of domestic animals shall prevent them from entering areas of wildlife habitat.
- Fencing, where permitted, shall be passable by native wildlife.

This DA is proposed to occur in the area of least impact on native vegetation and where there will be no significant net loss of native vegetation. The proposed DA will not result in the removal of any trees. If TPZ was encroached the DA would result in loss of only one indigenous native tree (a planted *Callistemon citrinus*) and one non-indigenous native tree (a planted *Callistemon viminalis*) this will not incur a significant impact to any threatened species, population or ecological community.

An Ecological Site Assessment and Biodiversity Impact Assessment have been undertaken and detailed in this present report.

There will be no significant loss of canopy, as there is no canopy present.

All proposed landscaping will incorporate at least 60% species/cover of native indigenous flora. The landscape plantings will be undertaken around the boundary of the Subject Property to maximise linkage with other properties within the wildlife corridor.

If any fencing is undertaken, no barbed wire or other preventative structures will be used. Wildlife will be able to pass through the landscape.

1.4.2 Land Adjoining Bushland (B4.11)

This control does not apply as the Subject Site does not adjoin bushland

1.4.3 Preservation of Trees and Bushland Vegetation (B4.22)

Land to which this control applies

This control applies to all land, waterways and Bushland covered by the Pittwater Local Environmental Plan 2014

Uses to which this control applies

Tree and/or bushland removal

Outcomes

- To protect and enhance the urban forest of the Northern Beaches.
- To effectively manage the risks that come with an established urban forest through professional management of trees.
- To minimise soil erosion and to improve air quality, water quality, carbon sequestration, storm water retention, energy conservation and noise reduction.
- To protect, enhance bushland that provides habitat for locally native plant and animal species, threatened species populations and endangered ecological communities.
- To promote the retention and planting of trees which will help enable plant and animal communities to survive in the long-term.
- To protect and enhance the scenic value and character that trees and/or bushland vegetation provide.

Controls

1. Authority to clear a tree or other vegetation is regulated in this plan in accordance with State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 i.e. 'Vegetation SEPP'. In particular, Part 2 of the Vegetation SEPP sets out the authority to clear vegetation and Part 3 provides for Council to declare under this DCP when a Vegetation Clearing Permit may be issued for clearing of vegetation.

However a permit under Part 3 of the Vegetation SEPP (clause 10(3)) cannot allow the clearing of vegetation that is or forms part of a heritage item or that is within a heritage conservation area, or that is or forms part of an Aboriginal object or that is within an Aboriginal place of heritage significance, unless the council is satisfied that the proposed activity:

- is of a minor nature or is for the maintenance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or heritage conservation area, and
- would not adversely affect the heritage significance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or heritage conservation area.

2. A person shall not ringbark, cut down, top, lop, remove, poison, injure, or wilfully destroy tree or bushland vegetation that requires a Vegetation Clearing Permit under the provisions of Part 3 of the Vegetation SEPP. This includes damage to a tree or bushland vegetation by:

- Damaging or tearing live branches and roots;
- Damaging the bark, including attachment of objects using invasive fastenings, the fastening of materials around the trunk of trees which may result in a detrimental impact on tree health;
- Tree topping, where large branches and/or the trunk of the tree is removed from the top of the trees canopy;
- Tree lopping, where branches are removed to reduce the height and spread of the tree.
- Damaging the root zone of a tree by way of compaction, including storage and stockpiling materials;
- Changing of ground levels within the root zone of a tree by way of excavation, trenching, filling or stockpiling;
- Underscrubbing of bushland vegetation;
- Burning of vegetation (not part of a Hazard Reduction Certificate); or
- Any other act or activity that causes the destruction of, the severing of trunks or stems of, or any other substantial damage to, some or all of the native vegetation in an area.

An authority to clear vegetation is not required under the Vegetation SEPP:

- i. if it is clearing authorised by development consent i.e. a 'DA' under Part 4 of the Environmental Planning and Assessment Act 1979. Note: However, this authority to clear vegetation without a permit does not extend to clearing merely because it is a part of or ancillary to the carrying out of exempt development (see clause 8(1) of Vegetation SEPP);
- ii. if it is clearing of a kind that is an activity authorised by an approval or carried out by a determining authority within the meaning of Part 5 of the Environmental Planning & Assessment Act after compliance with that Part; or
- iv. if the clearing was an emergency firefighting act or emergency bush fire hazard reduction work within the meaning of the Rural Fires Act 1997 (the 'Act'), or bush fire hazard reduction work to which section 100C(4) of the Act applies or vegetation clearing work under section 100R of the Act.

3. A Vegetation Clearing Permit is required for:

- a) Removal or cutting down of any tree over five (5) metres in height;
- b) Pruning of more than ten percent (10%) of a tree canopy; or
- c) The removal or cutting down of vegetation in "Bushland".

For the purpose of this clause "Bushland" means land on which there is vegetation which is either a remainder of the natural vegetation of the land or, if altered, is still representative of the structure and floristics of the natural vegetation (as defined by the Local Government Act 1993).

Note: A description of native vegetation types or communities which constitute "Bushland" is provided in the adopted Warringah Natural Area Survey: Vegetation Communities and Plant Species - August 2005.

4. In applying for a Vegetation Clearing Permit, the applicant must demonstrate that any tree to be removed as part of a Vegetation Clearing Permit meets one or more of the criteria of the Removal of Tree Test in Appendix 16 (P21DCP) and the Tree Retention Assessment in Appendix 17 (P21DCP). An arborist report may be required to satisfy this requirement.

Requirements for other Development Applications

When a DA required for clearing vegetation the following requirements apply:

5. Development is to be sited and designed to minimise the impact on remnant native vegetation, including canopy trees and understorey vegetation, and on remnant native ground cover species.
6. Where the applicant demonstrates that no reasonable alternative design exists and a tree must be removed, suitable compensatory tree planting is required. Details including proposed species and the location of replacement planting are to be provided.
7. Development must also avoid any impact on trees on public land.
8. For development applications involving the construction of new buildings and works containing Classes 2-9 (BCA), the information contained in Appendix 18 (P21DCP) is to be submitted.
9. Where trees proposed to be retained may be affected by the construction of new buildings and works of Classes 1 and 10, a Tree Protection Plan as per Appendix 19 (P21DCP) is to be submitted.

This DA is proposed in the area of the Subject Property that will incur least impact on native vegetation as most of the area consists of lawn and exotic/exempt ornamental trees. There will be no significant net loss of native vegetation.

An Ecological Site Assessment and Biodiversity Impact Assessment have been undertaken and detailed in this present report.

The proposed DA will not result in the removal any trees.

If a TPZ was encroached, only one indigenous native tree (a planted *Callistemon citrinus*) will be impacted and one non-indigenous native tree (a planted *Callistemon viminalis*) will be impacted this will not incur a significant impact to any threatened species, population or ecological community.

No trees or vegetation will be removed from adjoining lots or public land.

1.5 State Environmental Planning Policies

1.5.1 SEPP No.44 Koala Habitat Protection

No schedule 2 'Preferred Koala Feed Trees' occur on the Subject Site, therefore SEPP44 does not apply.

1.5.2 SEPP (Coastal Management) 2018

The Subject Site is not located within any area of 'Coastal Environment Protection' (**Figure 4**). This SEPP does not apply to the DA.

1.5.3 SEPP No. 19 Bushland in Urban Areas

The Subject Site is not located within or adjacent to any 'urban bushland areas' therefore this SEPP does not apply to the DA.

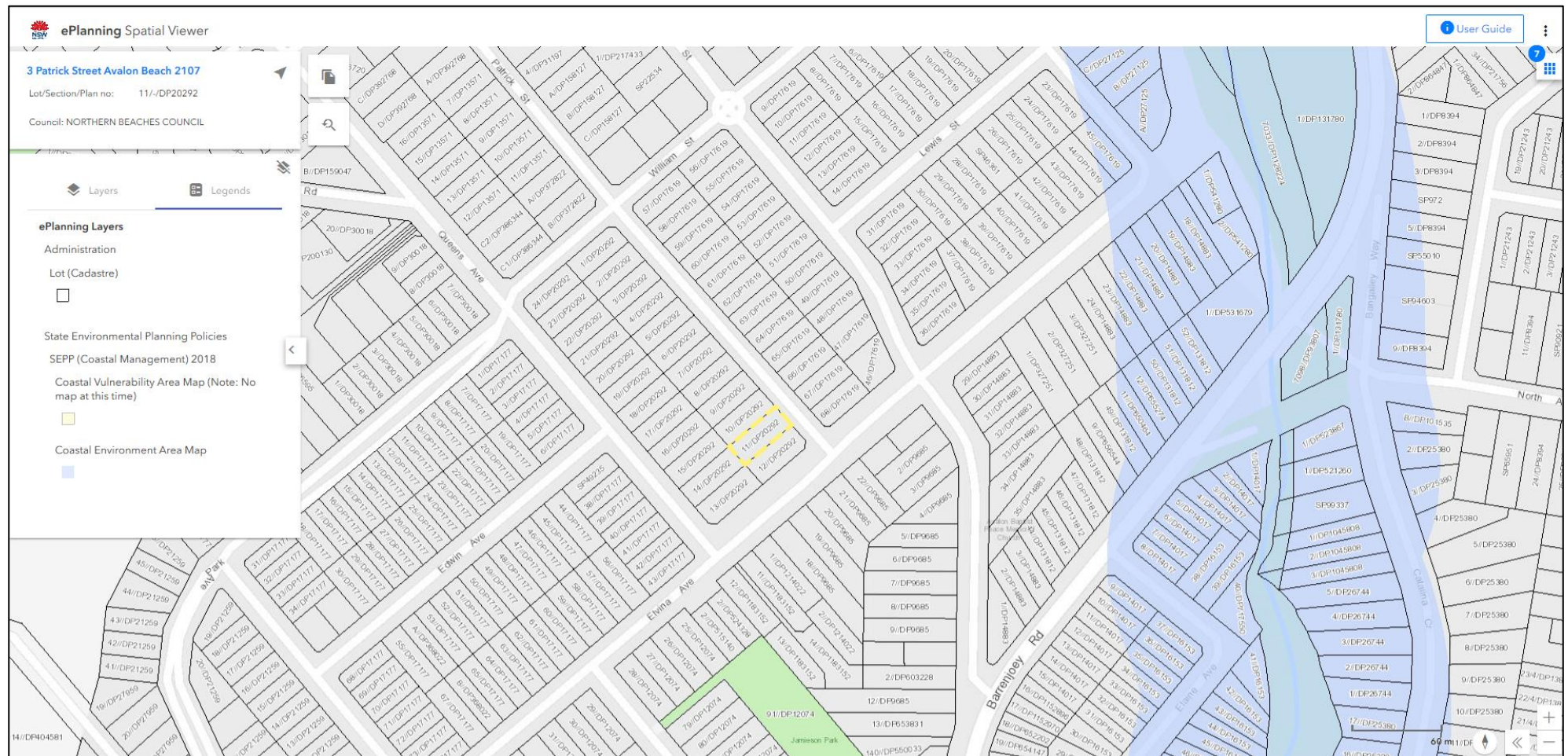


Figure 4. SEPP (Coastal Management) 2018 Mapping Relative to the Subject Site

1.6 Qualifying for the NSW Biodiversity Offset Scheme

The requirements of the BC Act and Biodiversity Conservation Regulation 2017 are mandatory for all development applications assessed pursuant to Part 4 of the EP&A Act submitted in the Pittwater ward of the Northern Beaches Local Government Area.

The BC Act and its regulations stipulate native vegetation clearing 'area threshold' values that determine whether a development is required to be assessed in accordance with the 'Biodiversity Offset Scheme' (BOS). Minimum entry thresholds for native vegetation clearing depend on the minimum lot size (shown in the Lot Size Maps made under the relevant Local Environmental Plan [LEP]), or actual lot size (where there is no minimum lot size provided for the relevant land under the LEP). Vegetation clearing includes all lopping, felling, slashing, or mowing of native trees, shrubs, or groundcover for the purpose of construction, landscaping, excavation or bushfire Asset Protection Zone (APZ) works.

The minimum lot size prescribed by Pittwater Local Environmental Plan 2014 to the Subject Site is 0.07ha. To avoid triggering the Biodiversity Offset Scheme the proponent must avoid the clearing/management of native vegetation in excess of 0.25ha (**Table 2**).

Developments that trigger the Biodiversity Offset scheme will require a 'Biodiversity Development Assessment Report' (BDAR) that addresses the Biodiversity Assessment Method and the purchasing of Biodiversity Credits.

Table 2. Biodiversity Offset Scheme Entry Thresholds

Minimum lot size associated with the property	Threshold for clearing, above which the BAM and offsets scheme apply
Less than 1 ha	0.25 ha or more
1 ha to less than 40 ha	0.5 ha or more
40 ha to less than 1000 ha	1 ha or more
1000 ha or more	2 ha or more

The Subject Site has not been mapped as containing biodiversity values within the Biodiversity Values Map (NSW DIPE 2019) (**Figure 5**).

In this instance, the area of native vegetation to be removed for the proposed DA falls under the required threshold, therefore:

- the BOS is not triggered,
- the BAM calculator does not apply,
- an Accredited Assessor is not required to prepare this BDAR, and
- no offset credit calculations are required.

As such, a standard Flora and Fauna Impact Assessment Report (this report) has been produced to assess the impact of the proposed DA.

Biodiversity Values Map and Threshold Tool

The Biodiversity Offsets Scheme Threshold is a test used to determine when it is necessary to engage an accredited assessor to apply the Biodiversity Assessment Method (the BAM) to assess the impacts of a proposal.

It is only used for local developments (development applications submitted to councils) and clearing that does not require development consent in urban areas and areas zoned for environmental conservation (under the State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017).

The Biodiversity Conservation Regulation 2017 sets out threshold levels for when the Biodiversity Offsets Scheme will be triggered. The threshold has two elements:

- Whether the amount of native vegetation being cleared exceeds a threshold area, or
- Whether the impacts occur on an area mapped on the Biodiversity Values map published by the Chief Executive of the NSW Office of Environment and Heritage.

If clearing and other impacts exceeds either trigger, the Biodiversity Offset Scheme applies to the proposed development including biodiversity impacts prescribed by clause 6.1 of the Biodiversity Regulation 2017.

If the Biodiversity offsets scheme is not triggered, the test of significance detailed in section 7.3 of the Biodiversity Conservation Act 2016 must be used to determine whether a local development is likely to significantly affect threatened species.


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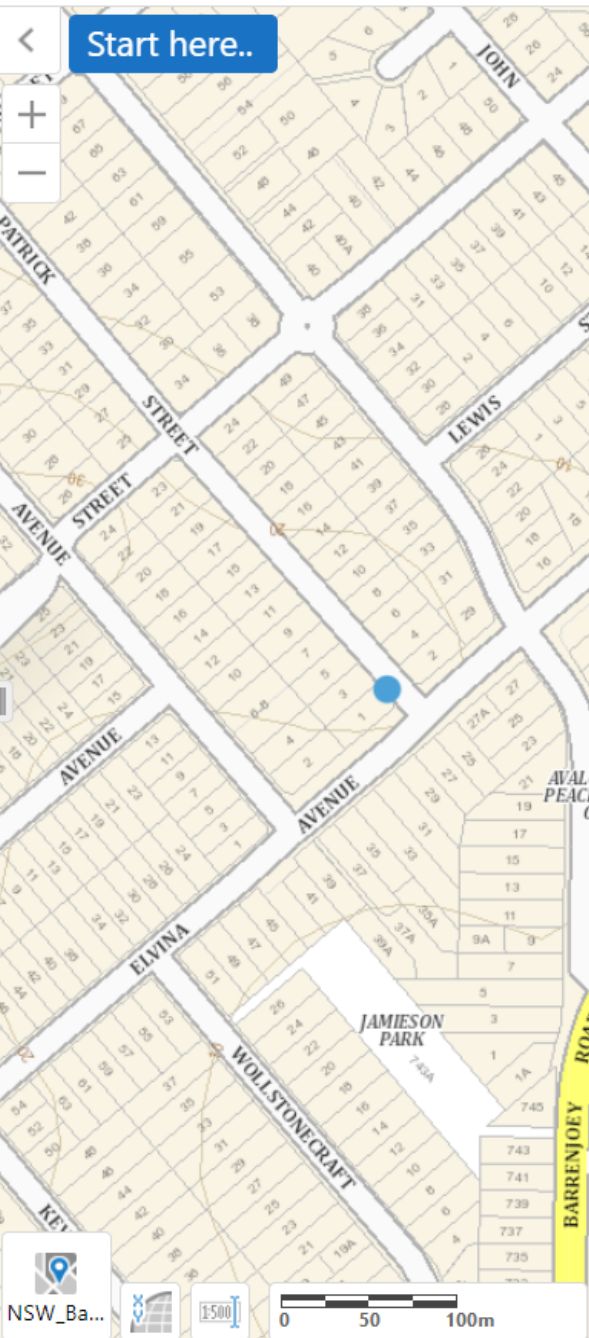
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Figure 5. The Subject Property in relation to mapped biodiversity values (DPIE 2020b)

2. Methods

2.1 Sources of Information Used

A thorough literature review of local information relevant to the locality and the Pittwater council Local Government Area (LGA) was undertaken. Relevant literature that was reviewed in preparation of this report included:

- Relevant State and Commonwealth Databases
 - Protected Matters Search Tool (Commonwealth of Australia 2020)
 - NSW Bionet. The website of the Atlas of NSW Wildlife (DPIE 2020c)
 - Atlas of Living Australia Spatial Portal (ALA 2020)
- Vegetation and Landscape Mapping
 - The Native Vegetation of the Sydney Metropolitan Area. (OEH 2016a;2016b)
 - Sydney 1:100 000 Geological Map (Herbert 1983)
 - Soil Landscapes of the Sydney 1:100000 Sheet (Chapman & Murphy 1989)
 - Descriptions of Mitchell landscapes (Mitchell 2002)
- Council Documents
 - Pittwater Local Environmental Plan (LEP) 2014
 - Pittwater Development Control Plan (DCP) 2015
 - Weeds declared in the Greater Sydney Region (DPI 2020)

Preparation of this Flora and Fauna Assessment Report involved the review of accompanying project documents including:

- Granny Flat Solutions (2019) Site Plans

Online databases and literature review were utilised to gain an understanding of the natural environment and ecology of the Subject site and its surrounds to an area of approximately 10 km². Searches utilising NSW Wildlife Atlas (DPIE 2020c) and the Commonwealth Protected Matters Search Tool (Commonwealth Department of the Environment 2020) were conducted to identify current threatened and migratory flora and fauna records within a 10km² search area centred on the Subject site. This data was used to assist in establishing the presence or likelihood of any such ecological values as occurring on or adjacent the Subject site and helped inform our Ecologist on what to look for during the site assessment.

Soil landscape and geological mapping was examined to gain an understanding of the environment on the Subject site and assist in determining whether any threatened flora or ecological communities may occur there (Herbert 1983, Chapman & Murphy 1989).

2.2 Ecological Site Assessment

The following sections of this report detail the site assessments undertaken by Land Eco including the survey methods and the weather conditions experienced in the lead-up and during each assessment.

2.2.1 General Survey

Site assessment was undertaken by Land Eco Consulting Ecologist on 23rd December 2019. During the site assessment, the following activities were carried-out:

- Identifying and recording the vegetation communities present on the Subject site, with focus on identifying any threatened ecological communities (TEC);
- Searching for threatened species, species diagnostic of threatened ecological communities and priority weeds;
- Recording opportunistic sightings of any fauna species seen or heard on or within the immediate surrounds of the Subject site;
- Identifying and recording the locations of threatened fauna habitat such as important nesting, roosting or foraging microhabitats;
- Targeting the habitat of any threatened and regionally significant fauna including:
 - Tree hollows (habitat for threatened large forest owls, parrots, cockatoos and arboreal mammals);
 - Caves and crevices (habitat for threatened reptiles, small mammals and microbats);
 - Termite mounds (habitat for threatened reptiles and the echidna);
 - Soaks (habitat for threatened frogs and dragonflies);
 - Wetlands (habitat for threatened fish, frogs and water birds);
 - Drainage lines (habitat for threatened fish and frogs);
 - Fruiting trees (food for threatened frugivorous birds and mammals);
 - Flowering trees (food for threatened nectarivores mammals and birds);
 - Trees and shrubs supporting nest structures (habitat for threatened birds and arboreal mammals), and
 - Any other habitat features that may support fauna (particularly threatened) species.
- Assessing the connectivity and quality of the vegetation within the Subject site and surrounding area.
- Identifying the species and habitat values of all trees proposed to be removed.

2.2.2 Vegetation Community Assessment

Land Eco examined local satellite imagery, geological mapping, soil landscape mapping and topographic mapping, in addition to existing vegetation mapping (Sydney Metropolitan Vegetation Mapping [OEH 2016a; 2016b]) in order to stratify the Subject site and guide the site assessment survey efforts.

The vegetation community was determined based on desktop and field analysis of the geomorphology and geology of the Subject site, in addition to a quantitative analysis of the 'positive diagnostic' flora species (OEH 2016b) identified within the Subject site.

This data was compared against a suite of Sydney Metropolitan Vegetation Mapping 'positive diagnostic tests' (OEH 2016a; 2016b) to determine the vegetation community occurring within the Subject site against a suite of possible/candidate communities.

The Subject Site contained no indigenous native vegetation communities. It has been completely cleared and now consists entirely of exotic-dominated lawns and gardens

3. Native Vegetation

Historical mapping by Office of Environment and Heritage NSW (OEH 2016a; 2016b) *Native Vegetation of the Sydney Metropolitan Area* indicates the presence of no vegetation communities within the Subject Site. Upon examining the species assemblage Land Eco confirmed the presence of one (1) vegetation community assemblage within the Subject site 'Urban_E/N: Urban Exotic/Native'.

4. Threatened Species

No threatened fauna or flora species were found on the subject site during the site assessment by Land Eco.

4.1 Threatened Flora

The NSW Wildlife Atlas online survey tool (DPIE 2020c) was used to obtain a list of threatened flora previously recorded within a 10km radius of the subject site. The habitat requirements of each species were assessed (DPIE 2020d) in order to determine the likelihood of species occurrence and/or impact from the proposed development. Due to lack of remnant native vegetation within the site, no threatened flora species were identified in the desktop assessment as having potential to occur on the Subject Site (**Table 3**).

Table 3. List of threatened flora that may occupy the Subject site at some stage of their lifecycles as identified by BioNet (DPIE 2020c)

Species	BC Act	EPBC Act	Likelihood of Occurrence within the Subject site	5-Part Test Required?
<i>Acacia bynoeana</i>	Endangered	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Acacia pubescens</i>	Vulnerable	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Callistemon linearifolius</i>	Vulnerable	-	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Cryptostylis hunteriana</i>	Vulnerable	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Darwinia biflora</i>	Vulnerable	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No

Species	BC Act	EPBC Act	Likelihood of Occurrence within the Subject site	5-Part Test Required?
<i>Deyeuxia appressa</i>	Endangered	Endangered	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	Vulnerable	-	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Eucalyptus camfieldii</i>	Vulnerable	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Eucalyptus nicholii</i>	Vulnerable	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site.	No
<i>Genoplesium baueri</i>	Endangered	Endangered	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Genoplesium plumosum</i>	Critically Endangered	Endangered	Unlikely. The habitat for this species does not occur in the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Grammitis stenophylla</i>	Endangered	-	Low. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Grevillea caleyi</i>	Critically Endangered	Critically Endangered	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Grevillea juniperina</i> subsp. <i>juniperina</i>	Vulnerable	-	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Haloragodendron lucasii</i>	Endangered	Endangered	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Hibbertia spanantha</i>	Critically Endangered	Critically Endangered	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Isotoma fluviatilis</i> subsp. <i>fluviatilis</i>	-	Extinct	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds.	No
<i>Lasiopetalum joyceae</i>	Vulnerable	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Leptospermum deanei</i>	Vulnerable	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Melaleuca deanei</i>	Vulnerable	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Persoonia hirsuta</i>	Endangered	Endangered	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A	No

Species	BC Act	EPBC Act	Likelihood of Occurrence within the Subject site	5-Part Test Required?
			targeted search was undertaken however no individuals were identified.	
<i>Pimelea curviflora</i> var. <i>curviflora</i>	Vulnerable	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Prostanthera marifolia</i>	Critically Endangered	Critically Endangered	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Rhodamnia rubescens</i>	Critically Endangered	-	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Syzygium paniculatum</i>	Endangered	Vulnerable	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No
<i>Tetratheca glandulosa</i>	Vulnerable	-	Unlikely. The habitat for this species does not occur on the Subject site. The site is heavily degraded and is largely comprised of planted garden beds. A targeted search was undertaken however no individuals were identified.	No

4.2 Threatened Fauna

No threatened fauna or evidence thereof were identified within the subject site by Land Eco during the one (1) day site assessment.

Desktop analysis revealed a suite of threatened fauna species as having the potential to utilise habitat on the Subject site during part of their lifecycles (**Table 4**) (DPIE 2020c; 2020d)

The Subject site lacked important habitat features including native shrubby understorey, rock outcrops/crevices, waterbodies, soaks, hollow-bearing trees, coarse woody debris and dense leaf litter. Subsequently, all threatened fauna known to occur within 10km of the subject site could be discounted.

Two native flowering trees (*Callistemon citrinus* and *Callistemon viminalis*) and one soft fruit-bearing tree (*Syagrus romanzoffiana*) were identified in the Subject Site which may provide potential foraging habitat for locally resident and nomadic fauna, including:

- *Pteropus poliocephalus* (Grey-headed Flying Fox) (BC Act: vulnerable)

The Grey-headed Flying Fox is highly mobile and known to forage over 50km in one foraging bout. It is not likely that any of the trees on the subject site provide important foraging or roosting resources for a local viable population of this species.

The closest known Grey-headed Flying-fox camp in the locality is the Cannes Reserve Flying-fox Camp. Only two, historically planted, native shrubs will be removed to facilitate the proposed development. No roost camps will be impacted; therefore it is not expected that the proposed development will significantly impact upon the Grey-headed Flying-fox or a viable local population of the species (**Appendix 3**)

Table 4. List of threatened fauna that may occupy the Subject site at some stage of their lifecycles as identified by BioNet (DPIE 2019)

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Site	5-Part Test Required?
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	Vulnerable	Vulnerable	Found in heath, woodland and open dry sclerophyll forest on a variety of soil types except those that are clay based. Breeding habitat of this species is generally soaks or pools within first or second order streams.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Pseudophryne australis</i>	Red-crowned Toadlet	Vulnerable	-	Occurs in open forests, mostly on Hawkesbury and Narrabeen Sandstones. Inhabits periodically wet drainage lines below sandstone ridges that often have shale lenses or cappings. Shelters under rocks and amongst masses of dense vegetation or thick piles of leaf litter.	Unlikely. Low-quality habitat was located along the 1st order creek which is situated outside of the subject site.	No
<i>Litoria aurea</i>	Green and Golden Bell Frog	Endangered	Vulnerable	Inhabits marshes, dams and stream-sides, particularly those containing bullrushes (<i>Typha</i> spp.) or spikerushes (<i>Eleocharis</i> spp.). Optimum habitat includes water-bodies that are unshaded, free of predatory fish such as Plague Minnow (<i>Gambusia holbrooki</i>), have a grassy area nearby and diurnal sheltering sites available.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Varanus rosenbergi</i>	Rosenberg's Goanna	Vulnerable	-	Found in heath, open forest and woodland. Associated with termites, the mounds of which this species nests in; termite mounds are a critical habitat component. Individuals require large areas of habitat.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Nettapus coromandelianus</i>	Cotton Pygmy-Goose	Endangered	-	Freshwater lakes, lagoons, swamps and dams, particularly those vegetated with waterlilies and other floating and submerged aquatic vegetation. The Cotton Pygmy-goose uses tall standing dead trees with hollows located close to water for roosting and breeding.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	Vulnerable	-	Rose-crowned Fruit-doves occur mainly in sub-tropical and dry rainforest and occasionally in moist eucalypt forest and swamp forest, where fruit is plentiful. They feed entirely on fruit from vines, shrubs, large trees and palms, and are thought to be locally nomadic as they follow the ripening of fruits.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Ptilinopus superbus</i>	Superb Fruit-Dove	Vulnerable	-	Inhabits rainforest and similar closed forests where it forages high in the canopy, eating the fruits of many tree species such as figs and palms. It may also forage in eucalypt or acacia woodland where there are fruit-bearing trees.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	Endangered	-	Floodplain wetlands (swamps, billabongs, watercourses and dams) of the major coastal rivers are the key habitat in NSW for the Black-necked Stork. Secondary habitat includes minor floodplains, coastal sandplain wetlands and estuaries.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Site	5-Part Test Required?
<i>Botaurus poeciloptilus</i>	Australasian Bittern	Endangered	Endangered	Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (<i>Typha</i> spp.) and spikerushes (<i>Eleocharis</i> spp.).	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Ixobrychus flavicollis</i>	Black Bittern	Vulnerable	-	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 foraging or breeding habitat was located within the Subject site.	No
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	Vulnerable	-	Habitats are characterised by the presence of large areas of open water including larger rivers, swamps, lakes, and the sea. beaches, reefs, lagoons, estuaries and mangroves; and at, or in the vicinity of freshwater swamps, lakes, reservoirs, billabongs and saltmarsh. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, and forest (including rainforest).	Unlikely. No suitable foraging or breeding habitat was located within the Subject site. May fly over on occasion.	No
<i>Hieraaetus morphnoides</i>	Little Eagle	Vulnerable	-	Occupies open eucalypt forest, woodland or open woodland. Sheoak or <i>Acacia</i> woodlands and riparian woodlands of interior NSW are also used. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter.	Low. No suitable foraging or breeding habitat was located within the Subject site. May fly over on occasion.	No
<i>Lophoictinia isura</i>	Square-tailed Kite	Vulnerable	-	Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses.	Low. No suitable foraging or breeding habitat was located within the Subject site. May fly over on occasion.	No
<i>Pandion cristatus</i>	Eastern Osprey	Vulnerable	-	Favour coastal areas, especially the mouths of large rivers, lagoons and lakes. Feed on fish over clear, open water. Nests are made high up in dead trees or in dead crowns of live trees, usually within one kilometre of the sea.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	Vulnerable	-	Favours rocky headlands, rocky shelves, exposed reefs with rock pools, beaches and muddy estuaries. Forages on exposed rock or coral at low tide for foods such as limpets and mussels.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Site	5-Part Test Required?
<i>Limicola falcinellus</i>	Broad-billed Sandpiper	Vulnerable	-	Broad-billed Sandpipers favour sheltered parts of the coast such as estuarine sandflats and mudflats, harbours, embayment, lagoons, saltmarshes and reefs as feeding and roosting habitat. Occasionally, individuals may be recorded in sewage farms or within shallow freshwater lagoons. Broad-billed Sandpipers roost on banks on sheltered sand, shell or shingle beaches.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site. This species is vagrant.	No
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo population in the Hornsby and Pittwater Local Government Areas	Vulnerable	-	In spring and summer, generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. Found in the Hornsby and Ku-ring-gai Local Government Areas.	Unlikely. This species is presumed to be locally extinct.	No
<i>Calyptrorhynchus lathamii</i>	Glossy Black-Cockatoo	Vulnerable	-	Inhabits open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur. Black Sheoak (<i>Allocasuarina littoralis</i>) and Forest Sheoak (<i>A. torulosa</i>) are important foods. Feeds almost exclusively on the seeds of several species of she-oak (<i>Casuarina</i> and <i>Allocasuarina</i> species), shredding the cones with the massive bill.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Glossopsitta pusilla</i>	Little Lorikeet	Vulnerable	-	Forages primarily in the canopy of open <i>Eucalyptus</i> forest and woodland, yet also finds food in <i>Angophora</i> , <i>Melaleuca</i> and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. Feeds mostly on nectar and pollen, occasionally on native fruits such as mistletoe, and only rarely in orchards	Low. No suitable foraging or breeding habitat was located within the Subject site. May fly-over on occasion.	No
<i>Lathamus discolor</i>	Swift Parrot	Endangered	Critically Endangered	Migrates to the Australian south-east mainland between February and October. On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Following winter they return to Tasmania where they breed.	Low. No suitable foraging or breeding habitat was located within the Subject site. My fly-over on occasion.	No
<i>Neophema pulchella</i>	Turquoise Parrot	Vulnerable	-	Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Nests in tree hollows, logs or posts, from August to December.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Site	5-Part Test Required?
<i>Polytelis swainsonii</i>	Superb Parrot	Vulnerable	Vulnerable	Inhabit Box-Gum, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. Feed in trees and understorey shrubs and on the ground and their diet consists mainly of grass seeds and herbaceous plants. Also eaten are fruits, berries, nectar, buds, flowers, insects and grain.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site. This species is a vagrant to Sydney.	No
<i>Ninox connivens</i>	Barking Owl	Vulnerable	-	Inhabits woodland and open forest, including fragmented remnants and partly cleared farmland. It is flexible in its habitat use, and hunting can extend in to closed forest and more open areas. Sometimes able to successfully breed along timbered watercourses in heavily cleared habitats (e.g. western NSW) due to the higher density of prey on these fertile riparian soils. Requires very large permanent territories in most habitats due to sparse prey densities. Requires large hollows for nesting.	Low. No suitable breeding habitat was located within the Subject site. May hunt for bird on site, on occasion.	No
<i>Ninox strenua</i>	Powerful Owl	Vulnerable	-	The Powerful Owl inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest. Powerful Owls nest in large tree hollows (at least 0.5 m deep), in large eucalypts (diameter at breast height of 80-240 cm) that are at least 150 years old.	Moderate. No suitable breeding habitat was located within the Subject site. May hunt for possums on site, on occasion.	No
<i>Tyto novaehollandiae</i>	Masked Owl	Vulnerable	-	Lives in dry eucalypt forests and woodlands from sea level to 1100 m. Roosts and breeds in moist eucalypt forested gullies, using large tree hollows or sometimes caves for nesting.	Low. No suitable breeding habitat was located within the Subject site. May hunt for bird on site, on occasion.	No
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	Vulnerable	-	Found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species; also found in mallee and River Red Gum (<i>Eucalyptus camaldulensis</i>) Forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses; usually not found in woodlands with a dense shrub layer; fallen timber is an important habitat component for foraging; also recorded, though less commonly, in similar woodland habitats on the coastal ranges and plains. Hollows in standing dead or live trees and tree stumps are essential for nesting.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site. No known local populations.	No

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Site	5-Part Test Required?
<i>Anthochaera phrygia</i>	Regent Honeyeater	Critically Endangered	Critically Endangered	The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Daphoenositta chrysoptera</i>	Varied Sittella	Vulnerable	-	Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland. Feeds on arthropods gleaned from crevices in rough or decorticated bark, dead branches, standing dead trees and small branches and twigs in the tree canopy.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site. No known local populations.	No
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	Vulnerable	-	Primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and ground-cover of grasses or sedges and fallen woody debris. It has also been recorded in shrublands, heathlands and very occasionally in moist forest or rainforest. Also found in farmland, usually at the edges of forest or woodland.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Petroica boodang</i>	Scarlet Robin	Vulnerable	-	The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs. Scarlet Robin habitat usually contains abundant logs and fallen timber: these are important components of its habitat.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	Vulnerable	Endangered	Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Individual animals use hollow-bearing trees, fallen logs, small caves, rock outcrops and rocky-cliff faces as den sites.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Isodon obesulus obesulus</i>	Southern Brown Bandicoot (eastern)	Endangered	Endangered	They are generally only found in heath or open forest with a heathy understorey on sandy or friable soils. Males have a home range of approximately 5-20 hectares whilst females forage over smaller areas of about 2-3 hectares.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Phascolarctos cinereus</i>	Koala	Vulnerable	Vulnerable	Inhabit eucalypt woodlands and forests. Requires <i>Eucalyptus punctata</i> , <i>Eucalyptus robusta</i> or <i>Eucalyptus haemastoma</i> .	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Phascolarctos cinereus</i> population Pittwater Local Government Area	Koala population Pittwater Local Government Area	Endangered Population	Vulnerable	Inhabit eucalypt woodlands and forests. Requires <i>Eucalyptus punctata</i> , <i>Eucalyptus robusta</i> or <i>Eucalyptus haemastoma</i> .	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEI Species Profiles)	Likelihood of Occurrence within the Subject Site	5-Part Test Required?
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	Vulnerable	-	Found in a broad range of habitats from rainforest through sclerophyll (including Box-Ironbark) forest and woodland to heath, but in most areas woodlands and heath appear to be preferred. Feeds largely on nectar and pollen collected from banksias, eucalypts and bottlebrushes; an important pollinator of heathland plants such as banksias; soft fruits are eaten when flowers are unavailable.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Petaurus australis</i>	Yellow-bellied Glider	Vulnerable	-	Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. Very mobile and occupy large home ranges between 20 to 85 ha to encompass dispersed and seasonally variable food resources.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Petaurus norfolcensis</i>	Squirrel Glider	Vulnerable	-	In Pittwater, important food sources are likely to be the winter flowering Coast Banksia (<i>Banksia integrifolia</i>) and Spotted Gum (<i>Corymbia maculata</i>) and the summer flowering Old Man Banksia (<i>B. serrata</i>) and Grey Ironbark (<i>Eucalyptus paniculata</i>). Other likely food sources include <i>Angophora costata</i> , <i>Banksia spinulosa</i> , <i>Corymbia gummifera</i> , <i>Eucalyptus botryoides</i> , <i>E. punctata</i> , <i>E. robusta</i> , <i>Melaleuca quinquernervia</i> , mistletoes and <i>Xanthorrhoea</i> species.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Petaurus norfolcensis</i> Barrenjoey Peninsula	Squirrel glider population Barrenjoey Peninsula	Endangered Population	-	In Pittwater, important food sources are likely to be the winter flowering Coast Banksia (<i>Banksia integrifolia</i>) and Spotted Gum (<i>Corymbia maculata</i>) and the summer flowering Old Man Banksia (<i>B. serrata</i>) and Grey Ironbark (<i>Eucalyptus paniculata</i>). Other likely food sources include <i>Angophora costata</i> , <i>Banksia spinulosa</i> , <i>Corymbia gummifera</i> , <i>Eucalyptus botryoides</i> , <i>E. punctata</i> , <i>E. robusta</i> , <i>Melaleuca quinquernervia</i> , mistletoes and <i>Xanthorrhoea</i> species.	Unlikely. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable	Vulnerable	Grey-headed Flying-foxes are generally found within 200 km of the eastern coast of Australia. Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Can travel up to 50 km from the camp to forage; commuting distances are more often <20 km.	High. Suitable foraging habitat found within the subject site. Foraging habitat proposed for removal in the form of one small <i>Callistemon citrinus</i> and one small <i>Callistemon viminalis</i> . Both have been historically planted. This habitat is not important for the Grey-headed Flying-fox.	No

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Site	5-Part Test Required?
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	Vulnerable	-	The Yellow-bellied Sheath-tail-bat is a wide-ranging species found across northern and eastern Australia. Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	Vulnerable	-	The Eastern Freetail-bat is found along the east coast from south Queensland to southern NSW. Occur in dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. Roost mainly in tree hollows but will also roost under bark or in man-made structures.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	Vulnerable	Vulnerable	Found mainly in areas with extensive cliffs and caves, from Rockhampton in Queensland south to Bungonia in the NSW Southern Highlands. It is generally rare with a very patchy distribution in NSW. Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (<i>Petrochelidon ariel</i>), frequenting low to mid-elevation dry open forest and woodland close to these features.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	Vulnerable	-	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.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Myotis macropus</i>	Southern Myotis	Vulnerable	-	The Southern Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. It is rarely found more than 100 km inland, except along major rivers. Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage. Forage over streams and pools catching insects and small fish by raking their feet across the water surface.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	Vulnerable	-	The Greater Broad-nosed Bat is found mainly in the gullies and river systems that drain the Great Dividing Range, from north-eastern Victoria to the Atherton Tableland. Utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forest.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Pseudomys novaehollandiae</i>	New Holland Mouse	-	Vulnerable	Known to inhabit open heathlands, woodlands and forests with a heathland understorey and vegetated sand dunes	Low. No suitable foraging or breeding habitat was located within the Subject site.	No

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Site	5-Part Test Required?
<i>Miniopterus australis</i>	Little Bent-winged Bat	Vulnerable	-	Moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub. Generally found in well-timbered areas. Little Bentwing-bats roost in caves, tunnels, tree hollows, abandoned mines, stormwater drains, culverts, bridges and sometimes buildings during the day, and at night forage for small insects beneath the canopy of densely vegetated habitats.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	Vulnerable	-	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 treetops.	Low. No suitable foraging or breeding habitat was located within the Subject site.	No

5. Impacts and Mitigation Measures

This section of the report provides a summary of impacts to biodiversity as a result of the proposed development. It further provides recommended efforts to avoid and minimise impact on biodiversity values associated with the proposed development. Measures to be implemented before, during and post construction to avoid and minimise the impacts of the project are summarised in **Table 5**.

5.1 Vegetation Impacts

Ecological impacts within the subject site as a result of the proposed development are negligible.

The proposed development will not intentionally remove any trees.

If TPZ were encroached the DA would involve the removal of a maximum of five trees / tall shrubs including:

- One *Tibouchina* sp.
- One *Callistemon viminalis*
- One *Jacaranda mimosifolia*
- One *Callistemon citrinus*
- One *Syagrus romanzoffiana*

These trees/shrubs were all historically planted. Only two of these trees are native to the state of NSW, *Callistemon citrinus* and *Callistemon viminalis*. Only one is native to the local area (*Callistemon citrinus*). Two of the trees are listed as 'Exempt' under the 'Pittwater 21 Development Control Plan' (DCP), they are *Jacaranda mimosifolia* and *Syagrus romanzoffiana*. Both trees can be removed without the need for a Council application.

The proposed development will also involve the permanent removal of approximately 70m² of exotic-dominated groundcover (mowed lawn) to facilitate the dwelling construction.

5.2 Threatened Species Impacts

Impacts to habitat for threatened fauna and flora are negligible. The proposed DA will cause no long-term loss of important habitat for any species of threatened fauna or flora.

A Test of Significance pursuant to section 7.3 of the BC Act was undertaken for the vulnerable *Pteropus poliocephalus* (Grey-headed Flying-fox) it was determined that the proposed development will not incur a significant impact to the species or any viable local population of the species (**Appendix 3**).

Table 5. Measures to be implemented before, during and after construction to avoid and minimise the impacts of the project

Action	Outcome/Measure	Timing	Responsibility
Project Location and Design	<p>The location of the proposed development is largely within the footprint of an existing dwelling and existing driveway and/or paved areas. The location of the proposed development was selected due to its location within previously cleared, exotic-dominated lawn. The development requires no intentional removal of any trees.</p> <p>If the development encroached TPZ only a small number of exotic/exempt trees/shrubs and a maximum of two native small trees/shrubs (<i>Callistemon citrinus</i> and <i>Callistemon viminalis</i>).</p> <p>Land Eco is satisfied that the proposed development has been positioned in order to avoid and minimise potential impacts on biodiversity values within the Subject site, provided the following mitigation measures are followed.</p>	Pre-construction phase	<ul style="list-style-type: none"> Proponent
Tree Protections	<p>Works will be avoided within the TPZ of any trees located outside of the development site that require retention. This includes trees on neighbouring properties.</p> <p>TPZ will be designated by the Project Arboriculturalist.</p> <p>Australian Standard 4970 (2009) Protection of Trees on Development Sites (AS-4970) outlines that a Tree Protection Zone (TPZ) is the principal means of protecting trees on development sites. It is an area isolated area from construction disturbance so that the tree remains viable.</p>	Pre-construction phase	<ul style="list-style-type: none"> Arborist and fence contractor under guidance of Arboriculturalist.
Erosion and Sedimentation	<p>Appropriate erosion and sediment control must always be erected and maintained during construction. As minimum such measures should comply with the relevant industry guidelines such as 'the Blue Book' (Landcom 2004).</p>	Construction phase	<ul style="list-style-type: none"> Construction Contractor
Storage and Stockpiling (Soil and Materials)	<p>All storage, stockpile and laydown sites will be established away from any native vegetation that is planned to be retained. Never stockpile under the 'drip zone' of a tree. Avoid importing any soil from outside the site as this can introduce weeds and pathogens to the site.</p>	Construction phase	<ul style="list-style-type: none"> Construction Contractors
Weed eradication and continued suppression	<p>Weeds should be eradicated across all areas of the Subject site including retained garden beds. All priority weeds must be eradicated and continuously suppressed. The <i>Syagrus romanzoffiana</i> (Cocos Palm) should be removed, and where possible, replaced with a locally indigenous fruit-bearing tree or tall shrub. Common environmental weeds must remain below 5% cover within the subject site. Where possible, exotic garden plants should be replaced with locally indigenous plant species indigenous to the area to improve the overall biodiversity value of the Subject site.</p>	<p>Construction phase</p> <p>Post-construction phase</p>	<ul style="list-style-type: none"> Project Ecologist Landscape Contractor
Landscaping	<p>Any landscaping proposed with the DA requires at least 60% cover of locally indigenous native species (trees and/or shrubs and/or groundcovers).</p>		<ul style="list-style-type: none"> Project Ecologist Landscape Contractor
Stormwater	<p>Stormwater will be collected in 6000 L retention tanks then gravity fed into level spreader located at the southern corner of proposed dwelling (marked in red) Figure 1. Stormwater will not be channelled into the existing system.</p>	Post-construction phase	<ul style="list-style-type: none"> Proponent Construction Architect
Sewerage	<p>The proposed development will result in increases in sewage. The sewage will be piped into the existing sewage system associated with the current dwelling. The development is unlikely to result in significant changes to local sewage such that biodiversity would be impacted.</p>	Post-construction phase	<ul style="list-style-type: none"> Proponent Construction Architect

6. Conclusion

Land Eco Consulting Pty Ltd assessed the significance of impact of the proposed development application (DA) upon threatened species, populations and communities listed under New South Wales and Commonwealth Legislation.

A Test of Significance (5-part test) was undertaken to assess the effects of the proposed DA in accordance with Section 7.3 of the NSW *Biodiversity Conservation Act 2016* upon *Pteropus poliocephalus* (Grey-headed Flying-fox). This was the only threatened species considered to have potential to occur within the Subject Site.

No threatened ecological communities, fauna or flora species or populations are expected to be significantly impacted as a result of the proposed DA.

Land Eco Consulting Pty Ltd is satisfied that all Pittwater Council planning controls relevant to biodiversity will be met in accordance with the Pittwater Local Environment Plan 2015 and Pittwater Development Control Plan 2016. Land Eco Consulting Pty Ltd supports the proposed development and recommends its approval.

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Appendices

Appendix 1. Flora species identified within the Subject Site

Species List	Exotic	Canopy	Midstorey	Groundcover
<i>Acetosa sagittata</i>	x			x
<i>Asparagus aethiopicus</i>	x			x
<i>Bromus</i> sp.	x			x
<i>Callistemon citrinus</i>			x	
<i>Callistemon viminalis</i>			x	
<i>Carex pumila</i>				x
<i>Conyza</i> sp.	x			x
<i>Cayratia clematidea</i>				x
<i>Commelina cyanea</i>				x
<i>Cynodon dactylon</i>				x
<i>Cyperus eragrostis</i>	x			x
<i>Cyperus gracilis</i>				x
<i>Delairea odorata</i>	x			x
<i>Digitaria sanguinalis</i>	x			x
<i>Erythrina</i> sp.	x		x	
<i>Ehrharta erecta</i>	x			x
<i>Fragaria</i> sp.	x			x
<i>Hypochaeris radicata</i>	x			x
<i>Lagerstroemia indica</i>	x		x	
<i>Microlaena stipoides</i>				x
<i>Modiola caroliniana</i>	x			x
<i>Geranium solanderi</i>				x
<i>Gamochaeta</i> sp.	x			x
<i>Oplismenus aemulus</i>				x
<i>Oxalis corniculata</i>	x			x
<i>Paspalum dilatatum</i>	x			x
<i>Pennisetum clandestinum</i>	x			x
<i>Plantago lanceolatus</i>	x			x
<i>Rumex acetosella</i>	x			x
<i>Senna pendula</i> subsp. <i>glabrata</i>	x		x	
<i>Sida rhombifolia</i>	x			x
<i>Solanum nigrum</i>	x			x
<i>Solanum lycopersicum</i>	x			x
<i>Sonchus oleraceus</i>	x			x
<i>Stellaria media</i>	x			x
<i>Stenotaphrum secundatum</i>	x			x
<i>Syagrus romanzoffiana</i>	x	x		
<i>Taraxacum officinale</i>	x			x
<i>Tradescantia fluminensis</i>	x			x
<i>Trifolium repens</i>	x			x
<i>Verbena</i> sp.	x			x

Appendix 2. Fauna species identified during survey of Subject Site

Class	Scientific Name	Common Name	BC Act Status
Aves	<i>Manorina melanocephala</i>	Noisy Miner	Protected
	<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	Protected
	<i>Cracticus torquatus</i>	Grey Butcherbird	Protected
	<i>Strepera graculina</i>	Pied Currawong	Protected
Reptilia	<i>Lampropholis delicata</i>	Delicate Garden Sunskink	Protected
Mammalia	<i>Perameles nasuta</i>	Long-nosed Bandicoot	Protected

Appendix 3. Biodiversity Conservation Act 2016 - Assessment of Significance (5 Part Test)

Test of Significance (Five Part Test) s.7.3 of the Biodiversity Conservation Act 2016		
Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>) Status: Vulnerable		
Ecology (DPIE 2020d)	<p>Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.</p> <p>Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy.</p> <p>Individual camps may have tens of thousands of animals and are used for mating, and for giving birth and rearing young.</p> <p>Annual mating commences in January and conception occurs in April or May; single young is born in October or November.</p> <p>Site fidelity to camps is high; some camps have been used for over a century.</p> <p>Can travel up to 50 km from the camp to forage; commuting distances are more often <20 km.</p> <p>Feed on the nectar and pollen of native trees, in particular Eucalyptus, Melaleuca and Banksia, and fruits of rainforest trees and vines. Also forage in cultivated gardens and fruit crops.</p>	
Habitat Impacted by this Activity/Development	<p>Two native flowering trees (<i>Callistemon citrinus</i> and <i>Callistemon viminalis</i>) and one soft fruit-bearing tree (<i>Syagrus romanzoffiana</i>) were identified in the subject site which may provide potential foraging habitat for Grey-headed Flying Fox.</p> <p>The Grey-headed Flying Fox is highly mobile and known to forage over 50km in one foraging bout. It is not likely that any of the trees on the subject site provide important foraging resources for a local viable population of this species. The closest known Grey-headed Flying-fox camp in the locality is the Cannes Reserve Flying-fox Camp which is not adjoining the Subject Site.</p> <p>No trees will be intentionally removed, however in the event the DA required the encroachment of a TPZ only two (historically planted) native shrubs will be removed to facilitate the proposed development and no roost camps will be impacted.</p>	
(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,	<p>The two tall shrubs/small trees on the Subject Site are only expected to provide intermittent foraging habitat, on occasion when these plants are in flower.</p> <p>The two shrubs/small trees are located in an urban garden surrounded by existing dwellings.</p> <p>Owing to the lack of important habitat on the Subject Site, the proposed development is not likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,</p>	
(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:	(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or	Not applicable
	(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	Not applicable
(c) in relation to the habitat of a threatened species or ecological community:	(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and	The extent to which habitat may be removed/modified is temporary foraging habitat associated with a maximum of two native small trees/shrubs (<i>Callistemon citrinus</i> and <i>Callistemon viminalis</i>). No suitable roost habitat will be impacted.

**Test of Significance
(Five Part Test)
s.7.3 of the Biodiversity Conservation Act 2016**

Grey-headed Flying-fox

(Pteropus poliocephalus)

Status: Vulnerable

	(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and	The Grey-headed Flying Fox is highly mobile and known to forage over 50km in one foraging bout. It is not likely that any of the shrubs/trees on the Subject Site provide important foraging resources for a local viable population of this species.
	(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	The habitat proposed to be removed/modified is not important to the long-term survival of the species in the locality.
(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),	The development proposed is not likely to have an adverse effect on any declared area of outstanding biodiversity value, directly or indirectly.	
(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The proposed development will increase the impact of a key threatening process (KTP). The only KTP relevant to the proposed development is: <ul style="list-style-type: none">• Clearing of native vegetation	
Conclusion The proposed development will not significantly impact a viable local population of Grey-headed Flying-fox, therefore no further impact assessment, such as a Biodiversity Development Assessment Report (BDAR) is necessary for this project to proceed.		



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