Flora and Fauna Impact Assessment Report

Development Application at
16 Reddall Street, Manly
NSW 2095

Report:	Flora and Fauna Impact Assessment Report Development Application at 16 Reddall Street Manly NSW 2095
Prepared for:	Justin Quinlan
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Report Certification

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Glossary

Acronym/ Term	Definition
ALA	Atlas of Living Australia
APZ	Asset Protection Zone
BAM	Biodiversity Assessment Method (NSW)
BC Act	New South Wales Biodiversity Conservation Act 2016
BOS	Biodiversity Offset Scheme
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, if 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).
DCCEEW	Commonwealth of Australia Department of Climate Change, Energy, the Environment and Water
DPI	Department of Primary Industries
DPIE	Department of Planning Industry and Environment
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
FFA	Flora and Fauna Assessment Report
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 Land. The same meaning when describing a local population of a species or local occurrence of an ecological community.
m	Metres
mm	Millimetres
NSW	The state of New South Wales, Australia
OEH	Office of Environment and Heritage (now the Department of Planning Industry and Environment)
Proposal	The development, activity or action proposed.
Subject Property	16 Reddall Street Manly NSW 2095 (Lot 1/-/DP68066)
Subject Land	Location of the proposed development within the Subject Property. As works are proposed across the entirety of the Subject Property, the Subject Land and Subject Property in this case are the same.
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1, 1A and 2 and *threatened species, population or ecological community* 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 Justin Quinlan to deliver this Flora and Fauna Impact Assessment (FFA) for the construction of a new one-storey dwelling, cabana and pool at 16 Reddall Street, Manly, 2095 (Lot 1/-/DP68066) (NSW DCCEEW 2025a; **Figure 1**) referred to as the 'Subject Property'.

1.1.1 Proposed Development

The proposed development application (DA) is for the demolition of the existing residential dwelling and granny flat and construction of a new one-storey dwelling, cabana, pool and all associated landscaping. The extent of works proposed including the impacts to vegetation, are referred to as the 'Subject Land' (**Figure 1**). As works are proposed across the entirety of the Subject Property, the Subject Land and Subject Property in this case are the same. The proposed development and all associated works will result in the removal of 0.007 (75m²) of vegetation.

1.1.2 Site Description and Location

The Subject Land is located on Reddall Street in the suburb of Manly, in the Northern Beaches Council of Northern Sydney. The Subject Land is zoned as 'R1 – General Residential'. To the south and south-east of the Subject Land, land is mapped as C1 and C2 (North Head Reserve). The Subject Land is located approximately 162 meters from Cabbage Tree Bay Marine Reserve (NSW DCCEEW 2025a).

1.1.3 Proposed Biodiversity Impact

The Subject Property occupies approximately 0.036 ha (363m²) of land including an existing residential dwelling, a granny flat, a balcony and landscaped gardens. Vegetation within the Subject Land is primarily exotic ornamentals (not native to NSW), weeds and a small number of native groundcovers.

The proposed development will result in the removal of 0.007 (75m²) of Urban Exotic vegetation (garden and lawn).

The vegetation within the Subject Land is not representative of any threatened ecological communities listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) or under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

No trees are proposed for removal and trees on neighbouring properties will be protected in accordance with the Aboricultural Assessment (Redgum Horticultural 2024). The two *Dypsis lutescens* which occur at the entrance of the property, will be '*relocated/transplanted within the site as per Landscape Plan*' (Redgum Horticultural 2024). These trees have been precautionarily included in the impact area as a precaution as the transplantation of mature trees can be risky and the success of this endeavour is uncertain, however these trees are non-native and present no fauna habitat value.

No threatened flora or fauna were found within the Subject Land by Land Eco or considered likely to heavily rely on the habitat proposed for disturbance.

It is considered possible that the Long-nosed Bandicoot (*Perameles nasuta*) (BC Act: Endangered Population) could utilise habitat in the Subject Property however no evidence of habitat usage by this species was observed.

Typical potential indirect impacts from the proposed development have been considered and these have been addressed with appropriate impact mitigation recommendations (see **Section 6**).

1.1.4 Soils and Geology

The Subject Land occurs on the 'Lambert' soil landscape (NSW DCCEEW 2025e). This soil landscape is described as undulating to rolling rises and low hills on Hawkesbury Sandstone. Local relief 20–120 m, slopes 20%. Rock outcrop >50%. Broad ridges, gently to moderately inclined slopes, wide rock benches with low broken scarps, small hanging valleys and areas of poor drainage.

Soils– shallow (<50 cm) discontinuous Earthy Sands (Uc5.11, Uc5.22) and Yellow Earths (Gn2.2) on crests and insides of benches; shallow (<20 cm) Siliceous Sands/Lithosols (Uc1.2) on leading edges; shallow to moderately deep (<150 cm) Leached Sands (Uc2.21), Grey Earths (Gn2.81) and Gleyed Podzolic Soils (Dg4.21) in poorly drained areas; localised Yellow Podzolic Soils (Dy4.1, Dy5.2) associated with shale lenses. (NSW DCCEEW 2025e).

1.1.5 Hydrology

No mapped watercourses run through the Subject Land or occur in proximity to the Subject Land. The Subject Property is located approximately 162 meters from Cabbage Tree Bay Marine reserve (NSW Spatial Services 2025).

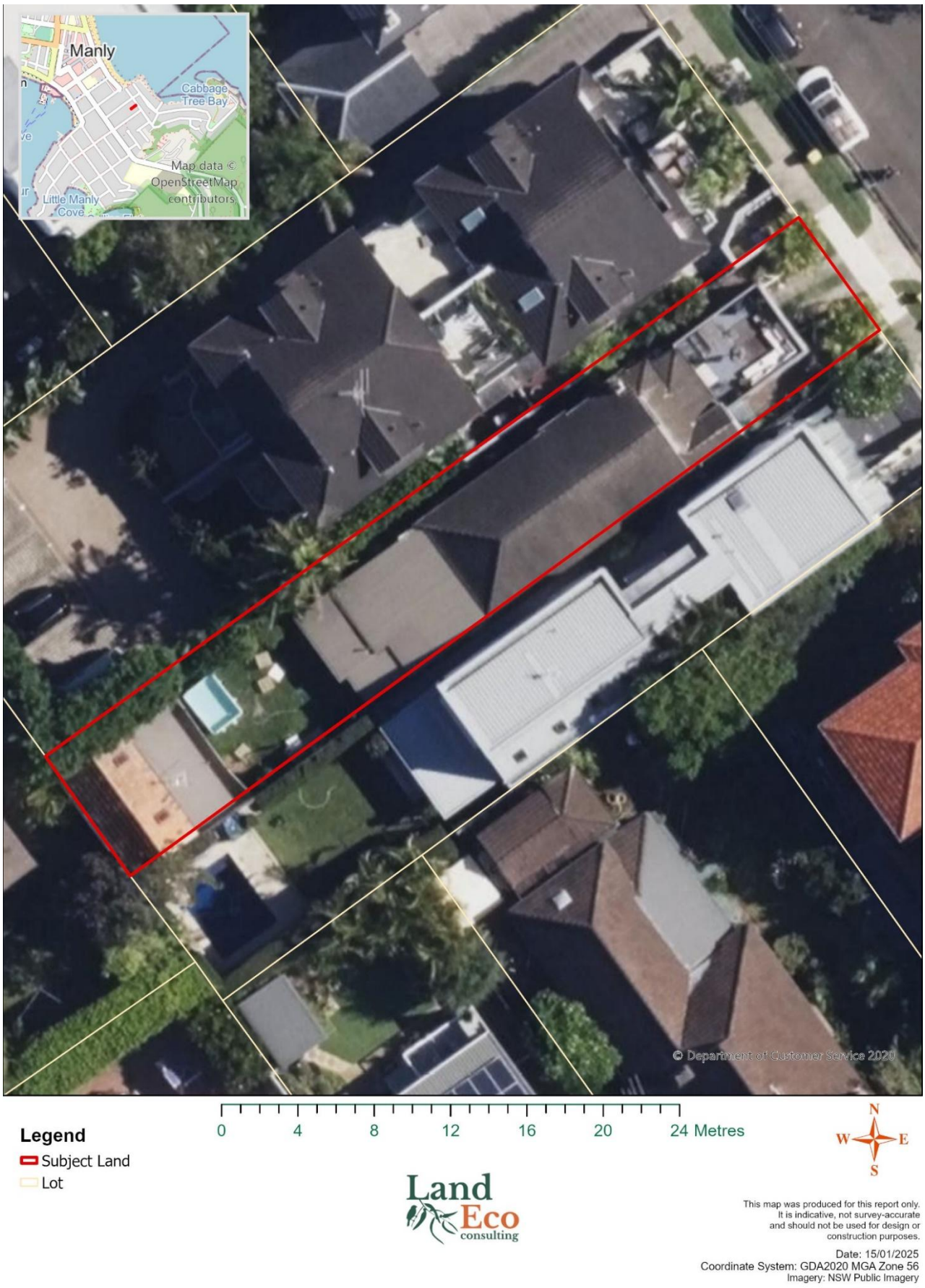

Figure 1. Location of the Subject Land within the Suburb of Manly

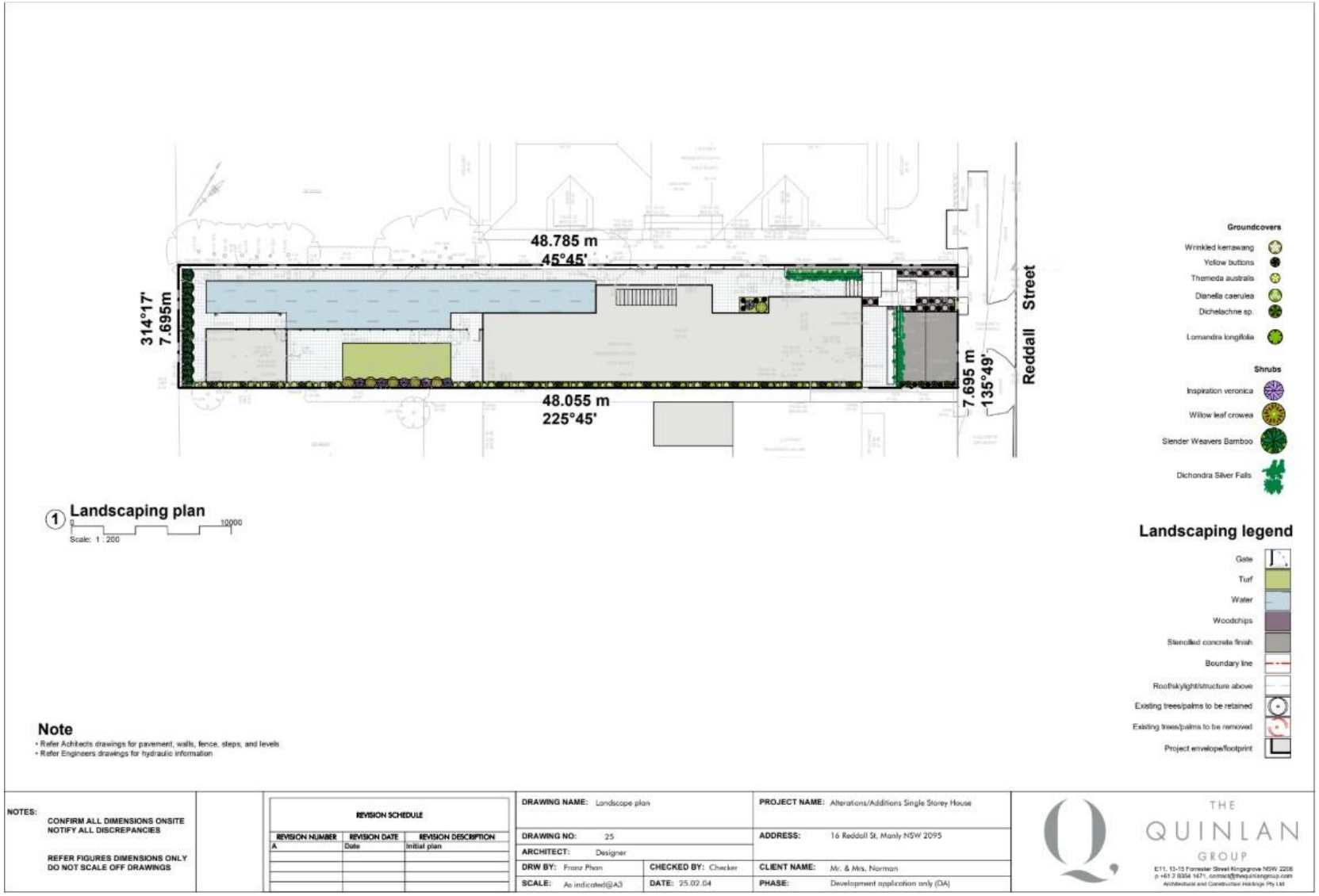

Figure 2. Proposed Landscape Plan (The Quinlan Group 2025)

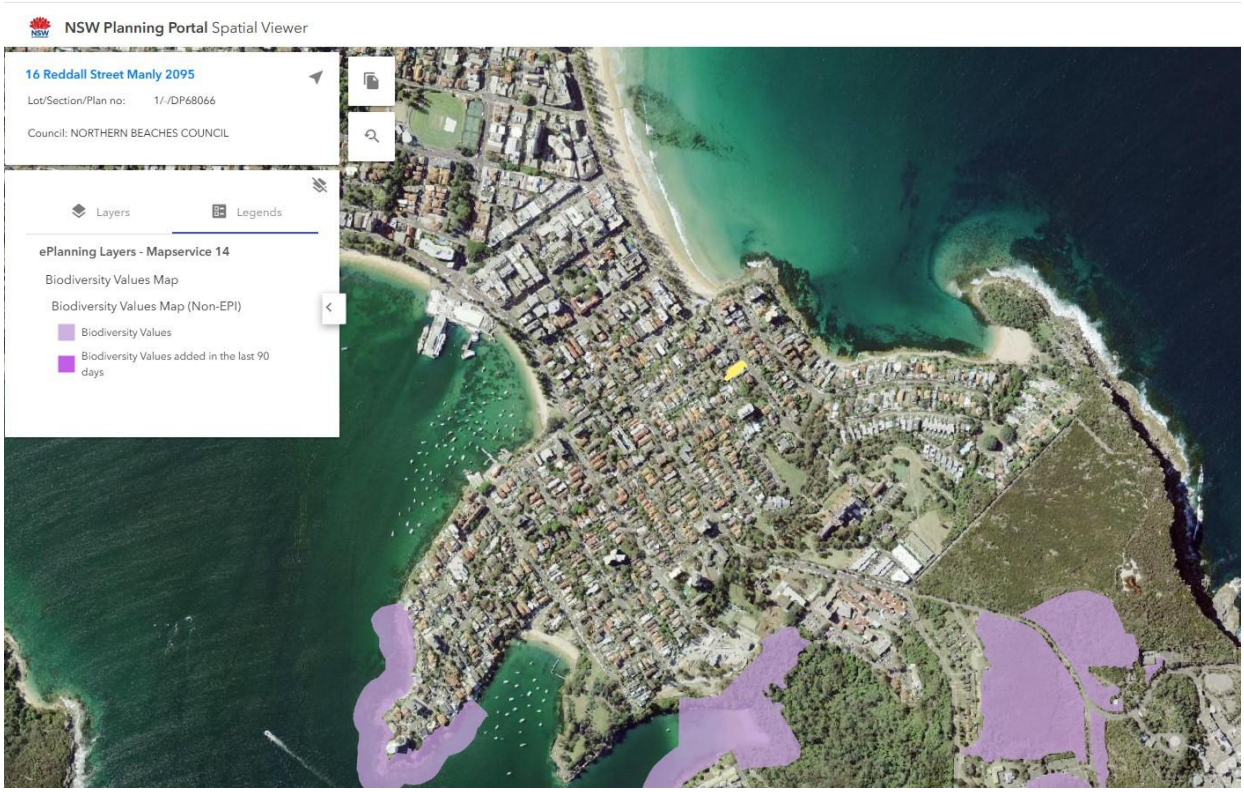

Figure 3. Location of the Subject Land in reference to the Biodiversity Values map (NSW DCCEEW 2025b)

Figure 4. Areas where Assessment of Significance required (for Little Penguins and/or Long Nosed Bandicoots). Subject Land demonstrated by red star (Schedule 1: Map D) (Manly DCP 2013)

1.2 Matters for Consideration

Land Eco has addressed a comprehensive suite of legislation and policy relevant to flora and fauna assessment (**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.
Manly Local Environmental Plan 2013 (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 the LEP, as required for a DA under Part 4 of the EP&A Act.
Manly Development Control Plan 2013 (DCP)	The proposed development is being assessed under Part 4 of the EP&A Act. This requires the development to be assessed under the DCP.	Yes	This Flora and Fauna Impact Assessment Report includes information on how the project meets the relevant requirements of the DCP, as required for a DA under Part 4 of the EP&A Act.
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	Matters of National Significance (MNES) have the potential to be impacted by the proposed development however, the small size and scale of the action does not warrant further assessment under the EPBC Act.	No	No further action.
Biodiversity Conservation Act 2016 (BC Act)	Habitat for threatened species or populations may be impacted by the proposed development.	Yes	Test of Significance (5-part Test) in accordance with Section 7.3 of the BC Act were undertaken to assess the impact of the proposed development.
Biosecurity Act 2015 (Bio Act)	Two Priority Weeds of Greater Sydney and Weeds of National Significance (*Asparagus aethiopicus, Opuntia monacantha* were identified on the Subject Land (DPI 2025).	Yes	The biosecurity duties for these species must be upheld. This species must not be imported into the state, sold, bartered, exchanged or offered for sale.
Water Management Act 2000 (WM Act)	The are no mapped watercourses to be impacted by the proposed development. The Subject Land is not within 40m of a mapped watercourse.	No	No further action.
State Environmental Planning Policy (Biodiversity Conservation) Chapter 4, Koala Habitat Protection.	The Subject Land is located in the Northern Beaches LGA therefore the Koala 2021 SEPP applies. No 'Koala Use Species' (OEH 2018) were recorded within the Subject Land. The Subject Land is not considered to be 'core koala habitat' as it is not considered highly suitable for koalas and is not an area of land with recent proximal koala records.	No	No further action.
State Environmental Planning Policy (Resilience and Hazards) 2021	A portion of the Subject Land is located within 'Coastal Use Area Map'. The Subject Land is located in proximity to 'Coastal Environment Area' (located approximately 85m away) (NSW DCCEEW 2025a). The Subject Land is not mapped in proximity to any areas mapped as 'Littoral Rainforest' or 'Coastal Wetlands' (NSW DCCEEW 2025a).	Yes	Specifies management objectives within the *Coastal Management Act 2016* apply. The proposed development will not significantly alter the land use regime, and coastal processes beyond the existing situation, and is unlikely to have a significant impact on the coastal environment and coastal use area.

1.3 Manly Local Environmental Plan (LEP) 2013

The Subject Land is located in the Manly Ward of the Northern Beaches Council and is therefore subject to the planning provisions of the Manly LEP. This section details Environmental Controls relevant to the terrestrial biodiversity associated with the Subject Land and surrounds (**Table 2**).

Table 2. Environmental Controls relevant to the terrestrial biodiversity associated with the Subject Land and surrounds.

Local Environmental Plan Reference	Application	Suitable Action
Part 2.1 Land Use Zones	The Subject Land is zoned 'R1 – General Residential'.	The proposed development of 'Dwelling houses' is permitted with consent. This Flora and Fauna Assessment Report accompanies the DA that seeks consent for the proposed development.
Part 6.2 Earthworks	The proposed development will require earthworks that has the potential to indirectly impact environmental features of the surrounding land.	The industry guidelines outline in the 'Blue Book' (Landcom 2004) will be followed to minimise indirect impacts of erosion.
Part 6.4 Stormwater management	This clause applies to all land in residential, employment and conservation zones.	Stormwater management will be appropriately managed in accordance with The Quinlan Group (2025).
Part 6.5 Terrestrial biodiversity	The Subject Land is identified as "Biodiversity" land on the Terrestrial Biodiversity Map.	The proposed development will result in the removal of 0.007 (75m²) of Urban Exotic vegetation. No trees are proposed for removal and trees on neighbouring properties will be protected in accordance with Redgum Horticultural (2024). The two *Dypsis lutescens* which occur at the entrance of the property, will be '*relocated/transplanted within the site as per Landscape Plan*' (Redgum Horticultural 2024). These trees have been precautionarily included in the impact area as a precaution as the success of transplanting mature trees is uncertain. As these trees are non-native ornamental species with limited habitat value, the loss of these trees would not have any adverse effect on biodiversity.

1.4 Manly Development Control Plan (DCP) 2013

The Subject Land is located in the Manly Ward of the Northern Beaches Council and is therefore subject to the planning provisions of the Manly Development Control Plan (DCP) 2013. This section outlines the controls listed in the Manly DCP that apply to the Subject Land (**Table 3**).

Table 3. Controls Relating to the Natural Environment and Hazards (Manly DCP) that apply to the Subject Land.

Control Number	Control Name	Does this control apply?	Reason	Suitable Action Proposed
3.3.1	Landscaping Design	Yes	Landscape works are proposed in conjunction with this development.	Landscaping works are proposed as per The Quinlan Group (2025) 'Landscape Plan'. Trees on neighbouring properties will be protected in accordance with Redgum Horticultural (2024).
3.3.2	Preservation of Trees or Bushland Vegetation	Yes	Th proposed development will involve the removal of 0.007 (75m²) of Urban Exotic vegetation.	No trees are proposed for removal and trees on neighbouring properties will be protected in accordance with Redgum Horticultural (2024). The two *Dypsis lutescens* which occur at the entrance of the property, will be '*relocated/transplanted within the site as per Landscape Plan*' (Redgum Horticultural 2024). These trees have been precautionarily included in the impact area as a precaution as the success of transplanting mature trees is uncertain. As these trees are non-native ornamental species with limited habitat value, the loss of these trees would not have any adverse effect on biodiversity. No 'Bushland' as defined by as defined by the *Local Government Act 1993* is present within or adjacent to the Subject Land.
5.4.2	Threatened Species and Critical Habitat Lands	Yes	The Subject Land lies with 'Areas where Assessment of Significance required (for Little Penguins and/or Long Nosed Bandicoots' (Schedule 1: Map D (Manly DCP 2013) (**Figure 4**).	This Flora and Fauna Impact Assessment Report includes an assessment of habitat potential, and a Test of Significance for the Long-Nosed Bandicoots under Section 7.3 of the BC Act, as required for this DA. See **Appendix 3.**
5.4.3	Flood Prone Land	No	The Subject Land does not lie within any land identified as being affected by flooding on the Flood Risk Precinct Maps.	Not applicable.

1.5 State Environmental Planning Policy (Biodiversity and Conservation) Chapter 4: Koala Habitat Protection

1.5.1 Chapter 4 Koala Habitat Protection 2021

The Subject Land is located within a Local Government Area listed in State Environmental Planning Policy (Biodiversity and Conservation) 2021 and is classified under the Central Coast Koala Management Area. No 'Koala Use Tree Species' (OEH 2018) were identified within or near the Subject Land. A review of NSW Wildlife Atlas data (BioNet) (NSW DCCEEW 2025c) revealed only 5 koala sighting in the 10km locality, with the closest recorded in 1960 approximately 3.7km northwest from the Subject Land. The Subject Land is not considered to be 'core koala habitat' as no koalas have recorded present in the last 18 years.

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 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. 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.

The minimum lot size assigned to the Subject Property is 250m^2, falling within the 'less than 1 ha' category. To avoid triggering the BOS, the proponent must avoid the clearing/management of native vegetation more than 0.25 ha (**Table 4**). The total area of clearing of both native and exotic vegetation to facilitate this DA is 0.007 ha. The area of native vegetation to be removed therefore falls under the required clearing threshold of 0.25 ha.

Table 4. Biodiversity Offset Scheme Entry Threshold

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 Land has not been mapped as containing biodiversity values within the Biodiversity Values (BV) Map (**Figure 3**; NSW DCCEEW 2025b).

Owing to the above findings:

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

A Flora and Fauna Impact Assessment Report including Test of Significance pursuant to Section 7.3 of the BC Act (this report) has been produced to assess the impact of the proposed DA.

1.7 State Environmental Planning Policy (Resilience and Hazards) 2021

This State Environment Planning Policy (SEPP) applies to land within the '*Coastal Environment Area*' and aims to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objectives of the *Coastal Management Act* 2016.

A portion of the Subject Land is located within 'Coastal Use Area Map'. The Subject Land is located in proximity to 'Coastal Environment Area' (located approximately 85m away) (NSW DCCEEW 2025a).

As such specifies management objectives within the *Coastal Management Act 2016* apply.

The Subject Property is currently occupied by an existing residential dwelling that sits entirely within the 'Coastal Use Area'. The proposed development will not significantly alter the land use regime, and coastal processes beyond the existing situation, and is unlikely to have a significant impact on the coastal environment and coastal use area.

The Subject Land is not mapped in proximity to any areas mapped as 'Littoral Rainforest' or 'Coastal Wetlands' (NSW DCCEEW 2025a).

2. Methods

2.1 Sources of Information Used

A thorough literature review of local information relevant to the locality and the Northern Beaches 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 DCCEEW 2025a)
    - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW 2025c)
    - Planning Portal ePlanning Spatial Viewer (NSW DCCEEW 2025a)
    - Atlas of Living Australia Spatial Portal (ALA 2025)

- Vegetation and Landscape Mapping
    - eSpade Soil and Land Information (NSW DCCEEW 2025e)
    - The Native Vegetation of the Sydney Metropolitan Area - Version 3.1 VIS_ID 4489 (OEH 2016)

- Council Documents
    - Manly Local Environmental Plan (LEP) 2013
    - Manly Development Control Plan (DCP) 2013
    - Northern Beaches Mapping (Northern Beaches Council 2025)

Online databases and literature review were utilised to gain an understanding of the natural environment and ecology of the Subject Land and its surrounds to an area of approximately 10 km². Searches utilising NSW Wildlife Atlas (NSW DCCEEW 2025c) and the Commonwealth Protected Matters Search Tool (Commonwealth DCCEEW 2025a) were conducted to identify current threatened and migratory flora and fauna records within a 10km² search area centred on the Subject Land. This data was used to assist in establishing the presence or likelihood of any such ecological values as occurring on or adjacent the Subject Land and helped inform our Ecologists 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 Land and assist in determining whether any threatened flora or ecological communities may occur there (NSW DCCEEW 2025e).

2.2 Ecological Site Assessment

The following sections of this report detail the site assessments undertaken by Land Eco.

2.2.1 General Survey

Site assessment was undertaken by a Land Eco Consulting Ecologist on 13th of January 2025. During the site assessment, the following activities were carried out:

- Identifying and recording the vegetation communities present on the Subject Land, with a 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 within the immediate surrounds of the Subject Land;
- 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.
- Specifically targeting signs of habitat usage, or potential habitat that may be used by Long-nosed Bandicoot.
- Assessing the connectivity and quality of the vegetation within the Subject Land 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 (OEH 2016) in order to stratify the Subject Land and advise the site assessment survey efforts.

The vegetation community was determined based on desktop and field analysis of the geomorphology and geology of the Subject Land, in addition to a quantitative analysis of the 'positive diagnostic' flora species.

3. Native Vegetation

3.1 Historical Vegetation Mapping

Vegetation mapping of the Native Vegetation of the Sydney Metropolitan Area (OEH 2016; **Figure 5**) mapped land surrounding the Subject Land as:

- Urban E/N: Urban Exotic/Native

No Plant Communities Types (PCT) were mapped within or adjacent to the Subject Land (OEH 2016).

3.2 Confirmed Vegetation

The vegetation within the Subject Land was predominantly composed of exotic ornamental species (non-native to NSW), typically found in maintained garden beds or as part of a lawn and various weed species. Two native groundcover species were recorded within the Subject Land: *Cynodon dactylon* and *Hydrocotyle hirta*.

Several weed species were also recorded within the Subject Land, including two that are classified as Priority Weeds of Greater Sydney and Weeds of National Significance: *Asparagus aethiopicus* and *Opuntia monacantha* (DPI 2025). The biosecurity duties for these invasive species must be upheld as they can pose a significant threat to local biodiversity.

The vegetation within the Subject Land is classified as 'urban exotic' by Land Eco (**Figure 6**), reflecting the predominance of non-native ornamentals and weed species, many of which are not indigenous to the country, and the limited presence of native flora (**Appendix 1**).

The proposed development will result in the removal of 0.007 (75m²) of Urban Exotic vegetation.

Figure 5. Historical Vegetation Mapping adjacent to the Subject Land (OEH 2016)

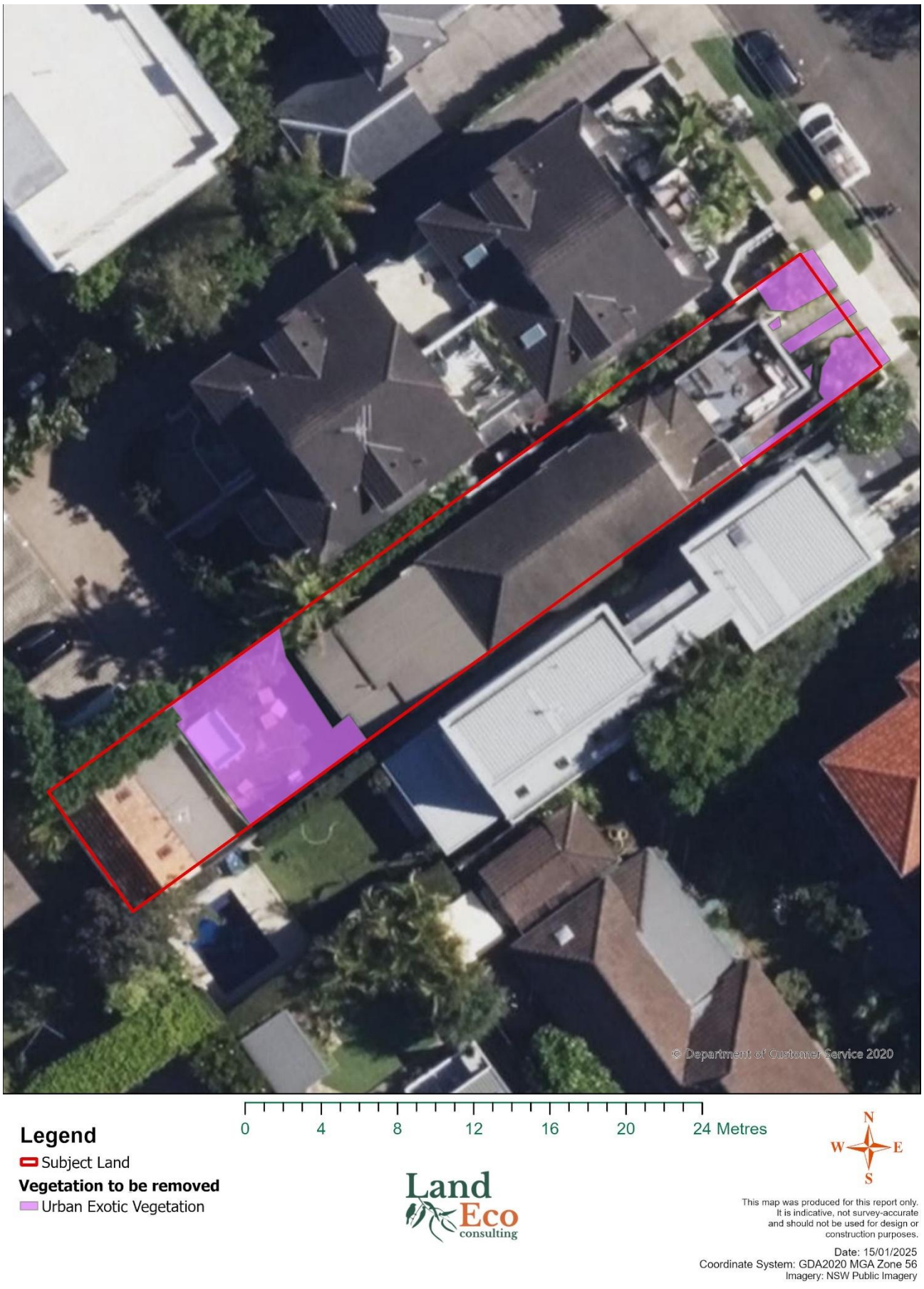

Figure 6. Vegetation to be removed within the Subject Land

4. Threatened Species

4.1 Threatened Flora

No threatened flora species were found on the Subject Land during the site assessment by Land Eco.

The NSW Wildlife Atlas online survey tool (NSW DCCEEW 2025c) was used to obtain a list of threatened flora previously recorded within a 10 km radius of the Subject Land (**Table 5**). There were no historical records of threatened flora within the Subject Land. The habitat requirements of each species were assessed (NSW DCCEEW 2025d) in order to determine the likelihood of species occurrence and/or impact from the proposed development.

As the majority of the Subject Land is heavily degraded through landscaping and garden maintenance, no threatened flora species were deemed likely to occur within the Subject Land.

Table 5. List of Threatened Flora that May Occupy the Subject Land at Some Stage of their Lifecycles as Identified by BioNet (NSW DCCEEW 2025c)

Species	BC Act	EPBC Act	Likelihood of Occurrence within the Subject Land	5-Part Test Required?
Acacia bynoeana	Endangered	Vulnerable	Nil. No suitable habitat within Subject Land. Grows in heath and dry sclerophyll forest in sandy soils.	No
Acacia terminalis subsp. Eastern Sydney	Endangered	Endangered	Nil. No suitable habitat within Subject Land. Grows in scrub and open eucalypt woodland or forest, usually in sandy soil on creek banks, hillslopes or in shallow soil in rock crevices and sandstone platforms on cliffs	No
Allocasuarina portuensis	Endangered	Endangered	Nil. No suitable habitat within Subject Land. The original habitat is tall closed woodland.	No
Asterolasia buxifolia	Critically Endangered	Critically Endangered	Nil. Restricted to the riparian zone of a granitic rocky section of the Lett River.	No
Caladenia tessellata	Vulnerable	Vulnerable	Nil. No suitable habitat within Subject Land. Generally found in grassy sclerophyll woodland on clay loam or sandy soils, though the population near Braidwood is in low woodland with stony soil.	No
Callistemon linearifolius	Vulnerable	-	Nil. No suitable habitat within Subject Land. Grows in dry sclerophyll forest on the coast and adjacent ranges. A distinct shrub that would have been identified by Land Eco during the site assessment in January 2025.	No
Chamaesyce psammogeton	Endangered	-	Nil. No suitable habitat within Subject Land. Occurs on sand dunes near the sea.	No
Epacris purpurascens var. purpurascens	Vulnerable	-	Nil. No suitable habitat within Subject Land. Grows in sclerophyll forest, scrubs and swamps on sandstone from Gosford and Sydney districts	No
Eucalyptus camfieldii	Vulnerable	Vulnerable	Nil. No suitable habitat within Subject Land. Grows in coastal shrub heath on sandy soils on sandstone, often of restricted drainage. A distinct tree that would have been identified by Land Eco during the site assessment in January 2025.	No
Eucalyptus nicholii	Vulnerable	Vulnerable	Nil. No suitable habitat within Subject Land. Grows in grassy or sclerophyll woodland on shallow relatively infertile soils on shales and slates. This species' distribution is from the Walcha-Niangala region. A distinct tree that would have been identified by Land Eco during the site assessment in January 2025.	No
Grammitis stenophylla	Endangered	-	Nil. No suitable habitat present. This species grows on rocks in rainforest and wet sclerophyll forest.	No
Grevillea caleyi	Critically Endangered	Critically Endangered	Nil. No suitable habitat present. Grows in woodland on laterised sandstone ridgetops in the Terrey Hills-Belrose area north of Sydney. A distinct shrub that would have been identified by Land Eco during the site assessment in January 2025.	No

Species	BC Act	EPBC Act	Likelihood of Occurrence within the Subject Land	5-Part Test Required?
Hibbertia superans	Endangered	-	Nil. No suitable habitat within Subject Land. In the Sydney region it occurs in Dry Sclerophyll Forest on sandstone ridgetops. The northerly occurrence is on granite.	No
Macadamia integrifolia	-	Vulnerable	Nil. This species is not known to occur naturally in the wild in NSW and originates from drier subtropical rainforest north from Currumbin in QLD.	No
Melaleuca biconvexa	Vulnerable	Vulnerable	Nil. No suitable habitat within Subject Land. Grows in damp places, often near streams or low-lying areas on alluvial soils of low slopes or sheltered aspects.	No
Melaleuca deanei	Vulnerable	Vulnerable	Nil. No suitable habitat within Subject Land. Grows in wet heath on sandstone.	No
Microtis angusii	Endangered	Endangered	Nil. No suitable habitat as the Subject Land is too degraded and disturbed. This species is only known to occur with the Northern Beaches LGA on Ridgetop lateritic soils.	No
Persoonia hirsuta	Endangered	Endangered	Nil. No suitable habitat within Subject Land. This species grows in woodland to dry sclerophyll forest on sandstone.	No
Pimelea curviflora var. curviflora	Vulnerable	Vulnerable	Nil. No suitable habitat within Subject Land. Occurs on shaley/lateritic soils over sandstone and shale/sandstone transition soils on ridgetops and upper slopes amongst woodlands. Also recorded in Illawarra Lowalnd Grassy Woodland habitat at Albion Park on the Illawaraa coastal plain.	No
Prasophyllum fuscum	Vulnerable	-	Nil. No suitable habitat within Subject Land. Grows in moist heath, often along seepage lines.	No
Prostanthera marifolia	Critically Endangered	Critically Endangered	Nil. Only known to occur in the northern Sydney suburb of Seaforth and in close proximity to the Duffys Forest Endangered Ecological Community. This species grows on deeply weathered clay-loam soils associated with ironstone and scattered shale lenses.	No
Rhodamnia rubescens	Critically Endangered	Critically Endangered	Nil. No suitable habitat within Subject Land. This species occurs in mainly coastal warmer rainforest and on rainforest margins.	No
Senecio spathulatus	Endangered	-	Nil. No suitable habitat within Subject Land. This species is a specialised coastal species which occurs mostly on frontal dunes.	No
Syzygium paniculatum	Endangered	Vulnerable	Nil. No suitable habitat within Subject Land. Grows in subtropical and littoral rainforest on sandy soils or stabilized dunes, often near the sea.	No
Tetratheca glandulosa	Vulnerable	-	Nil. No suitable habitat within Subject Land. Grows in sandy or rocky heath or scrub.	No
Tetratheca juncea	Vulnerable	Vulnerable	Nil. No suitable habitat within Subject Land. It is usually found in low open forest/woodland with a mixed shrub understorey and grassy groundcover on low nutrient soils associated with the Awaba Soil Landscape.	No
Triplarina imbricata	Endangered	Endangered	Nil. No suitable habitat within Subject Land. Occurs along watercourses in low open forest with Water Gum (*Tristaniopsis laurina*) or in montane bogs, often with *Baekea amissa*.	No

4.2 Threatened Fauna

No threatened fauna species were found on the Subject Land during the site assessment by Land Eco on 13th of January 2025.

The NSW Wildlife Atlas online survey tool (NSW DCCEEW 2025c) was used to obtain a list of threatened fauna previously recorded within a 10km radius of the Subject Land (**Table 7**). The habitat requirements of each species were assessed (NSW DCCEEW 2025d) in order to determine the likelihood of species occurrence and/or impact from the proposed development.

The Subject Land contains a range of habitat features suitable for use by threatened fauna (**Table 6).**

Table 6. Threatened fauna habitat features in or adjacent to the Subject Land

Habitat component	Site values
Hollow-bearing trees, including dead stags	Absent
Large trees with basal cavities	Absent
Rock outcrops and bush rock	Absent
Natural burrows	Absent. However, some evidence of burrowing under wooden fence and trails leading in and out of Subject Land. It is not certain if this burrowing was from Long-nosed Bandicoots, or rats.
Coarse woody debris (logs)	Absent
Wetlands, soaks and streams	Absent
Open water bodies	Absent
Nests and roosts	Absent
Sap and gum sources (feed trees for gliders)	Absent
Distinctive scats or latrine sites	Possum scat recorded. Particularly around the granny flat at the rear of the property.
She-oak fruit (Glossy Black Cockatoo feed)	No *Allocasuarinas* or other Glossy-Black Cockatoo feed trees were present within and adjacent Subject Land.
Culverts, bridges, mine shafts, or abandoned structures (microbat subterranean roosts)	Both the main dwelling and the granny flat have openings such as air bricks which may provide suitable roosting habitat to microbat species (**Appendix 4**).
Decorticating bark or palm fronds suitable for microbat roosts	*Dypsis lutescens* created palm fronds. However, these palms were relatively small and exposed and therefore are unlikely to provide suitable microbat roost habitat.
Flying-fox camps	Absent within the Subject Land. The nearest Grey-headed Flying-fox camp is in Balgowlah, approximately 3.18 km north-west of the Subject Land (Commonwealth DCCEEW 2025b).
Lerp-bearing trees	Absent
Nectar-bearing shrubs and trees	Absent
Mistletoes	Absent
Koala browse trees	Absent
Seed-bearing trees and shrubs	Absent
Soft-fruit-bearing trees or shrubs	Absent
Dense shrubbery and leaf litter	Absent. There was no dense shrubbery suitable for usage by any fauna, including Long-nosed Bandicoot. The garden shrubs were scattered and sparse.
Dense grassland	Absent. The entire lawn was mown short.
Estuarine, beach, mudflats, and rocky foreshores	Absent

Table 7. List of Threatened Fauna that May Occupy the Subject Land at Some Stage of their Lifecycles as Identified by BioNet (NSW DCCEEW 2025c)

Class	Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Land	5-Part Test Required?
Amphibia	*Heleioporus australiacus*	Giant Burrowing Frog	Vulnerable	Vulnerable	The Giant Burrowing Frog is 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. They are also commonly recorded from 'hanging swamp' seepage lines and where small pools form from the collected water.	Nil. No suitable habitat present.	No
Amphibia	*Pseudophryne australis*	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 capping.	Nil. No suitable habitat present.	No
Aves	*Anseranas semipalmata*	Magpie Goose	Vulnerable	-	Mainly found in shallow wetlands (less than 1 m deep) with dense growth of rushes or sedges. Equally at home in aquatic or terrestrial habitats; often seen walking and grazing on land; feeds on grasses, bulbs and rhizomes. Activities are centred on wetlands, mainly those on floodplains of rivers and large shallow wetlands formed by run-off. Nests are formed in trees over deep water; breeding is unlikely in south-eastern NSW. Often seen in trios or flocks on shallow wetlands, dry ephemeral swamps, wet grasslands and floodplains; roosts in tall vegetation.	Nil. No suitable habitat present.	No
Aves	*Anthochaera phrygia*	Regent Honeyeater	Critically Endangered	Critically Endangered	The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak. Regent Honeyeaters inhabit woodlands that support a significantly high abundance and species richness of bird species. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes.	Nil. No suitable habitat present. Not known to breed in the area.	No
Aves	*Ardenna carneipes*	Flesh-footed Shearwater	Vulnerable	-	Mainly found offshore. This species breeds on Lord Howe Island in forests on sandy soils.	Nil. No suitable habitat present.	No
Aves	*Botaurus poiciloptilus*	Australian Bittern	Endangered	Endangered	Found in freshwater wetlands with tall, dense vegetation. This species uses densely-vegetation wetlands to nest by creating platforms of reeds.	Nil. No suitable habitat present.	No
Aves	*Burhinus grallarius*	Bush Stone-curlew	Endangered	-	Inhabits open forests and woodlands with sparse grassy ground layer and fallen timber.	Nil. No suitable habitat present.	No
Aves	*Callocephalon fimbriatum*	Gang-gang Cockatoo	Endangered	Endangered	In spring and summer, generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-	Nil. No suitable habitat present. One record which is believed to be erroneous.	No

Class	Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Land	5-Part Test Required?
					gum and box-ironbark assemblages, or in dry forest in coastal areas and often found in urban areas.		
Aves	*Calyptorhynchus lathami*	Glossy Black Cockatoo	Vulnerable	Vulnerable	The Glossy Black-Cockatoo is a small brown-black cockatoo with a massive, bulbous bill and a short crest. Feeds almost exclusively on the seeds of several species of she-oak (*Casuarina* and *Allocasuarina* species), shredding the cones with the massive bill.	Nil. No suitable habitat or suitable feed trees present within the Subject Land or on adjacent properties.	No
Aves	*Climacteris picumnus victoriae*	Brown Treecreeper (eastern subspecies)	Vulnerable	Vulnerable	Found in eucalypt woodlands and dry open forest of the inland slopes and plains inland of the Great Dividing Range. This species can also be found in mallee and River Red Gum Forest bordering wetlands. Usually not found in woodlands with a dense shrub layer or in woodlands on the coastal ranges and plains. The Brown Treecreeper will use hollows in standing dead or live trees and tree stumps for nesting.	Nil. No suitable habitat present. One record which is believed to be erroneous.	No
Aves	*Daphoenositta chrysoptera*	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.	Nil. No suitable habitat present.	No
Aves	*Diomedea exulans*	Wandering Albatross	Endangered	Vulnerable	This species spends the majority of their time out in the southern oceans. Only breed on offshore islands.	Nil. No suitable habitat present.	No
Aves	*Esacus magnirostris*	Beach Stone-curlew	Critically Endangered	-	Beach Stone-curlews are found exclusively along the coast, on a wide range of beaches, islands, reefs and in estuaries, and may often be seen at the edges of or near mangroves. They forage in the intertidal zone of beaches and estuaries, on islands, flats, banks and spits of sand, mud, gravel or rock, and among mangroves. Beach Stone-curlews breed above the littoral zone, at the backs of beaches, or on sandbanks and islands, among low vegetation of grass, scattered shrubs or low trees; also among open mangroves.	Nil. No suitable habitat present.	No
Aves	*Eudyptula minor*	Little Penguin in the Manly Point Area	Endangered	-	Only known breeding population on the mainland in NSW. A range of nest sites are utilised by the penguins at Manly including under rocks on the foreshore, under seaside houses and structures, such as stairs, in wood piles and under overhanging vegetation including lantana and under coral tree roots.	Unlikely. No suitable habitat is present within the Subject Land. Although Little Penguins are known to occur in the locality, the Subject Land is located relatively inland and is likely inaccessible to this species due to barriers of urban development i.e. surrounded by fences etc.	No
Aves	*Gallinago hardwickii*	Latham's Snipe	Vulnerable	Vulnerable	Latham's Snipe is a non-breeding visitor to south-eastern Australia, and is a passage migrant through northern Australia. In Australia, Latham's Snipe occurs in permanent and ephemeral wetlands up to 2000 m above sea-level. They usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies). However, they can also occur in	Nil. No suitable habitat present.	No

Class	Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Land	5-Part Test Required?
					habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity.		
Aves	*Glossopsitta pusilla*	Little Lorikeet	Vulnerable	-	Occurs most commonly in open woodlands and forests where it forages on lerp and nectar from flowering *Eucalyptus spp.*. Nests in hollows in tall, smooth-barked trees typically along watercourses.	Nil. No suitable habitat present.	No
Aves	*Haematopus fuliginosus*	Sooty Oystercatcher	Vulnerable	-	Favours rocky headlands, rocky shelves, exposed reefs with rock pools, beaches and muddy estuaries. Breeds almost exclusively on offshore islands, and occasionally on isolated promontories.	Nil. No suitable habitat present.	No
Aves	*Haematopus longirostris*	Pied Oystercatcher	Endangered	-	Favours intertidal flats of inlets and bays, open beaches and sandbanks. Forages on exposed sand, mud and rock at low tide, for molluscs, worms, crabs and small fish. This species nests mostly on coastal or estuarine beaches although occasionally they use saltmarsh or grassy areas.	Nil. No suitable habitat present.	No
Aves	*Haliaeetus leucogaster*	White-bellied Sea-Eagle	Vulnerable	-	Occurs in habitat with large areas of open water including larger rivers, lakes, swamps and the sea. This species may also be found in coastal dunes, tidal flats, grassland, heathland, woodland and forest habitats. To breed, White-bellied Sea-Eagle will nest in large emergent eucalypts, large dead trees or emergent dead branches in mature tall open forest, tall woodland and swamp sclerophyll forest close to water.	Unlikely. This species may fly overhead however this species is unlikely to forage within the Subject Land given the limited availability of vegetation and its exposed nature in a residential suburb. Additionally, there is no suitable breeding habitat present within the Subject Land as there is no suitable large trees.	No
Aves	*Hieraaetus morphnoides*	Little Eagle	Vulnerable	-	Occupy open eucalypt forest, woodland or open woodland. Sheoak or *Acacia* woodlands and riparian woodlands are also used. This species typically nests in tall living trees within a remnant patch.	Unlikely. This species may fly overhead however this species is unlikely to forage within the Subject Land given the limited availability of vegetation and its exposed nature in a residential suburb. Additionally, there is no suitable breeding habitat present within the Subject Land as there is no suitable large trees.	No
Aves	*Hirundapus caudacutus*	White-throated Needletail	Vulnerable	Vulnerable	In Australia, the White-throated Needletail is almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground. Although they occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest. They are known to roost in tall trees and hollows on occasion. Does not breed in Australia.	Moderate. This species does not breed in Australia though may be seen foraging over the Subject Land. This species is an aerial forager and will not be impacted by the proposed development.	No
Aves	*Ixobrychus flavicollis*	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.	Nil. No suitable habitat present.	No

Class	Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Land	5-Part Test Required?
Aves	*Lathamus discolor*	Swift Parrot	Endangered	Critically Endangered	This species breeds in Tasmania and migrates to mainland Australia between February and October. On the mainland, they occur in areas where eucalypts are flowering and where there are abundant lerp.	Nil. No suitable habitat present. This species does not breed on mainland Australia.	No
Aves	*Lophoictinia isura*	Square-tailed Kite	Vulnerable	-	Inhabit coastal and subcoastal, eucalypt-dominated open forests and woodlands, and inland riparian woodland. It also forages over coastal heathlands, and often near openings and edges of forest but also around suburban trees and shrubs, and nest in urban bushland.	Unlikely. This species may fly overhead however this species is unlikely to forage within the Subject Land given the limited availability of vegetation and its exposed nature in a residential suburb. Additionally, there is no suitable breeding habitat present within the Subject Land as there is no suitable large trees.	No
Aves	*Macronectes giganteus*	Southern Giant Petrel	Endangered	Endangered	This species is a common visitor off the coast of NSW. This bird breeds on Antarctic and subantarctic islands.	Nil. No suitable habitat present.	No
Aves	*Ninox connivens*	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 found on these fertile riparian soils. It nests in large hollows greater than 20cm in diameter in trees that are at least eight metres above ground.	Low. This species may fly overhead however this species is unlikely to forage within the Subject Land given the limited availability of vegetation and its exposed nature in a residential suburb. Additionally, there is no suitable breeding habitat present within the Subject Land as there is no suitable hollow bearing trees.	No
Aves	*Ninox strenua*	Powerful Owl	Vulnerable	-	Inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest. They require large tracts of forest or woodland habitat but can occur in fragmented landscapes as well. The species breeds and hunts in open or closed sclerophyll forest or woodlands and occasionally hunts in open habitats. It roosts by day in dense vegetation comprising species such as Turpentine *Syncarpia glomulifera*, Black She-oak *Allocasuarina littoralis*, Blackwood *Acacia melanoxylon*, and a number of eucalypt species. It nests in large hollows greater than 20 cm in diameter in trees that are at least eight metres above ground.	Low. This species may fly overhead however this species is unlikely to forage within the Subject Land given the limited availability of vegetation and its exposed nature in a residential suburb. Additionally, there is no suitable breeding habitat present within the Subject Land as there is no suitable hollow bearing trees.	No
Aves	*Onychoprion fuscata*	Sooty Tern	Vulnerable	-	This species is often seen soaring, skimming and dipping in offshore waters. Breeds in large colonies in sand or coral scrapes on offshore islands and cays including Lord Howe and Norfolk Islands.	Nil. No suitable habitat present.	No
Aves	*Pandion cristatus*	Eastern Osprey	Vulnerable	-	Favour coastal areas, particularly the mouths of large rivers, lagoons and lakes. This species nests high up in dead trees or in dead crowns of live trees, usually within one kilometre of the sea but can sometimes nests more inland if in close proximity to a large river or lake.	Unlikely. This species may fly overhead however this species is unlikely to forage within the Subject Land given the limited availability of vegetation and its exposed nature in a residential suburb. Additionally, there is no suitable breeding habitat present	No

Class	Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Land	5-Part Test Required?
						within the Subject Land as there is no suitable large trees.	
Aves	*Petroica boodang*	Scarlet Robin	Vulnerable	-	The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs. This species lives in both mature and regrowth vegetation. It occasionally occurs in mallee or wet forest communities, or in wetlands and tea-tree swamps.	Nil. No suitable habitat present.	No
Aves	*Petroica phoenicea*	Flame Robin	Vulnerable	-	This species occurs near clearings or areas with open understoreys and may occasionally occur in temperate rainforest, and also in herbfields, heathands, shrublands and sedgelands at high altitudes. In winter, these birds migrate to drier more open habitats in the lowlands and can occasionally be seen in heathland or other shrublands in coastal areas.	Nil. No suitable habitat present.	No
Aves	*Phoebetria fusca*	Sooty Albatross	Vulnerable	Vulnerable	This pelagic or ocean-going species inhabits subantarctic and subtropical marine waters, spending the majority of its time at sea, and rarely occurs in continental shelf waters. This species nests in small breeding colonies of up to 100 nests, on subantarctic islands.	Nil. No suitable habitat present.	No
Aves	*Pterodroma leucoptera leucoptera*	Gould's Petrel	Vulnerable	Endangered	Breeds on both Cabbage Tree Island, 1.4 km offshore from Port Stephens and on nearby Boondelbah island. The range and feeding areas of non-breeding petrels are unknown.	Nil. No suitable habitat present.	No
Aves	*Ptilinopus regina*	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.	Nil. No suitable habitat present.	No
Aves	*Ptilinopus superbus*	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.	Nil. No suitable habitat present.	No
Aves	*Stagonopleura guttata*	Diamond Firetail	Vulnerable	Vulnerable	Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum Eucalyptus pauciflora Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. Often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland. Nests are built either in the shrubby understorey, or higher up, especially under hawk's or raven's nests. Birds roost in dense shrubs or in smaller nests built especially for roosting.	Nil. No suitable habitat present.	No
Aves	*Thalassarche cauta*	Shy Albatross	Endangered	Endangered	This species spend the majority of their time out in the southern oceans. Occasionally this species occurs in continental shelf waters, in bays and harbours. Known breeding locations include Albatross Island off Tasmania, Auckland Island, Bounty Island and The Snares, off New Zealand.	Nil. No suitable habitat present.	No

Class	Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Land	5-Part Test Required?
Aves	*Thalassarche melanophris*	Black-browed Albatross	Vulnerable	Vulnerable	This species spend the majority of their time out in the southern oceans. Occasionally this species occurs in continental shelf waters, in bays and harbours.	Nil. No suitable habitat present.	No
Mammalia	*Arctocephalus forsteri*	New Zealand Fur-seal	Vulnerable	-	Found in rocky parts of islands and coast with jumbled terrain and boulders. Feeds principally on cephalopods and fish but also seabirds and occasionally penguins.	Nil. No suitable habitat present.	No
Mammalia	*Arctocephalus pusillus doriferus*	Australian Fur-seal	Vulnerable	-	Found in rocky parts of islands and coast with flat, open terrain.	Nil. No suitable habitat present.	No
Mammalia	*Cercartetus nanus*	Eastern Pygmy-possum	Vulnerable	-	Found in a broad range of habitats from rainforest through sclerophyll forest, 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.	Nil. No suitable habitat present.	No
Mammalia	*Chalinolobus dwyeri*	Large-eared Pied Bat	Endangered	Endangered	Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (*Petrochelidon ariel*), frequenting low to mid-elevation dry open forest and woodland close to these features. Found in well-timbered areas containing gullies.	Unlikely. No suitable habitat present. May fly over on rare occasion. Would not roost or breed in the building. This is a cave-dwelling bat therefore no suitable breeding habitat will be impacted by the project.	No
Mammalia	*Eubalaena australis*	Southern Right Whale	Endangered	Endangered	This species is an exclusively marine mammal.	Nil. No suitable habitat present.	No
Mammalia	*Isoodon obesulus obesulus*	Southern Brown Bandicoot (eastern)	Endangered	Endangered	Southern Brown Bandicoots are largely crepuscular (active mainly after dusk and/or before dawn). They are generally only found in heath or open forest with a heathy understorey on sandy or friable soils.	Unlikely. No suitable habitat present.	No
Mammalia	*Micronomus norfolkensis*	Eastern Coastal Free-tailed Bat	Vulnerable	-	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.	Moderate. Limited foraging habitat within the Subject Land however this species may roost within the Subject Land. Both the main dwelling and the granny flat have openings such as air bricks which may provide suitable roosting habitat.	Yes
Mammalia	*Miniopterus australis*	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 Bent-wing 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.	Moderate. Limited foraging habitat within the Subject Land however this species may roost within the Subject Land. Both the main dwelling and the granny flat have openings such as air bricks which may provide suitable roosting habitat. This species would not breed in the Subject Property as it only breeds in complex cave systems.	Yes
Mammalia	*Miniopterus orianae oceanensis*	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. Maternity caves have very specific temperature and humidity regimes. At other	Moderate. Limited foraging habitat within the Subject Land however this species may roost within the Subject Land. Both the main	Yes

Class	Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Land	5-Part Test Required?
					times of the year, populations disperse within about 300 km range of maternity caves. Cold caves are used for hibernation in southern Australia.	dwelling and the granny flat have openings such as air bricks which may provide suitable roosting habitat. This species would not breed in the Subject Property as it only breeds in complex caves systems.	
Mammalia	*Myotis macropus*	Southern Myotis	Vulnerable	-	Generally, roost in caves, mine shafts, hollow-bearing trees, buildings, wharves, bridges and dense foliage close to water. These forage over streams and pools catching insects and small fish.	Moderate. No foraging habitat within the Subject Land however this species may roost within the Subject Land. Both the main dwelling and the granny flat have openings such as air bricks which may provide suitable roosting habitat.	Yes
Mammalia	*Perameles nasuta*	Long-nosed Bandicoot, North Head	Endangered	-	Essentially a solitary animal that occupies a variety of habitats on North Head. Forages mainly at or after dusk, digging for invertebrates, fungi and tubers. Shelters during the day in a well-concealed nest based on a shallow hole lined with leaves and grass, sometimes under debris, sometimes hidden with soil and with the entrance closed for greater concealment.	High. Limited suitable habitat is present within the Subject Land however the Subject Land is located in proximity to a large population of Long-nosed Bandicoot (North Head). The Long-nosed Bandicoot will likely only utilise the Subject Land on occasion to forage in the lawn and within the limited areas of exposed soil. The Long-nosed Bandicoot may also utilise the Subject Land to move between areas of suitable habitat. Land Eco confirmed there was no suitable shelter or breeding habitat within and around the existing buildings, and gardens. Within a 10km radius of the Subject Land there are 6029 BioNet records of the Long-nosed Bandicoot (NSW DCCEEW 2025c).	Yes
Mammalia	*Petaurus norfolcensis*	Squirrel Glider	Vulnerable	-	Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum Forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas. Squirrel Glider will roost in tree hollows with a diameter between 5-10 cm. Their diet consists of Acacia gum, eucalypt sap, nectar, honeydew and manna.	Nil. No suitable habitat present.	No
Mammalia	*Phascolarctos cinereus*	Koala	Endangered	Endangered	Inhabit eucalypt woodlands and forests.	Nil. No suitable habitat present.	No
Mammalia	*Pteropus poliocephalus*	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.	Low. It is likely that Grey-headed Flying-fox would forage in the trees surrounding the Subject Land. However, the Subject Land does not provide suitable foraging habitat. The nearest known Grey-headed Flying-fox camp is in Balgowlah, approximately 3.18	No

Class	Scientific Name	Common Name	BC Act	EPBC Act	Habitat Required (OEH Species Profiles)	Likelihood of Occurrence within the Subject Land	5-Part Test Required?
						km north-west of the Subject Land (Commonwealth DCCEEW 2025b).	
Mammalia	*Saccolaimus flaviventris*	Yellow-bellied Sheathtail-bat	Vulnerable	-	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. This species can be found foraging high in the forest canopies but also in open country.	Moderate. Limited foraging habitat within the Subject Land however this species may roost within the Subject Land. Both the main dwelling and the granny flat have openings such as air bricks which may provide suitable roosting habitat.	Yes
Mammalia	*Scoteanax rueppellii*	Greater Broad-nosed Bat	Vulnerable	-	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. Although this species usually roosts in tree hollows, it has also been found in buildings. Open woodland habitat and dry open forest suits the direct flight of this species as it searches for beetles and other large, slow-flying insects; this species has been known to eat other bat species.	Moderate. Limited foraging habitat within the Subject Land however this species may roost within the Subject Land. Both the main dwelling and the granny flat have openings such as air bricks which may provide suitable roosting habitat.	Yes
Mammalia	*Vespadelus troughtoni*	Eastern Cave Bat	Vulnerable	-	A cave-roosting species that is usually found in dry open forest and woodland, near cliffs or rocky overhangs; has been recorded roosting in disused mine workings, occasionally in colonies of up to 500 individuals.	Unlikely. No suitable habitat present. May fly over on rare occasion. Would not roost or breed in the building. This is a cave-dwelling bat therefore no suitable breeding habitat will be impacted by the project.	No
Reptilia	*Caretta caretta*	Loggerhead Turtle	Endangered	Endangered	These are ocean-dwellers, foraging in deeper water for fish, jellyfish and bottom-dwelling animals. Females will come ashore to lay their eggs in a hole dug on the beach in tropical regions.	Nil. No suitable habitat present.	No
Reptilia	*Chelonia mydas*	Green Turtle	Vulnerable	Vulnerable	These are ocean-dwellers, foraging on marine plant material. Females will come ashore to lay their eggs in a hole dug on the beach.	Nil. No suitable habitat present.	No
Reptilia	*Dermochelys coriacea*	Leatherback Turtle	Endangered	Endangered	Occurs in inshore and offshore marine waters and feeds on jellyfish. This species rarely breeds in Australia but occasional breeding has been recorded between Ballina and Lennox Head, in northern NSW.	Nil. No suitable habitat present.	No
Reptilia	*Eretmochelys imbricata*	Hawksbill Turtle	Protected	Vulnerable	These are ocean-dwellers, foraging in tropical tidal and sub-tidal coral and rocky reefs. Some have also been found in seagrass habitats of coastal waters. Females will come ashore to lay their eggs in a hole dug on the beach.	Nil. No suitable habitat present.	No
Reptilia	*Varanus rosenbergi*	Rosenberg's Goanna	Vulnerable	-	The Heath Monitor is 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. Feeds on carrion, birds, eggs, reptiles and small mammals. Shelters in hollow logs, rock crevices and in burrows, which they may dig for themselves, or they may use other species' burrows, such as rabbit warrens.	Nil. No suitable habitat present.	No

5. Impact Summary

This section of the report provides a summary of impacts to biodiversity because of the proposed development upon threatened species, populations and ecological communities listed under the BC Act.

5.1 Vegetation Effects

The proposed development will result in the removal of 0.007 (75m²) of Urban Exotic vegetation. No trees are proposed for removal and trees on neighbouring properties will be protected in accordance with Redgum Horticultural (2024). The two *Dypsis lutescens* which occur at the entrance of the property, will be '*relocated/transplanted within the site as per Landscape Plan*' (Redgum Horticultural 2024). These trees have been precautionarily included in the impact area, however these trees provide no habitat value for any threatened species, or non-threatened species. The loss of these trees would have no impact upon biodiversity whatsoever.

The proposed development is not likely to result in any significant impacts to upon any ecological communities.

5.2 Threatened Species Effects

The proposed development is of low overall risk to biodiversity. It is situated in an urban context with little overall biodiversity value.

It is not likely that any threatened flora would occur on the Subject Land, and therefore not likely that any would be significantly impacted as a result of the proposed development. The habitat has been managed historically through landscaping, infill planting, mowing and other gardening activities rendering it unsuitable for most threatened flora species.

No threatened fauna were found within the Subject Land by Land Eco, or considered likely to heavily rely on the habitat proposed for disturbance.

Given the small area of habitat proposed for disturbance and the limited removal of urban exotic vegetation, the potential for impact to any threatened species is low. Following the implementation of the Landscape Plan (The Quinlan Group 2025), the proposed development will not substantially alter the existing character or habitat value of the Subject Land.

The Subject Land is located in proximity to a large population of Long-nosed Bandicoot (North Head). A 'test of significance' pursuant to Section 7.3 of the BC Act was prepared to assess the significance of the impacts from the development on this threatened species (**Appendix 3**). The Long-nosed Bandicoot will likely only utilise the Subject Land on occasion to forage in the lawn habitat and within areas of exposed soil. The Long-nosed Bandicoot may also pass through the Subject Land, both through the front garden street frontage and the lawn and garden beds at the rear the property. However, the vegetation within the Subject Land comprises primarily of exotic ornamentals maintained in sparse, manicured garden beds. It is therefore unlikely that the Long-nosed Bandicoot would regularly utilise or rely on this habitat to shelter or breed within. No suitable sheltering habitat or nesting hole was present within the Subject Land. As such it is not considered likely that the proposed development including the removal of all vegetation would contribute a significant impact upon a viable local population of the Long-nosed Bandicoot.

The existing structures within the Subject Land may provide potential roosting habitat for threatened microbats. A test of significance pursuant to Section 7.3 of the BC Act was prepared in this report to assess the significance of the removal of these structures (**Appendix 3**). It is not considered likely that the proposed development including the removal of potential roost habitat and vegetation would contribute a significant impact upon a viable local population of threatened microbats listed under the BC Act given that the structures provide only a small portion of the overall available roosting habitats in the wider surrounding areas.

General impact mitigation measures are proposed (see **Section 6**).

6. Impact Mitigation Measures

A suite of impact mitigation measures is proposed in order to avoid, minimise and mitigate impacts to threatened species from the proposed development (**Table 8**).

Table 8. Measures to be Implemented Before, During and After Construction to Avoid and Minimise the Impacts of the Project

Action	Mitigation Measure / Outcome	Timing	Responsibility
Engage Project Ecologist	A suitably qualified and experienced Ecologist with a minimum of a tertiary degree in a relevant discipline, and license under the NSW Department of Planning Industry and Environment should be engaged to oversee the implementation of the impact mitigation measures in this report.	Pre-construction Phase	▪ Proponent
Undertake Pre-clearing Survey and Clearing Supervision	The Project Ecologist is to undertake a pre-clearing survey of the buildings for sheltering fauna, to be relocated prior to earthworks and vegetation clearing and building demotion. Particular care should be taken when conducting clearing surveys on potential microbat roosting habitat within the structures within the Subject Land. All demolition of structures that have the potential to provide habitat to threatened fauna such as microbats, should be supervised by an Ecologist who will be available on site to capture, treat/relocate any displaced fauna.	Pre-construction Phase	▪ Project Ecologist
Stormwater and Sewage	Stormwater and sewage will be managed as per best practice requirements of Northern Beaches Council (Northern Beaches Council 2021).	Design and construction phase Post-construction phase	▪ Builder ▪ Engineer
Erosion and Sedimentation	Appropriate erosion and sediment control will be erected and maintained during construction. At minimum such measures will comply with the relevant industry guidelines such as 'the Blue Book' (Landcom 2004).	Construction phase	▪ Builder
Dust Suppression	During hot and dry weather, soil will be covered and other suitable dust suppression techniques (e.g. cleaning/wetting down dusty surfaces) will be enforced to reduce impacts on local fauna.	Construction phase	▪ Builder
Noise Suppression	Noise suppression techniques will be enforced to reduce impacts on local fauna including restricting construction to daytime hours only.	Construction phase	▪ Builder
Minimising Artificial Lighting Impacts	Construction should be restricted to day-time hours only where possible. Low spill lighting or shielding should be used where possible and restrictions around night-time construction work will be enforced to minimise the impacts on Long-nosed Bandicoot using nearby habitats.	Construction phase	▪ Builder
Landscaping to Maintain Bandicoot Foraging Habitat	The landscape schedule (The Quinlan Group 2025) was produced using the *Native Planting Guide - Manly Ward* (Northern Beaches ND). The proposed plantings of native groundcovers such as *Lomandra longifolia*, *Dichelachne sp.*, *Dianella caerulea*, and *Themeda australis* (The Quinlan Group 2025) (**Figure 2**) will create suitable foraging and potential nesting habitat within the Subject Land for the threatened Long-nosed Bandicoot (*Perameles nasuta*). Furthermore, by landscaping the corridor along the southern boundary of the proposed development (**Figure 2**) with native grasses, this could offer a sheltered passage for the species, facilitating movement between areas of suitable habitat, as they are known to frequent suburban gardens around North Head.	Post-construction phase	▪ Landscape architect

Action	Mitigation Measure / Outcome	Timing	Responsibility
Maintaining Habitat Connectivity and Access for Bandicoot	Guidelines outlined by National Parks (NSW NPWS 2004) regarding developments proposed 'within or adjacent to habitat occupied' by the Long-nose Bandicoot population, recommend the following 'where practicable': *'Provision bandicoot spaces under fences to allow movement of bandicoot's between properties'* Land Eco recommends that the fence proposed around the perimeter of the Subject Land (The Quinlan Group 2025), leave at minimum, a 10-cm gap at the base of the fence to allow fauna such as the Long-nosed Bandicoot to pass through and freely utilise the proposed lawn and native grasses habitat.	Construction phase	▪ Proponent ▪ Builder
Protecting Bandicoots	If a bandicoot or any other mammal is found within the works area, injured or otherwise, an Ecologist should be notified to advise the best course of action.	Construction phase	▪ Proponent ▪ Project Ecologist ▪ Builder
Wildlife Proofing Pool Fencing/ Barrier	As per Swimming Pools Regulation (2018) *'a child-resistant barrier surrounding a swimming pool is to be designed, constructed, installed and maintained are the requirements set out in the Building Code of Australia'* (NCC 2022). The design of the barrier/ fence surrounding the pool should also consider wildlife. Small terrestrial mammals such as the Long-nosed Bandicoot can dig and fit under barriers. We recommend that fencing/barriers surrounding the pool be constructed deep into the soil (at minimum 15cm) or set in concrete.	Design and construction phase	▪ Proponent ▪ Builder

7. Conclusion

Land Eco has assessed the full suite of potential impacts to biodiversity that could arise as a result of the proposed development. It is our opinion that the significance of potential impacts are negligible and could be further reduced through implementation of the impact mitigation measures proposed in this report.

We recommend this development is approved.

8. References

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9. Appendices

Appendix 1. Flora species identified within the Subject Land by Land Eco Consulting.

Species	Common Name	Stratum	Status
Asparagus aethiopicus	Sprenger's Asparagus	Ground	Weed of National Significance, Priority Weed (DPI 2025)
Briza minor	Lesser Quaking-grass	Ground	Exotic
Cyclospermum leptophyllum	-	Ground	Exotic
Cymbalaria muralis	Ivy-leaved Toadflax	Ground	Exotic
Cynodon dactylon	Couch Grass	Ground	Native
Cyperus brevifolius	Shortleaf Spikesedge	Ground	Exotic
Digitaria sanguinalis	Summer Grass	Ground	Exotic
Ehrharta erecta	Panic Veldtgrass	Ground	Exotic
Eleusine indica	Indian Goosegrass	Ground	Exotic
Erigeron bonariensis	Flax-leaf Fleabane	Ground	Exotic
Hydrocotyle hirta	Hairy Pennywort	Ground	Native
Kalanchoe fedtschenkoi	Lavender Scallops	Ground	Exotic
Oxalis latifolia	Broadleaf Woodsorrel	Ground	Exotic
Polycarpon tetraphyllum	Four-leaved Allseed	Ground	Exotic
Sonchus oleraceus	Common Sowthistle	Ground	Exotic
Stellaria media	Chickweed	Ground	Exotic
Stenotaphrum secundatum	St. Augustine Grass	Ground	Exotic
Taraxacum officinale	Common Dandelion	Ground	Exotic
Trifolium repens	White Clover	Ground	Exotic
Agave attenuata	Elephant's Trunk	Mid	Exotic
Aloe arborescens	Candelabra Aloe	Mid	Exotic
Cyperus alternifolius	Umbrella Sedge	Mid	Exotic
Dypsis lutescens	Golden Cane Palm	Mid	Exotic
Gardenia jasminoides	Gardenia	Mid	Exotic
Hibiscus × rosa-sinensis	Hawaiian Hibiscus	Mid	Exotic
Opuntia monacantha	Smooth Tree Pear	Mid	Weed of National Significance, Priority Weed (DPI 2025)
Pelargonium peltatum	Ivy Geranium	Mid	Exotic
Portulacaria afra	Elephant Bush	Mid	Exotic
Rosa × damascena	Damask Rose	Mid	Exotic
Thaumatophyllum xanadu	Selloum Philodendron Plant	Mid	Exotic

Appendix 2. Fauna species identified during survey of Subject Land by Land Eco Consulting

Class	Scientific Name	Common Name	NSW Biodiversity Conservation Act 2016 Status
Aves	*Cacatua galerita*	Sulphur-crested Cockatoo	Protected
Aves	*Cracticus torquatus*	Gray Butcherbird	Protected
Aves	*Manorina melanocephala*	Noisy Miner	Protected Key Threatening Process
Aves	*Trichoglossus moluccanus*	Rainbow Lorikeet	Protected
Mammalia	*Pseudocheirus peregrinus*	Common Ringtail Possum	Protected

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

Mammals

- *Perameles nasuta* - Long-nosed Bandicoot (North Head) (BC Act: Endangered)

Microbats

- *Miniopterus australis* - Little Bent-winged Bat (BC Act: Vulnerable)
- *Miniopterus orianae oceanensis* - Large Bent-winged Bat (BC Act: Vulnerable)
- *Micronomus norfolkensis* - Eastern Coastal Free-tailed Bat (BC Act: Vulnerable)
- *Myotis Macropus* - Southern Myotis (BC Act: Vulnerable)
- *Saccolaimus flaviventris* - Yellow-bellied Sheathtail-bat (BC Act: Vulnerable)
- *Scoteanax rueppellii* - Greater Broad-nosed Bat (BC Act: Vulnerable)

Test of Significance (Five Part Test) s.7.3 of the Biodiversity Conservation Act 2016 Mammals ▪ Long-nosed Bandicoot (North Head)- *Perameles nasuta* Status: Endangered		
Ecology **(NSW DCCEEW 2025c)**	Essentially a solitary animal that occupies a variety of habitats on North Head. Forages mainly at or after dusk, digging for invertebrates, fungi and tubers. Shelters during the day in a well-concealed nest based on a shallow hole lined with leaves and grass, sometimes under debris, sometimes hidden with soil and with the entrance closed for greater concealment.	
Habitat Impacted by this Activity/Development	The proposed development will result in the removal of 0.007 (75m²) of Urban Exotic vegetation. Given the gaps present along the fence line, the long-nosed Bandicoot may occasionally pass through the rear and the front garden (street frontage) of the Subject Land to move between areas of suitable habitat. Given the limited amount of native vegetation within the Subject Land and the lack of dense shrubbery to stay concealed within, it is unlikely that the Long-nosed Bandicoot would regularly utilise or rely on this habitat to shelter within. Land Eco did not identify any suitable sheltering or breeding habitat within the Subject Land during site visitation. Inadvertent and indirect impacts could include accidental clearing of vegetation on neighbouring properties and increased disturbance as a result of the construction. However, the duration and significance of these impacts are unlikely to be significant.	
(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,	Limited suitable habitat is present within the Subject Land however the Subject Land is located in proximity to a large population of Long-nosed Bandicoot (North Head). The Long-nosed Bandicoot will likely only utilise the Subject Land on occasion to forage in the lawn habitat and within areas of exposed soil. The Long-nosed Bandicoot may also pass through the Subject Land, both through the front garden street frontage and the lawn and garden beds at the rear the property. However, the vegetation within the Subject Land is maintained either within garden beds or as a manicured lawn. Given the limited amount of native vegetation and the lack of dense shrubbery to stay concealed within, it is unlikely that the Long-nosed Bandicoot would regularly utilise or rely on this habitat to shelter or breed within. Land Eco did not identify any suitable sheltering habitat or any nesting hole within the Subject Land. Additionally, no undercrofts or crawl space under the buildings, that could provide shelter for Long-nosed Bandicoots, were identified during site visitation. The nature of the Subject Land is likely too exposed to provide suitable breeding habitat. It is unlikely that the proposed development is likely to have an adverse effect on the life cycle of this specie such that a viable local population of the species is likely to be placed at risk of extinction.	
(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	N/A
	(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,	N/A
(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 proposed development will result in the removal of 0.007 (75m²) of Urban Exotic vegetation which comprises low quality foraging habitat. This vegetation may additionally provide habitat connectivity for the Long-nosed Bandicoot to move between areas of suitable habitat. No sheltering or breeding habitat will be impacted.
	(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 proposed plantings of native groundcovers (The Quinlan Group 2025) (**Figure 2**) will create suitable foraging and potential nesting habitat within the Subject Land for the threatened Long-nosed Bandicoot. Furthermore, by landscaping the corridor along the southern boundary of the proposed development (**Figure 2**) with native grasses, this could offer a sheltered passage for the species, facilitating movement between areas of suitable habitat, as they are known to frequent suburban gardens around North Head.

Test of Significance (Five Part Test) s.7.3 of the Biodiversity Conservation Act 2016 Mammals ▪ Long-nosed Bandicoot (North Head)- *Perameles nasuta* Status: Endangered		
		Land Eco recommends that the fence proposed around the perimeter of the Subject Land (The Quinlan Group 2025), leave at minimum, a 10-cm gap at the base of the fence to allow fauna such as the Long-nosed Bandicoot to pass through and freely utilise the proposed lawn and native grasses habitat. As such areas of habitat are unlikely to become fragmented or isolated from other areas of habitat as a result of the proposed development.
	(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 likely utilised as low-quality foraging habitat and for movement across habitats. No suitable sheltering habitat or any nesting hole was recorded within the Subject Land. No breeding habitat will be directly impacted. Large amounts of suitable foraging, roosting, and breeding habitat will continue to occur within the locality. The habitat is not important to the long-term survival of this 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 proposed development 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 Subject Land is already impacted by several key threatening processes including: • Aggressive exclusion of birds from potential woodland and forest habitat by over-abundant noisy miners (*Manorina melanocephala*) • Invasion of native plant communities by exotic perennial grasses • Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants. These processes have degraded the condition of this habitat and its potential to be utilised by threatened species. Additional key threatening processes that will result from any future activity include: • Clearing of native vegetation	

Test of Significance (Five Part Test) s.7.3 of the Biodiversity Conservation Act 2016 Microbats ▪ Eastern Coastal Free-tailed Bat - *Micronomus norfolkensis* ▪ Little Bent-winged Bat - *Miniopterus australis* ▪ Large Bent-winged Bat - *Miniopterus orianae oceanensis* ▪ Southern Myotis - *Myotis Macropus* ▪ Yellow-bellied Sheathtail - *Saccolaimus flaviventris* ▪ Greater Broad-nosed Bat - *Scoteanax rueppellii* Status: Vulnerable	
Ecology **(NSW DCCEEW 2025c)**	The Eastern Coastal Free-tailed Bat occurs in dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. This species roosts mainly in tree hollows but will also roost under bark or in man-made structures. They are usually solitary but have also been recorded roosting communally. They are believed to be insectivorous. The Little Bent-winged Bat inhabits moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub. This species is generally found in well-timbered areas and roosts in caves, tunnels, tree hollows, abandoned mines, stormwater drains, culverts, bridges and sometimes buildings during the day. They forage for small insects beneath the canopy of densely vegetated habitats. They often share roosting sites with the Common Bent-winged Bat (*Miniopterus schreibersii*). The Large Bent-winged Bat roosts primarily in caves, but also uses derelict mines, storm-water tunnels, buildings and other man-made structures. This species hunts in forested areas, catching moths and other flying insects above the treetops. Dependent on the time of year, populations of this specie can disperse within around a 300 km range of maternity caves. The Southern Myotis 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. This species forages over streams and pools catching insects and small fish by raking their feet across the water surface. The Yellow-bellied Sheathtail Bat roosts, in tree hollows and buildings (in treeless areas they are known to utilise mammal burrows). They forage in most habitats across a very wide range foraging for insects, with and without trees. The Greater Broad-nosed Bat is mainly found in the gullies and river systems. This species in known to utilise a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forests. Although this species usually roosts in tree hollows, it has also been found in buildings. They forage flying slowly and directly along creek and river corridors at an altitude of 3 - 6 m, foraging on beetles and other large, slow-flying insects. This species has been known to eat other bat species.
Habitat Impacted by this Activity/Development	The proposed development will result in the removal of 0.007 (75m²) of Urban Exotic vegetation. The vegetation within the Subject Land comprises primarily of exotic ornamentals maintained within manicured garden beds. It is therefore unlikely given the nature of the vegetation within the Subject Land that this habitat provides any significant foraging habitat for these threatened microbat species. Land Eco did not identify any hollow bearing trees within the Subject Land. However, existing structures on the Subject Land contain openings such as air bricks which provide potential roosting habitat for these discussed threatened microbats (**Appendix 4**). These structures are proposed for demolition. Inadvertent and indirect impacts include accidental clearing of vegetation on neighbouring properties and increased disturbance as a result of the construction. However, in the unlikely event this did occur, these impacts are unlikely to be significant.
(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,	The proposed development is not likely to have an adverse effect on the life cycles of these species such that a viable local population of the species will likely to be placed at risk of extinction. It is unlikely given the nature of the vegetation within the Subject Land that it provides any significant foraging habitat for these threatened microbat species. Although the openings within the structures of the Subject Land provide suitable roosting habitat for the discussed species, the loss of this potential habitat is not likely to be significant as large amounts of suitable breeding and roosting habitat occurs in the locality for this species. The proposed development is unlikely to impact the lifecycle of these microbat species owing to the availability of foraging, roosting, and breeding habitat in wider surrounding areas.

Test of Significance (Five Part Test) s.7.3 of the Biodiversity Conservation Act 2016 Microbats ▪ Eastern Coastal Free-tailed Bat - *Micronomus norfolkensis* ▪ Little Bent-winged Bat - *Miniopterus australis* ▪ Large Bent-winged Bat - *Miniopterus orianae oceanensis* ▪ Southern Myotis - *Myotis Macropus* ▪ Yellow-bellied Sheathtail - *Saccolaimus flaviventris* ▪ Greater Broad-nosed Bat - *Scoteanax rueppellii* Status: Vulnerable		
(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	NA
	(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,	NA
(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 existing structures on the Subject Land, both on the main dwelling and granny flat, contain l openings such as air bricks which provide potential roosting habitat for these discussed threatened microbats. These structures are proposed for demolition.
	(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	It is not likely that this relatively small portion of a wider habitat will lead to habitat fragmentation or cause isolated from other areas of habitat as a result of the development. Each of these species is highly mobile and can forage over large distances across areas of suitable habitat. The proposed development will not create any substantial additional barriers to habitat connectivity beyond the current condition.
	(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,	Each of these species is highly mobile and can forage over large distances across areas of suitable habitat. Although potential roosting habitat will be directly impacted for these discussed threatened microbats, the loss of this potential habitat is not likely to be significant as large amounts of suitable breeding and roosting habitat occurs in the locality for this species. Therefore, relative to its locality the occurrence of the Subject Land's habitat is not important to the long-term survival of these 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 proposed development 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 Subject Land is already impacted by several key threatening processes including: • Aggressive exclusion of birds from potential woodland and forest habitat by over-abundant noisy miners (*Manorina melanocephala*) • Invasion of native plant communities by exotic perennial grasses • Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants. These processes have degraded the condition of this habitat and its potential to be utilised by threatened species. Additional key threatening processes that will result from any future activity include: • Clearing of native vegetation	

Appendix 4. Images of potential microbat roost habitat recorded within existing main dwelling and granny flat. These features should be checked by an Ecologist for roosting bats prior to demolition.

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