Biodiversity Development Assessment Report

Proposed Dwelling at

3 Alexandra Crescent, Bayview,

NSW 2104

9 July 2025

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Draft 1.2	Proposed New Dwelling at 3 Alexandra Crescent, Bayview	27/05/2025
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Executive Summary

Land Eco Consulting (Land Eco) was commissioned by Les and Tim Hill ('the proponents'), to prepare this Biodiversity Development Assessment Report (BDAR) for the proposed dwelling at 3 Alexandra Crescent, Bayview, NSW 2104 (2/-/DP1016440) (the 'Subject Property'). The extent of the development is referred to as the 'Subject Land' (**Figure 1**).

The Subject Property is a residential property in the Northern Beaches local Government Area in Sydney. The proposed development application is for the construction of a dwelling, garage, driveway, deck and the soft landscaping associated with the development (Scope Architects 2025) (Conzept 2025) (**Figure 2; Figure 3**). The extent of works proposed for this development, which this BDAR assesses, also includes the removal 0.09 ha of vegetation and includes the removal of thirteen (13) native palm trees and tree ferns (Complete Arborcare 2025) and the realignment of the watercourse within the Subject Property. Three (3) exotic (non-native) trees are also proposed for removal but are classified as 'exempt trees' by the Northern Beaches Council (2025). The native vegetation within the Subject Land is disturbed by historical clearing and is heavily weed infested.

The proposed development is a local development application and is subject to approval under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The proponent has commissioned this Biodiversity Development Assessment Report (BDAR) to accompany the proposal and address the requirements of the NSW Biodiversity Offset Scheme (BOS) and requires submission of a streamlined 'Small Areas' BDAR as stipulated under the *Biodiversity Conservation Act 2016* and in accordance with the Biodiversity Assessment Method (BAM), owing to the removal of less than 1ha of native vegetation. The BDAR is required to be undertaken by an accredited assessor to assess the impacts of the proposal.

One plant community type (PCT) occurs on the Subject Land:

- PCT 3234: Hunter Coast Lowland Spotted Gum Moist Forest which is associated with 'Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion' (PWSGF) which is an Endangered Ecological Community (EEC) listed under in Part 3 of Schedule 1 of the Biodiversity Conservation Act 2016 (BC Act)

A total of one (1) Ecosystem Credit is required to be retired to offset the residual biodiversity impacts of the proposed development (**Table 1**).

No threatened species were recorded on the Subject Property by Land Eco.

Two Species Credit Species could not be surveyed for during the recommended survey window prior to the finalisation of this BDAR and consequently have been assumed present for the purpose of this BDAR (**Table 2**). These are:

- Large-eared Pied Bat (*Chalinolobus dwyeri*) – Endangered (BC Act), Endangered (EPBC Act)
- Eastern Cave Bat (*Vespadelus troughtoni*) – Vulnerable (BC Act)

A total of four (4) Species Credits are required to be retired to offset the biodiversity impacts of the proposal (**Table 2).**

Impacts will be limited to the removal of approximately 0.08 ha of weed infested PCT 3234 and the removal of 0.007 ha (77 m²) of exclusively exotic canopy. Minor indirect impacts may influence the vegetation to be retained within the Subject Property, however these are unlikely to degrade the habitat further than the status quo. There will be no Serious and Irreversible Impacts as a result of the proposed development.

The proposed development has been designed to avoid impacts on biodiversity values in keeping with the purposeful use of the Subject Land. This has been accomplished by positioning and designing the proposed dwelling to avoid removing all specimens of the mature remnant *Corymbia maculata* within the Subject Land. Proposed plantings, as per Conzept (2025) landscaping scheme, will consist of 80% locally indigenous species characteristic of the PWSGF EEC. This includes seven (7) tree species representative of this threatened community.

In addition to avoiding, and offsetting residual impacts, the *Biodiversity Conservation Act 2016* and its regulations requires that an applicant takes all reasonable effort to minimise potential impacts of the proposal on local biodiversity values.

A series of mitigation and management measures have been identified, which are to be implemented as part of any construction environmental management plan produced for the site. These include measures to:

- Ensure all contractors employed to work within the Subject Land are suitably qualified, experienced and informed of the sensitive ecological features and potentially occurring threatened species;
- Assign a Project Ecologist to conduct and oversee all ecological compliance requirements associated with conducting a proposed development in line with all relevant state and commonwealth legislation and guidelines;
- Have an ecologist present during the clearing of threatened species habitat required for the proposed development;
- Incorporate locally indigenous flora species representative of Pittwater and Wagstaffe Spotted Gum Forest in soft landscaping associated with the development;
- Implement all relevant biological hygiene protocols and requirements as per NSW Government guidelines;
- Implement ongoing management of priority weeds according to statutory requirements; and
- Implement appropriate vegetation protection fencing, stockpiling and sediment control during construction.

Table 1. Impacts that require an offset- ecosystem credits

Vegetation zone	PCT	TEC/EC	Impact area (ha)	Number of ecosystem credits required
Weed Infested	3234 – Hunter Coast Lowland Spotted Gum Moist Forest	Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion	0.08	1

Table 2. Impacts that require an offset - species credits

Common name	Scientific name	Loss of habitat (ha) or individuals	Number of species credits required
Large-eared Pied Bat	*Chalinolobus dwyeri*	0.08 (assumed present)	2
Eastern Cave Bat	*Vespadelus troughtoni*	0.08 (assumed present)	2

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Acronym/ Term	Definition
BAM	New South Wales Biodiversity Assessment Method
BC Act	New South Wales Biodiversity Conservation Act 2016
BCS	Biodiversity, Conservation and Science Group
BDAR	Biodiversity Development Assessment Report
BOS	New South Wales Biodiversity Offset Scheme
CEEC	Critically Endangered Ecological Community
DA	Development Application pursuant to section 4 of the NSW Environmental Planning and Assessment Act 1979
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DCP	Development Control Plan
Development	The use of land, and the subdivision of land, and the carrying out of a work, and the demolition of a building or work, and the erection of a building, and any other act, matter or thing referred to in section 26 that is controlled by an environmental planning instrument but does not include any development of a class or description prescribed by the regulations for the purposes of this definition (Environmental Planning and Assessment Act 1979).
DPI	Department of Primary Industries
DPIE	Department of Planning Industry and Environment
EEC	Endangered Ecological Community
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
EP&A Act	NSW Environmental Planning and Assessment Act 1979
Exempt Tree	A tree species 'suitable for removal without consent unless identified as a heritage item or within a heritage area' (Northern Beaches Council 2025).
ha	Hectares
km	Kilometre
KTP	Key Threatening Process (as listed in the BC Act)
LEP	Local Environment Plan
LGA	Local Government Area
Locality	The area within a 10km radius of the Subject site. The same meaning when describing a local population of a species or local occurrence of an ecological community.
m	Metres
mm	Millimetres
MNES	Matters of National Environmental Significance
NPWS	NSW National Parks and Wildlife Services
NSW	New South Wales
OEH	Office of Environment and Heritage
PCT	Plant Community Type
PWSGF	Pittwater Wagstaffe Spotted Gum Forest
Proposal	The development, activity or action proposed.
SEPP	State Environmental Planning Policy
Subject Land	The extent of works for the proposed development within the Subject Property. This includes the development footprint, all native vegetation clearing, landscaping and the extent of earthworks. The Subject Land covers the entirety of the Subject Property in this case.
Subject Property	3 Alexandra Crescent, Bayview, NSW 2104 (2/-/DP1016440)
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.

Declarations

i. Certification under clause 6.15 Biodiversity Conservation Act 2016

I, Kurtis Lindsay, certify that this report has been prepared based on the requirements of, and information provided under, the Biodiversity Assessment Method and clause 6.15 of the Biodiversity Conservation Act 2016 (BC Act). I declare there is no conflict in myself, or my company, Land Eco Consulting preparing this report for the applicant.

Signature: 

Date: 9/07/25

BAM Assessor Accreditation no: #BAAS18059

This BDAR has been prepared to meet the requirements of BAM 2020.

ii. Details and experience of author/s and contributors

Authors and Contributors

Name	BAM Assessor Accreditation no.	Position/Role	Tasks Performed	Relevant Qualifications
Kurtis Lindsay	#BAAS18059	Principal Ecologist	Report Review	*BSc (Hons)*
Semonn Oleksyn		Senior Ecologist (Project Manager)	Field Survey BAM VIS Plot Report Review	*BAdvSci* *MRes*
Serene White		Ecologist Project Officer	Report Review	*BSc* *BNatSc* *MRes*
Juliette Hennessy		Ecologist	Field Survey Report Preparation Figure Preparation	*BSc (Hons)*

Stage 1: Biodiversity Assessment

1. Introduction

1.1 Proposed Development

1.1.1 Development Overview

Land Eco Consulting (Land Eco) was engaged by Les and Tim Hill ('the proponents'), to prepare this Biodiversity Development Assessment Report (BDAR) for the proposed development dwelling at 3 Alexandra Crescent, Bayview, NSW 2104 (2/-/DP1016440) (the 'Subject Property') (**Figure 1**). This BDAR assesses the construction of a dwelling, garage, driveway, deck and the soft landscaping associated with the development (Scope Architects 2025) **(Figure 2; Figure 3).**

The requirements of the *Biodiversity Assessment Method* (BAM) *2020*, *Biodiversity Conservation Act 2016* (BC Act) and *Biodiversity Conservation Regulation 2017* are assessed in this BDAR pursuant to Part 4 of the EP&A Act.

The proposed development is subject to approval under the *Pittwater 21 Development Control Plan* (DCP) and the *Pittwater Local Environmental Plan 2014* (LEP).

Land Eco have produced this report to assess any potential impacts associated with the development application (DA) and recommend appropriate measures to mitigate any potential ecological impacts in line with the requirements of the Consent Authority, Pittwater Council.

1.1.2 Location

The Subject Property, 3 Alexandra Crescent, Bayview, NSW 2104 (Lot 2/-/DP1016440), occurs in the Northern Beaches Sydney suburb of Bayview within the Northern Beaches Council Local Government Area. This BDAR relates to the vegetation removal and impact, the development footprint and landscaping works hereafter referred to as the 'Subject Land' (**Figure 1**).

1.1.3 Proposed Development and Definition of the Subject Land

The proposed development application is for the construction of a new two-storey dwelling, garage, driveway, deck and the soft landscaping associated with the development (Scope Architects 2025) (Conzept 2025). No demolition works are proposed.

The extent of works proposed for this development, which this BDAR assesses, also includes the removal of three (3) exotic species, thirteen (13) native palm trees and tree ferns (i.e. *Livistona australis, Cyathea cooperi* and *Archontophoenix cunninghamiana*) (Complete Arborcare 2025) and the realignment of the watercourse within the Subject Property (**Figure 3**).

The Subject Land encompasses the entire area of the proposed development footprint, including associated landscaping works, as well as areas where native and exotic groundcover, shrubs, and trees are proposed to be removed. Where visible, the canopy of trees proposed for removal was used to define the boundaries of the Subject Land. In cases where the tree canopy was not clearly visible in aerial imagery, the extent of the tree proposed for removal, as identified in the Arborist Report (Complete Arborcare 2025), was used to determine the extent of the Subject Land (**Figure 1**).

1.1.4 Biodiversity Impact Summary

The native canopy within and overhanging the Subject Property is dominated by *Corymbia maculata*. Several tree ferns and tree palms (i.e. *Livistona australis*, *Cyathea cooperi* and *Archontophoenix cunninghamiana*) occur along the existing drainage channel within the Subject Land (Complete Arbor 2025) (**Figure 1**). The understorey vegetation on the Subject Land consists of a mixture of native and exotic species. Native understorey components have been significantly degraded due to historical land clearing and an extensive weed invasion.

The proposed development will require the removal of 0.08 ha of vegetation which has been assigned to Plant Community Type (PCT) *3234: Hunter Coast Lowland Spotted Gum Moist Forest* which forms part of '*Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion,*' an Endangered Ecological Community (EEC) listed under Part 3 of Schedule 1 of the NSW Biodiversity Conservation Act 2016 (BC Act) (hereafter referred to as 'PWSGF EEC'). An additional 77 m² of exclusively exotic canopy is also proposed for removal.

1.1.5 Other documentation relevant to the development

Other documentation relevant to biodiversity to be submitted with the proposed development include:

- Arboricultural Impact Assessment (Complete Arborcare 2025)
- Design Plans (Scope Architects 2025)
- Landscaping Plans (Conzept 2025)
- Stormwater Management Plan (Taylor Consulting 2024)

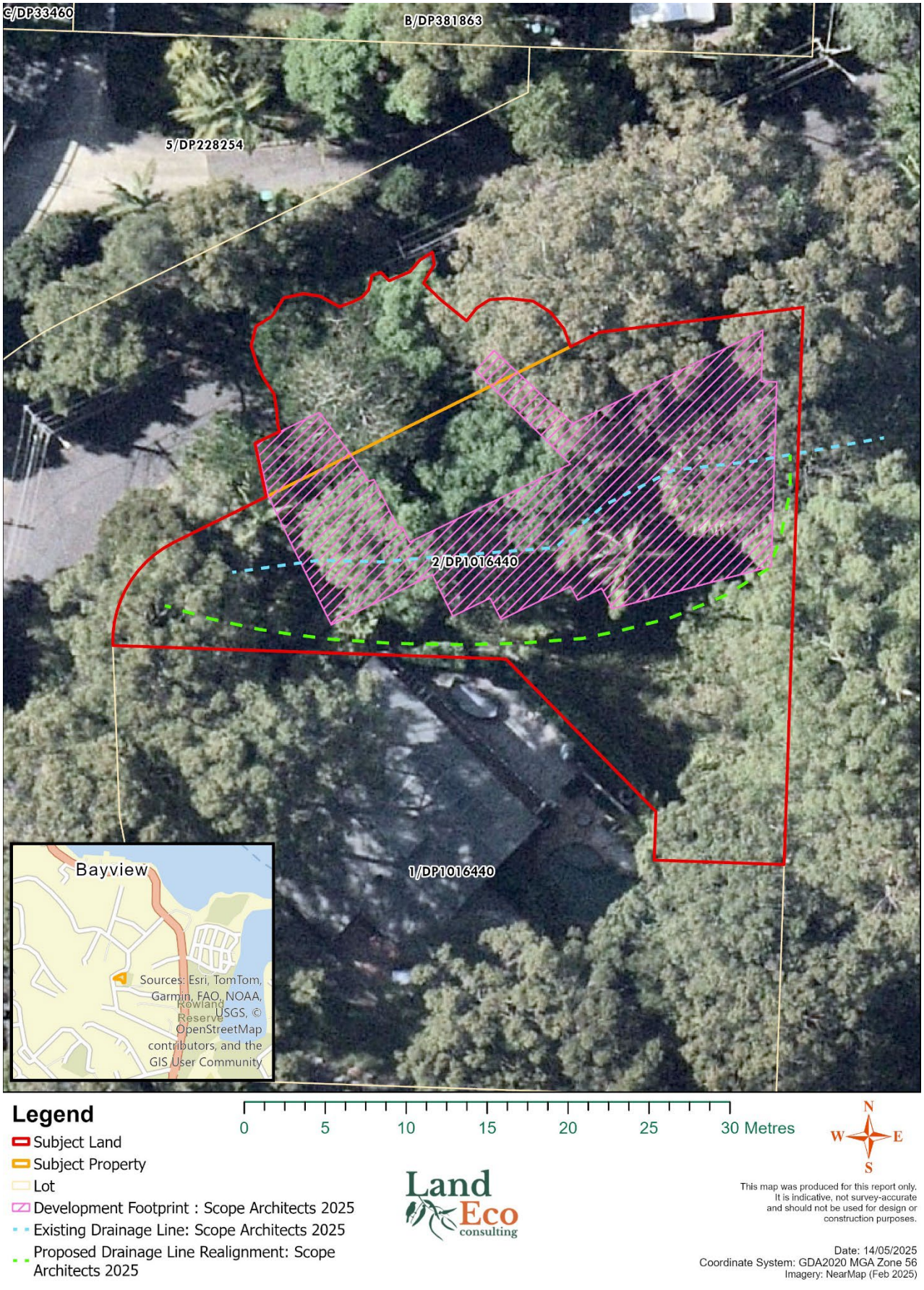

Figure 1. Aerial Imagery of the Subject Land and Subject Property

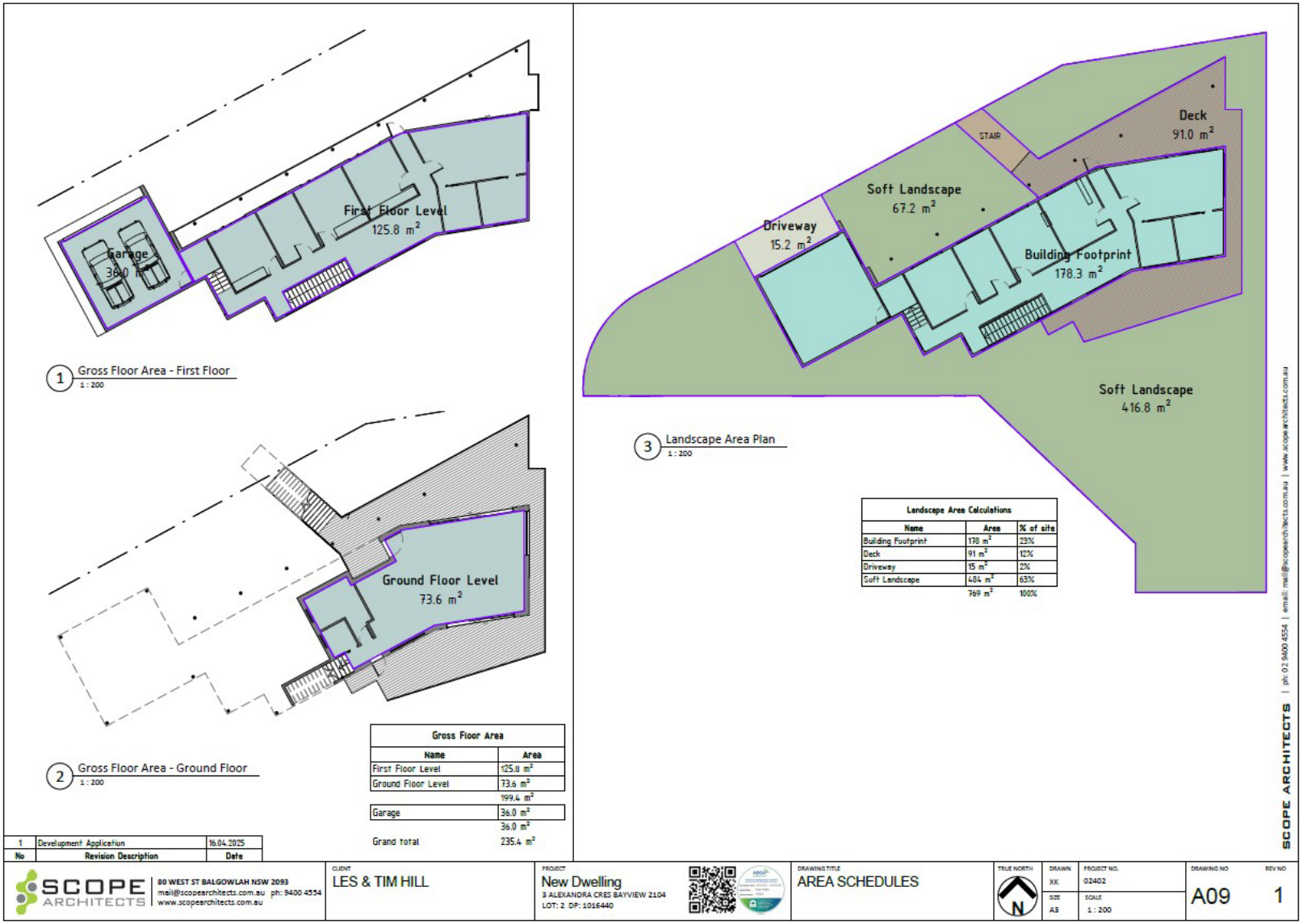

Figure 2. Area Schedules (Scope Architects 2025)

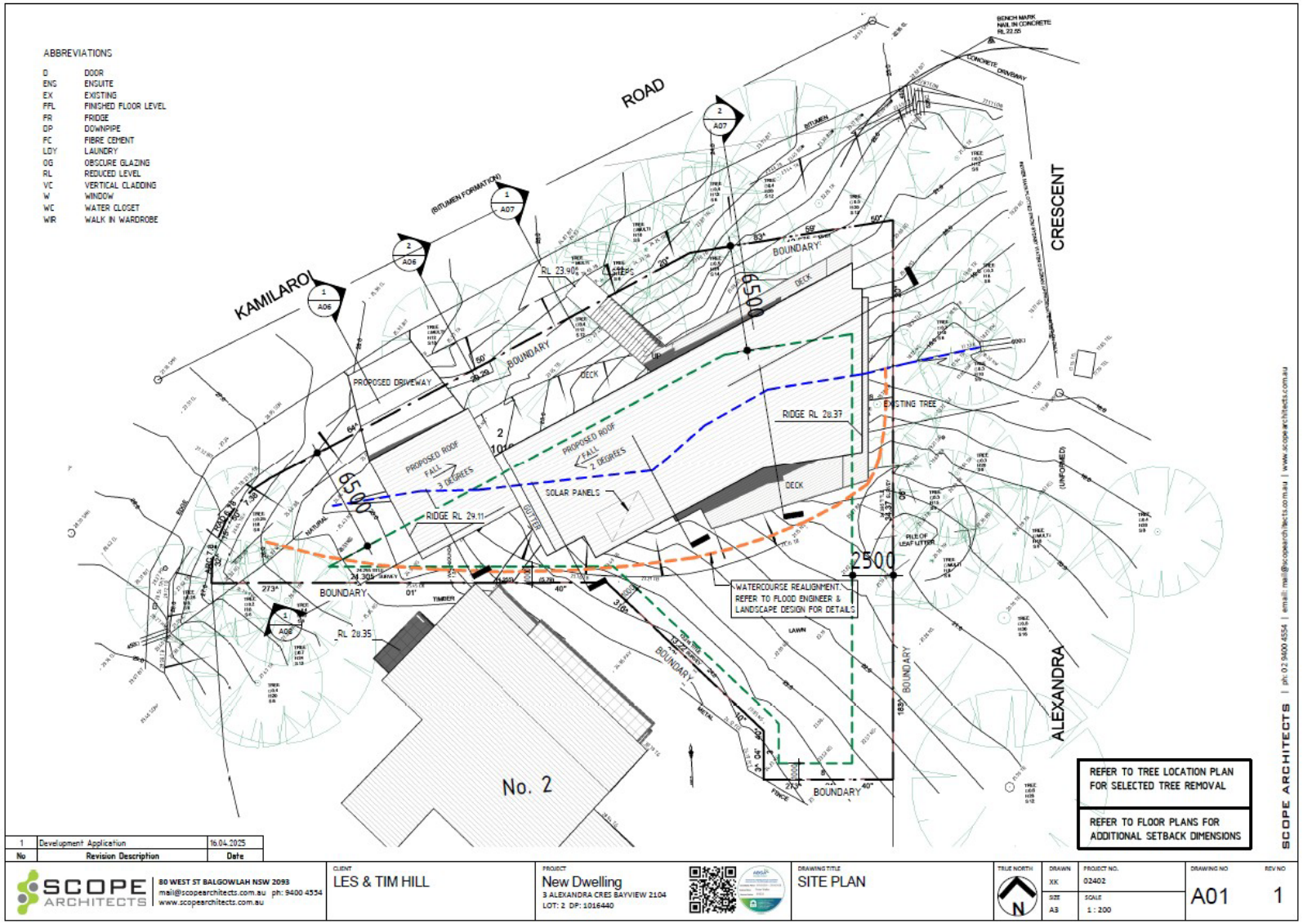

Figure 3. Site Plan (Scope Architects 2025)

1.2 Biodiversity Offset Scheme Entry

The proposed development is a local development application and is subject to approval under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The proponent has commissioned this BDAR to accompany the proposal and address the requirements of the NSW Biodiversity Offset Scheme (BOS) and requires submission of a streamlined 'Small Areas' BDAR as stipulated under the *Biodiversity Conservation Act 2016* (BC Act) and in accordance with the Biodiversity Assessment Method (BAM), owing to the removal of less than 1ha of native vegetation. The BDAR is required to be undertaken by an accredited assessor to assess the impacts of the proposal.

1.2.1 Area Clearing Threshold

The BC Act and its regulations stipulate the 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). The term '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 BOS will require a BDAR (this report) that addresses the Biodiversity Assessment Method and the retiring of Biodiversity Offset Credits.

The minimum lot size assigned to the Subject Property by Pittwater Local Environmental Plan (2014) is 700m^2 (0.07 ha). This means the 'native vegetation clearing threshold' trigger for the BOS is 0.25 ha (**Table 3**). The area of vegetation to be removed to facilitate this development is restricted to approximately 0.08 ha of weed-infested native and exotic vegetation. As such, this is not a trigger for the BOS.

Table 3. Biodiversity Offset Scheme Entry Thresholds

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

1.2.2 Biodiversity Value Mapping

At the time of preparing this report, the Subject Land contained land mapped as 'Biodiversity Value' (**Figure 4**) (NSW DCCEEW 2025f). This 'Biodiversity Value' was associated with the *Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion Endangered Ecological Community* (PWSGF EEC). The 'BV' mapped land occurs on a large portion of the Subject Property. Native vegetation mapped within the 'BV' mapped land is proposed for removal and as such the proposed development will trigger the Biodiversity Offset Scheme.

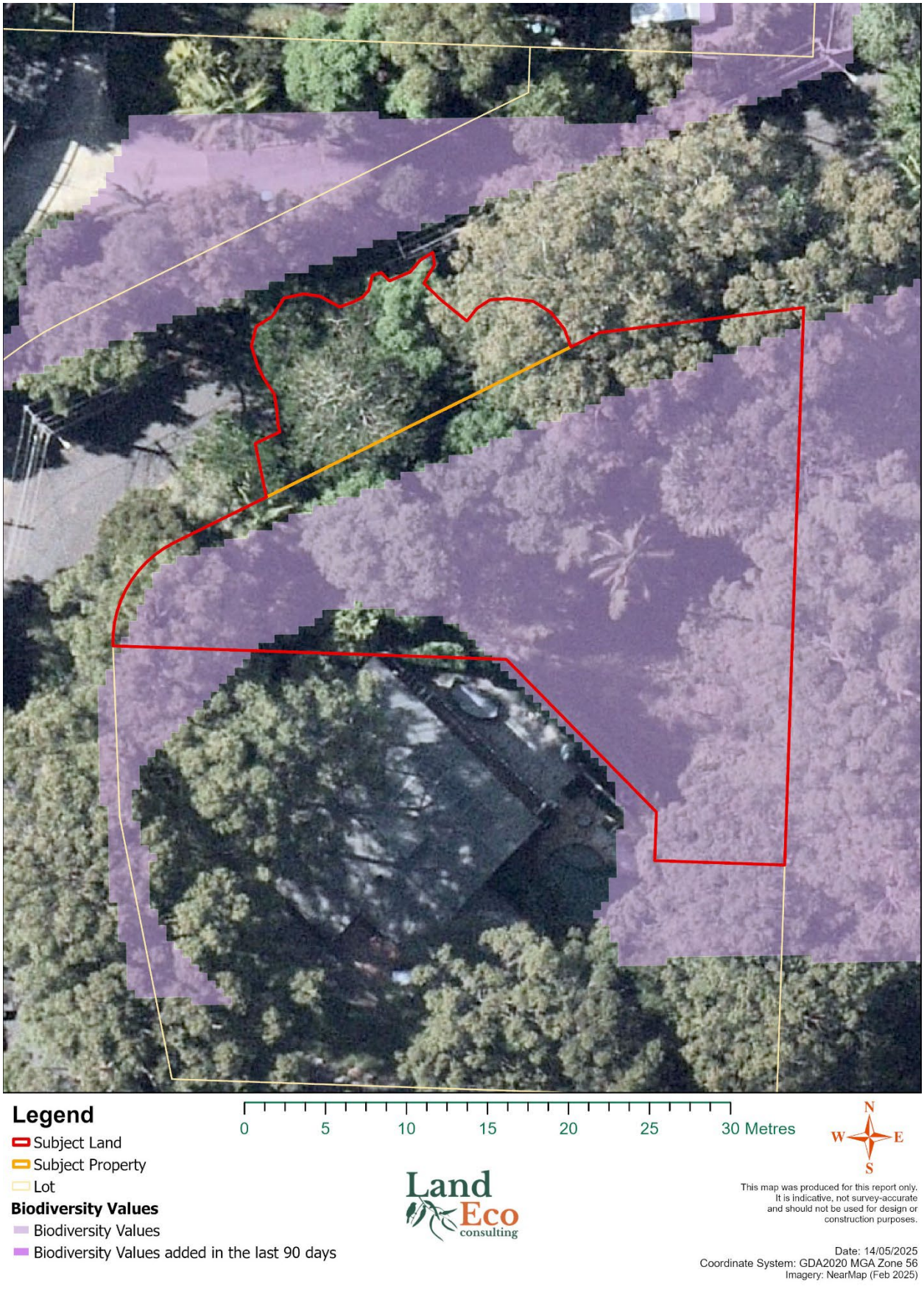

Figure 4. Biodiversity Values Mapping (NSW DCCEEW 2025f) in relation to the Subject Land

1.3 Excluded Impacts

1.3.1 Native Vegetation Regulatory Map

The entirety of the Subject Property is mapped as 'Land excluded from the LLS Act' by the Transitional Native Vegetation Regulatory Map (NSW DCCEEW 2025e). Therefore, *Chapter 2 Vegetation in non-rural areas of the State Environmental Planning Policy (Biodiversity and Conservation) 2021* applies to this development.

1.4 Matters of National Environmental Significance

No Matters of National Environmental Significance were recorded present on the Subject Land or have the potential to be significantly impacted by the proposed development.

Commonwealth listed threatened species that are MNES have potential to occur in the Subject Land on occasion. This includes, the Vulnerable Grey-headed Flying-fox (*Pteropus poliocephalus*), nomadic nectivorous birds such as the Critically Endangered Swift Parrot *(Lathamus discolor*) and microbats that may intermittently forage within the Subject Land, though are unlikely to rely heavily upon the vegetation within the Subject Land owing to its small overall area and occurrence in a disturbed urban matrix. As a large portion of native canopy will be retained within the Subject Land, habitat connectivity and intermittent habitat use are expected to remain largely consistent with current levels following development.

No EPBC listed threatened ecological community occurs within the Subject Property.

No referral to the Commonwealth is required for the proposed development.

1.5 Information Sources

A detailed list of all sources utilised in the preparation of this BDAR is presented in the 'References' (**Section 13**) of this report.

Figure 5. The location of the BAM VIS Plot within the Subject Property

2. Method

2.1 Site Context Methods

2.1.1 Landscape Features

The area lies within the 'Erina' soil landscape, typically characterised by fine-grained sandstones and claystones of the Narrabeen Group.

This section details the landscape features and associated habitat values in and around the Subject Land. A table is provided which details the Landscape Features as required by the BAM (**Table 5**).

2.2 Native vegetation, threatened ecological communities and vegetation integrity methods

2.2.1 Existing Information

Broad mapping of vegetation communities (**Figure 11**) have been undertaken as follows:

- The Native Vegetation of the Sydney Metropolitan Area (OEH 2016c)
- NSW State Vegetation Type Map (NSW DCCEEW 2025b)

These resources mapped the remnant vegetation within the Subject Property as:

- The Native Vegetation of the Sydney Metropolitan Area (OEH 2016c) mapped the Subject Property as: PCT 1214: Pittwater Spotted Gum which has since been decommissioned and is now known as PCT 3234: Hunter Coast Lowland Spotted Gum Moist Forest.

This PCT is associated with TEC Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion Endangered Ecological Community (PWSGF EEC) (BC Act)

- NSW State Vegetation Type Map (NSW DCCEEW 2025b) mapped a portion of the Subject Property as: PCT 3581: Hunter Coast Foothills Apple Forest.

This PCT is associated with TEC Kincumber Scribbly Gum Forest in the Sydney Basin Bioregion Critically Endangered Ecological Community (BC Act).

2.2.2 Mapping Native Vegetation Extent

Land Eco mapped the native vegetation extent within the Subject Land by:

- Viewing recent aerial imagery (Nearmap 2025) for differences in texture that would suggest different vegetation zones; followed by;
- conducting a ground-based meandering transect, identifying native vegetation and marking the extent using a Garmin 65S hand-held GPS.

Plant Community Type (PCT) selection was undertaken using information from the BioNet Plant Community Type data (NSW DCCEEW 2025a).

2.2.3 Plot-based Vegetation Survey

One representative Vegetation Integrity Survey (VIS) irregular plot was sampled within the Subject Land. It was allocated to adequately sample the vegetation within the Subject Land using GIS. This style of VIS plot was chosen to best sample the irregular-shaped, and small area of vegetation clearing proposed under the development.

2.2.4 Vegetation Integrity Survey

One irregularly shaped VIS plot was conducted across the Subject Land (**Figure 5**). It was located to provide a representative assessment of vegetation integrity. The survey plot was established as follows:

- The Floristic Plot was an irregular-shaped plot that met the 400 m^2 plot requirement, to assess all the composition and structure attributes
- The Structural Plot was an irregular-shaped plot assessing the function attributes (number of large trees, stem size classes, tree regeneration and length of logs). The entirety of the Subject Property did not meet the 1000m^2 size requirement. The public bushland adjacent to the Subject Property which occurred in a '*similar broad condition*' was therefore used to complete the 1000m^2 VI Plot requirement. This method was employed based on the following advice from the Biodiversity, Conservation and Science Group (BCS) of the Department of Climate Change, Energy, the Environment and Water (DCCEEW) in relation to another BDAR in the Sydney Basin IBRA region, provided on 5 September 2024:

  "*In order to achieve the required sampling effort, either:*

  - *the plot should be made to 1000 m2 in area by extending it beyond the Subject Land boundary to include adjacent area in similar broad condition, or;*
  - *where there is insufficient adjoining area in similar broad condition, measurements should be collected from largest possible area of similar broad condition and then scaled proportionally to a notional 1000 m2 area.*"

- Five 1 m^2 subplots were used to assess average litter cover (and other optional ground cover components) within the Structural Plot

The presence of hollow-bearing trees, the composition, the vegetation structure, and vegetation function were all assessed according to the protocol outlined in Section 4.3.4 of the BAM (NSW DPIE 2020a).

The BAM plot data is presented in **Appendix B**.

2.3 Threatened Flora Survey Methods

2.3.1 Review of Existing Information

Land Eco reviewed any existing information on native vegetation relevant to the Subject Land and land within the 1500 m buffer area. This includes:

- individual species records that are held in the NSW Wildlife Atlas BioNet (NSW DCCEEW 2025d);
- existing maps of native vegetation in the area such as those held by the Department, or a local government authority;
- information from publicly accessible ecological reports, soil surveys or previous native vegetation surveys that is relevant to the subject land (where available).

2.3.2 Habitat Constraints Assessment

Land Eco identified potential microhabitats for threatened flora species as well as habitat constraints present on the Subject Land. Relevant habitat features were GPS recorded for mapping and were photographed.

2.3.3 Field Surveys

A suite of Flora Species Credit species was identified within the BAMC (OEH 2025a) and NSW Wildlife Atlas (NSW DCCEEW 2025d) as having the potential to occur within the Subject Land.

Targeted surveys for these flora were conducted in tandem during the BAM VIS survey for species are listed in **Table 19**. These surveys enabled the Ecologists to undertake survey transects that covered all of the vegetation within the Subject Land.

2.4 Threatened Fauna Survey Methods

2.4.1 Review of Existing Information

Land Eco reviewed any existing information on threatened fauna relevant to the subject land and land within the 1500 m buffer area. This includes:

- survey data or individual species records that are held in NSW Wildlife Atlas BioNet (NSW DCCEEW 2025d);
- information in ecological reports, soil surveys or previous fauna surveys that is relevant to the Subject Land (where available).

2.4.2 Habitat Constraints Assessment

The Land Eco Consulting Ecologists identified potential microhabitats for threatened fauna species as well as habitat constraints present on the Subject Land, including both Species Credit and Ecosystem Credit threatened fauna species. Relevant habitat features were GPS recorded for mapping and were photographed.

2.4.3 Fauna Surveys

A suite of Fauna Species Credit species was identified within the BAMC (OEH 2025a) and NSW Wildlife Atlas (NSW DCCEEW 2025d) as having the potential to occur within the Subject Land.

Based on the definition of a 'hollow bearing tree' in the BAM (DPIE 2020a), only one hollow bearing tree was identified on site. This exotic hollow bearing tree is proposed for removal. The medium to large-sized hollow is situated 2–3 meters above ground on a horizontal branch, with its entrance oriented upwards, rendering it unsuitable for use by owls. Although the hollow may offer temporary shelter to microbats and other urban wildlife, it does not provide suitable breeding habitat for any species considered at risk of a Serious and Irreversible Impact (SAII), including SAII-listed microbats and owls. No stick nests were observed within the Subject Property.

Two additional hollows, located in exotic trees, were also recorded within the Subject Land. Neither of these hollows however, meet the definition of a 'hollow bearing tree' under the BAM (DPIE 2020a), as one hollow had an entrance width of less than 5 cm and the other was located less than 1 m from the ground. Several palm fronds were also observed within the Subject Land (**Appendix C**).

The habitat features in the Subject Land are not considered suitable for breeding habitat for any SAII-listed species, including SAII microbats.

There may be suitable caves, cliffs or escarpments that could serve as breeding habitat for the Large Eared Pied Bat (*Chalinolobus dwyeri*) and the Eastern Cave Bat (*Vespadelus troughtoni*) within 100m of the Subject Land. Access to the surrounding properties could not be undertaken to rule-out the presence of such habitat. No surveys were carried out to confirm or rule-out these species during the appropriate survey period. The appropriate survey period for these SAII-listed microbats is in December and January (OEH 2025a; Commonwealth of Australia 2010b). Therefore, these two species were assumed present (as species credits for breeding) for this assessment.

No other habitat suitable for fauna species at risk of a SAII were considered to be present within the Subject Land or to be impacted by the proposed development. As such, no targeted fauna surveys were undertaken (**Table 20**).

Fauna recorded by Land Eco during our survey effort are listed (**Appendix A**)

2.5 Weather Conditions

BAM VIS surveys were conducted on the 28th of March 2025 during dry weather following a period of relatively low rainfall in early Autumn of 2025. These conditions were suitable growing conditions to detect seasonal flora species (**Table 4**).

Table 4. Environmental conditions during threatened species surveys recorded at the Terrey Hills Weather Station (BOM 2025). Monthly averages and totals are shown in bold.

Survey undertaken (e.g. method / targeted species)	Date	Time	Temperature (°C) (min. & max.)	Wind (light, mod…)	Rainfall (mm)
Lead up to survey (monthly average)	**March 2025**	**N/A**	**18.4- 25.7**	**N/A**	**123.8 (total)**
BAM VIS Plot Survey Opportunistic Flora Survey Opportunistic Fauna Survey	28/03/2025	11:15- 13:00	18.3- 23.9	Low	0.6

3. Site Context

3.1 Assessment Area

The Assessment Area includes a 1500m buffer zone surrounding the Subject Property.

3.2 Landscape Features

Landscape features identified within the Subject Land and assessment are present (**Figure 6-11**). A discussion of relevant landscape features is provided below.

3.2.1 IBRA Bioregions and Subregions

In accordance with BAM Subsection 3.1.3(2) the Subject Land has been mapped to IBRA Bioregion and Subregion. The Subject Land occurs within the 'Sydney Basin' Interim Biogeographic Regionalisation for Australia ver. 7 (IBRA) bioregion, and 'Pittwater' IBRA subregion (DEE 2016; **Figure 7**).

3.2.2 Rivers, Streams, Estuaries and Wetlands

This subsection details wetlands, rivers and streams classified according to stream order (as described in BAM Subsection 3.1.3(3.) and Appendix E).

There are no mapped watercourses within the Subject Property. The nearest mapped watercourse lies approximately 240m away from the Subject Land (**Figure 8**), however, an unmapped drainage line transverses the Subject Land (Scope Architects 2025; Taylor Consulting 2024). The proposed development therefore proposes a realignment of this existing drainage line. Its proposed realignment is illustrated in **Figure 3** (Scope Architects 2025). The '*upstream water will be directed around the site without contamination*' (Taylor Consulting 2024).

3.2.3 Habitat Connectivity

In accordance with connectivity of different areas of habitat (as described in BAM Subsection 3.1.3(5–6)), the assessor must identify the connectivity of different areas of habitat that may facilitate the movement of threatened species across their range and identify these on the Location Map (**Figure 9**).

Significant biodiversity links are those that connect different areas of habitat, facilitating movement of threatened species across their distribution. The presence of significant biodiversity links on a site contributes to the biodiversity value of that Subject Land at the landscape scale. Connectivity can be identified at different scales depending on the target species and can include recognised biodiversity corridors in a plan approved by DCCEEW (e.g. priority investment areas), a local corridor identified by a local council, flyways for migratory species or a riparian buffer of a stream, wetland or estuary.

Land Eco has identified routes of habitat connectivity between the Subject Land and adjoining landscape and has classified them into two categories:

- Habitat Link – a local-scale habitat connection consisting of a narrow or disturbed vegetation corridor (i.e. canopy connectivity); and
- Significant Habitat Corridor – a locally significant habitat connection consisting of remnant vegetation, reserves, densely vegetation riparian corridors or wetlands.

Despite occurring in a suburban landscape, the prioritisation of the retention of large canopy trees across the Northern Beaches Council Local Government Area ensures that habitat corridors are maintained at a landscape scale. The Subject Property forms part of a network of terrestrial habitat connections associated with the Subject Property's native remnant canopy of *Corymbia maculata* (**Figure 9**). This habitat forms a fly-way corridor for locally common threatened species such as the Grey-headed Flying-fox (*Pteropus poliocephalus*), threatened nomadic nectivorous birds such as the Swift Parrot (*Lathamus discolor*) and Little Lorikeet (*Glossopsitta pusilla*), threatened microbats and threatened predatory birds. The Subject Property has been mapped as containing 'Biodiversity' in the Pittwater LEP (2014) (Northern Beaches Mapping 2025).

Impacts of development on the connectivity of different forms of habitat have been considered by the assessor (see **section 8**).

As a large portion of native remnant canopy (all *Corymbia maculata*) will be retained within the Subject Land, connectivity corridor values present at the time of survey will continue to exist in a similar condition across the Subject Property post development.

3.2.4 Karst, Caves, Crevices, Cliffs, Rocks or Other Geological Features of Significance

In accordance with BAM Subsections 3.1.3(7.) and 3.1.3(12.) the assessor must detail karst, caves, crevices, cliffs, rocks and other geological features of significance and for vegetation clearing proposals, soil hazard features (**Table 5**).

An unmapped drainage channel runs through the centre of the Subject Land (**Figure 1**). On either side of this channel the terrain gradually steepens. This moist depression supports mesic vegetation, primarily dominated by *Livistona australis*. Around the channel, the remnant canopy is largely composed of *Corymbia maculata*, indicative of a shale-rich soil profile. No sandstone outcrops were observed within the Subject Land.

The Subject Property is mapped on one soil landscape of 'Erina' (9130er)' soil landscape (NSW DCCEEW 2025c). This soil landscape is described as undulating to rolling rises and low hills on fine-grained sandstones and claystones of the Narrabeen Group. Local relief to 60 m, slopes <20%. Rounded narrow crests with moderately inclined slopes. Extensively cleared tall open-forest (wet sclerophyll forest) with open-heathland in exposed areas. Soils are moderately deep to deep (100–>200cm): Yellow Podzolic Soils (Dy3.21) on sandstone crests and slopes; moderately deep (100–150 cm) Red Podzolic Soils (Dr2.21) on shale crests and steeper slopes; deep (>200 cm) Yellow Podzolic Soils (Dy3.21) on shale lower slopes; some deep (>200 cm) Yellow Earths (Gn2.21) on colluvial footslopes. (NSW DCCEEW 2025c).

Table 5. Summary of Landscape features identified within the Subject Land and surrounding 1500m buffer.

Landscape Feature	Identification of Landscape Feature on Site
Rivers and Streams (classified according to stream order)	There are no mapped watercourses within the Subject Property. The nearest mapped watercourse lies approximately 240m away from the Subject Land (**Figure 8**), however, an unmapped drainage line transverses the Subject Land (Scope Architects 2025; Taylor Consulting 2024). The proposed development therefore proposes a realignment of this drainage line. Its proposed realignment is illustrated in **Figure 3** (Scope Architects 2025). The '*upstream water will be directed around the site without contamination*' (Taylor Consulting 2024).
Wetlands (within, adjacent to and downstream of site)	The Subject Land does not contain any areas identified on the Coastal Wetlands and Littoral Rainforest Area Map (NSW DCCEEW 2025g) as per the *State Environmental Planning Policy (Resilience and Hazards) 2021*. While 'Coastal Wetlands' and 'Littoral Rainforest' occurs within a 1500m buffer of the Subject Land, the Subject Land is not within the 'Proximity Areas' of these ecosystems (NSW DCCEEW 2025g). Mapped 'Coastal Use Area' and 'Coastal Environment Area' occur approximately 250m to the east of the Subject Property (NSW DCCEEW 2025g). Given the nature and the extent of works of the proposed development, the development is unlikely to impact these areas.
Connectivity features Corymbia maculata	Despite occurring in a suburban landscape, the prioritisation of the retention of large canopy trees across the Northern Beaches Council Local Government Area ensures that habitat corridors are maintained at a landscape scale. The Subject Property forms part of a network of terrestrial habitat connections associated with the Subject Property's native remnant canopy of *Corymbia maculata* (**Figure 9**). This habitat forms a fly-way corridor for locally common threatened species such as the Grey-headed Flying-fox (*Pteropus poliocephalus*), threatened nomadic nectivorous birds such as the Swift Parrot (*Lathamus discolor*) and Little Lorikeet (*Glossopsitta pusilla*), threatened microbats and threatened predatory birds. The Subject Property has been mapped as containing 'Biodiversity' in the Pittwater LEP (2014) (Northern Beaches Mapping 2025). Impacts of development on the connectivity of different forms of habitat have been considered by the assessor (see **section 8**).

Landscape Feature	Identification of Landscape Feature on Site
	As a large portion of native remnant canopy (all *Corymbia maculata*) will be retained within the Subject Land, connectivity corridor values present at the time of survey will continue to exist in a similar condition across the Subject Property post development.
Areas of geological significance and soil hazard features	An unmapped drainage channel runs through the centre of the Subject Land (**Figure 1**). On either side of this channel the terrain gradually steepens. The remnant canopy within the Subject Land is largely composed of *Corymbia maculata*, indicative of a shale-rich soil profile. No sandstone outcrops were observed within the Subject Land.

3.2.5 Areas of Outstanding Biodiversity Value

No areas of Outstanding Biodiversity Value occur within the Subject Land or Assessment Area.

3.2.6 Mitchell Landscapes

NSW Landscapes Mapping: Background and Methodology (Mitchell 2002; OEH 2016a) groups ecosystems into meso-ecosystems representing larger natural entities based on topography and geology. The naming of ecosystems and meso-ecosystems was standardised so that each name provided location information and a meaningful descriptive landscape term. The Subject Land occurs over the 'Sydney- Newcastle Barriers and Beaches' Mitchell Landscape (**Figure 10**).

3.2.6.1 Landscape Ecosystem – Sydney - Newcastle Barriers and Beaches

Quaternary coastal sediments on long recurved quartz sand beaches between rocky headlands backed by sand dunes and intermittently closed and open lagoons. Includes areas of more extensive high dunes often located on top of the headlands. General elevation 0 to 30m, local relief 10m. Cliff top dunes may be found as high as 90m above sea level. Distinct zonation of vegetation and increasing soil development from the beach to the inland dunes. At the beach; spinifex (*Spinifex hirsutus*), spiky mat-rush (*Lomandra longifolia*), coast wattle (*Acacia longifolia* ssp. *sophorae*) and coast tea-tree (*Leptospermum laevigatum*) colonise the frontal dune in which there is little soil development. Coast banksia (*Banksia integrifolia*) and old man banksia (*Banksia serrata*) are found on the second dunes and these merge with more complex forest containing blackbutt *(Eucalyptus pilularis*), red bloodwood (*Corymbia gummifera*), grass trees (*Xanthorrhoea* sp.) and numerous understorey shrubs on deep sands that have an organic rich A horizon, a bleached A2 horizon and the initial development of weak iron or organic pans in the sandy subsoil. Well-developed, deep podsol profiles are present in cliff top dunes with swampy swales indicating that these forms are probably older than the coastal dunes. Vegetation of *Banksia aemula* heathland and open scrub of coast banksia (*Banksia integrifolia*), coast rosemary (*Westringea fruticosa*), coast tea-tree and grass tree, with dwarfed smooth-barked apple (*Angophora costata*) and red bloodwood. Freshwater sedge swamps in larger areas of sand. In the lagoons salinity varies depending on tidal flushing and they are often surrounded by broad-leaved tea-tree (*Melaleuca quinquenervia*) and swamp oak (*Casuarina glauca*). Water margins are occupied by *Juncus* sp. and common reed (*Phragmites australis*) in fresh water areas. Grey mangrove (*Avicennia marina*) may occur in some tidal inlets (Mitchell 2002; OEH 2016a).

3.2.7 Additional Landscape Features Identified

No additional landscape features are identified in the Subject Land for the proposed development.

3.2.8 Soil Hazard Features

The proposed development does not require approval from the Native Vegetation Panel under Part 5A of the LLS Act or the Vegetation SEPP as is mapped 'Category 1 – Exempt Land', therefore the soil hazard features are not relevant to this development.

3.3 Native Vegetation Cover

A 1500m 'assessment circle' surrounding the outside boundary of the Subject Land was prepared in order to determine the extent of native vegetation within the surrounding locality of the Subject Land. Native vegetation was determined from public aerial imagery, historical vegetation mapping (OEH 2016c) and local knowledge of the locality. The results are presented in **Table 6**.

Table 6. Native vegetation cover in the Assessment Area

Assessment area (ha)	725.72
Total area of native vegetation cover (ha)	185.25 (rounded to 185 in the BAMC)
Percentage of native vegetation cover	25.52% (rounded to 26% in the BAMC)
Class (0-10, >10-30, >30-70 or >70%)	>10-30%

Figure 6. Native vegetation patches within the area surrounding the Subject Land (1500m buffer)

Figure 7. The assessment buffer surrounding the Subject Land lies entirely within the Pittwater IBRA 7 Subregion of the Sydney Basin IBRA7 Bioregion (1500m buffer)

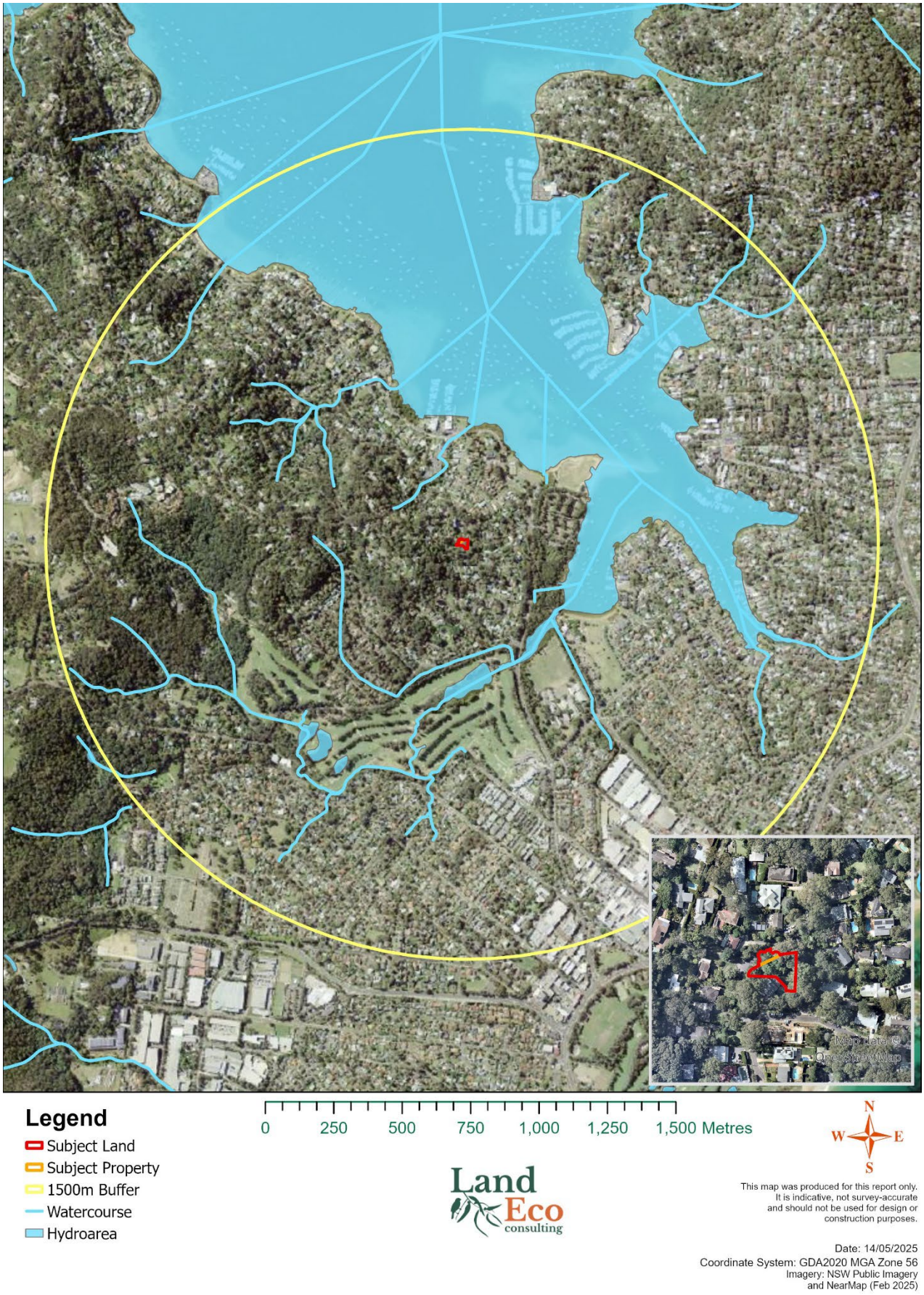

Figure 8. Watercourses (streams and waterbodies) within the vicinity of the Subject Land (1500m buffer)

Figure 9. Terrestrial habitat connectivity links within the Subject Land and surrounding area (1500m buffer)

Figure 10. The Mitchell Landscapes that comprise the Subject Land and the surrounding assessment area (1500m buffer)

4. Native Vegetation, Threatened Ecological Communities and Vegetation Integrity

4.1 Native Vegetation Extent

Land Eco mapped the native vegetation extent within the Subject Land (as described in BAM Section 4.1(1–3.) and BAM Subsection 4.1.1). Impacts to vegetation required to facilitate the proposed development are presented in **Table 7**.

Table 7. Impacts to vegetation to facilitate development

Vegetation type	Area to be removed (ha) for Development
Native vegetation (PCT 3234)	0.08
Total Vegetation	0.09
Total Assessable Under BAM	0.08

4.1.1 Changes to the Mapped Native Vegetation Extent

The actual native vegetation extent matches that shown on the aerial imagery used in the figures of this report. In cases where the tree canopy was not clearly visible in aerial imagery, the extent of the tree proposed for removal as identified in the Arborist Report (Complete Arborcare 2025) was used to determine the extent of the Subject Land.

4.1.2 Non-native Vegetation

All parts of the Subject Land that supported vegetation have been mapped (**Figure 12**). PCT 3234 that has been mapped in the Subject Land is weed-infested. Overhanging vegetation from the neighbouring properties have also been included.

As 77 m² of vegetation within the Subject Land consists solely of exotic canopy species, this portion of vegetation is not assessable under the BAM (**Figure 12**).

4.1.3 Overview

Vegetation within the Subject Land has been assessed as aligning with the BioNet Vegetation Classification PCTs identified within **Table 8** and their extent is shown in **Figure 12**. Detailed descriptions of each PCT are provided in the following subsections.

Table 8. PCTs identified within the Subject Land

PCT ID	PCT name	Vegetation Zone	Subject Land Area (ha)
3234	Hunter Coast Lowland Spotted Gum Moist Forest	Weed Infested	0.08

Land Eco confirmed that 'PCT 3234' occurs across the vegetation areas of the Subject Land. Only one vegetation condition class/ zone exists in the Subject Land, '*Weed Infested*'.

4.1.4 PCT 3234: Hunter Coast Lowland Spotted Gum Moist Forest

Within the Subject Land, the canopy is dominated by *Corymbia maculata* over a moist channel dominated by *Livistona australis*. The mid to ground stratum is heavily disturbed by weed infestation and previous historical clearing (**Table 9**).

Table 9. PCT 3234: Hunter Coast Lowland Spotted Gum Moist Forest

PCT ID	3234
PCT name	Hunter Coast Lowland Spotted Gum Moist Forest
Vegetation formation	Wet Sclerophyll Forests (Grassy sub-formation)
Vegetation class	Northern Hinterland Wet Sclerophyll Forests
Per cent cleared value (%)	27.64 %
Extent within subject land (ha)	0.08 ha of PCT 3234 will be impacted within the Subject Land.
Condition State	Weed Infested. Historical clearing and weed infestation has severely degraded this ecosystem, increasing the significance of the remnant canopy trees.
Justification of PCT Selection	Historical vegetation mapping (OEH 2016c) identifies PCT 3234 to occur on the Subject Property. The canopy within the Subject Property is dominated by *Corymbia maculata* on shale-derived soils. Although the understorey is weed infested, the vegetation within the Subject Land consists of some native elements that are representative of this PCT such as. *Livistona australis, Dianella caerulea* and *Glochidion ferdinandi*. As this PCT occurs predominantly as remnant canopy across its range, it is considered that the presence of these mature, characteristic trees in this location supports the mapping of PCT 3234 on the Subject Land.
Alignment with TECs	Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion (see **section 4.3**)
Photo	**Plate 1**

4.2 Threatened Ecological Communities (TECs)

The vegetation within the Subject Land is a TEC (**Table 10**).

Table 10. TECs within the Subject Land

TEC name	Profile ID (from TBDC)	BC Act status	Associated vegetation zones within the Subject Land	Area within Subject Land (ha)
Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion	10634	Endangered Ecological Community	PCT: 3234 Hunter Coast Lowland Spotted Gum Moist Forest	0.08

All of the PCT 3234 on the Subject Property corresponds to '*Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion*' (PWSGF) which is listed as an Endangered Ecological Community (EEC) under Schedule 1 of the BC Act in accordance with the Final Determination for this community (NSW TSSC 2013) (**Table 11**).

Table 11. Characteristics of Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion within the Subject Land (NSW TSSC 2013).

Key Diagnostic Characteristic (NSW TSSC 2013)	Vegetation within the Subject Land
Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion is known to occur on shale-derived soils from Narrabeen series geology.	Soils derived from Narrabeen Group sediments.
The ecological community has been recorded from the local government areas of Pittwater and Gosford, within the Sydney Basin Bioregion, and may occur elsewhere in the Bioregion.	Occurs in the Northern Beaches LGA in the Pittwater Council.
Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion is characterised by the following assemblage of species: *Acacia ulicifolia, Adiantum aethiopicum, Allocasuarina littoralis, Allocasuarina torulosa, Angophora costata, Billardiera scandens, Breynia oblongifolia, Caesia parviflora, Calochlaena dubia, Cissus hypoglauca, Clematis aristate, Corymbia gummifera, Corymbia maculata, Desmodium rhytidophyllum, Desmodium varians, Dianella caerulea, Digitaria parviflora, Dodonaea triquetra, Elaeocarpus reticulatus, Entolasia marginata, Entolasia stricta, Eucalyptus botryoides, Eucalyptus paniculata, Eucalyptus umbra, Eustrephus latifolius, Geitonoplesium cymosum, Glochidion ferdinandi, Glycine clandestine, Hardenbergia violacea, Hibbertia dentata, Hibbertia empetrifolia subsp. empetrifolia, Imperata cylindrica, Lepidosperma laterale, Livistona australis, Lomandra confertifolia, Lomandra filiformis, Lomandra longifolia, Lomandra multiflora subsp. multiflora, Macrozamia communis, Marsdenia rostrata, Microlaena stipoides, Morinda jasminoides, Myrsine variabilis, Notelaea longifolia, Oplismenus imbecillis, Pandorea pandorana, Panicum simile, Persoonia levis, Persoonia linearis, Phyllanthus hirtellus, Pittosporum revolutum, Pittosporum undulatum, Platylobium formosum, Poa affinis, Podolobium ilicifolium, Polyscias sambucifolia, Pomax umbellate, Pratia purpurascens, Pseuderanthemum variabile, Pteridium esculentum, Pultenaea flexilis, Schelhammera undulata, Smilax glyciphylla, Themeda australis, Xanthorrhoea macronema.*	The following characteristic species were identified within the Subject Property: - *Corymbia maculata* - *Livistona australis* - *Dianella caerulea* - *Glochidion ferdinandi*

4.3 Vegetation Zones

One vegetation zone was identified within the Subject Land (**Table 12**):

- PCT: 3234: Weed Infested

Patch size is defined by the BAM as an area of native vegetation that:

- occurs on the development site or biodiversity stewardship site, and
- includes native vegetation that has a gap of less than 100m from the next area of moderate to good condition native vegetation (or ≤30m for non-woody ecosystems).

Patch size may extend onto adjoining land that is not part of the development site (OEH 2020a). Patch size was calculated according to the above guidelines. Despite occurring in an urbanised locality, the retention of canopy trees across the Northern Beaches LGA ensures that the patch extends across the locality with no gaps between native woody vegetation greater than 100m. The 185 ha patch size of native vegetation cover within the 1500m bigger connects to substantial remnant vegetation in nearby reserves which is the vegetation cover in the 1500m buffer area. As such, Land Eco confirmed the Subject Land must be assessed under the >100 ha patch size category (**Figure 6**).

Table 12. Vegetation Zones and Patch Sizes

Vegetation zone ID	PCT ID number and name	Condition / other defining feature	Area (ha)	Patch size class (select multiple if areas of native vegetation are discontinuous)	No. vegetation integrity plots required	No. vegetation integrity plots completed	No. vegetation integrity plots used in assessment	Plot IDs of vegetation integrity plots used in assessment
Weed Infested	PCT 3234	An urban block of land with scattered remnant trees, interspersed with weeds / exotic escapees from surrounding properties.	0.08	☐ <5 ha ☐ 5–24 ha ☐ 25–100 ha ☒ >100 ha	1	1	1	Plot 1

Plate 1. Representative photograph of PCT 3234 within the Subject Land. Photo taken of BAM VIS Plot 1

4.4 Vegetation Integrity (Vegetation Condition)

4.4.1 Vegetation Integrity Survey Plots

A total of one (1) BAM Vegetation Integrity Score (VIS) Plot was sampled within the 'Weed Infested' vegetation zone which includes all native vegetation within the Subject Land (**Figure 12**). The Floristic plot was irregular in shape and measured to cover at least 400m^2. Composition, structural and function data was collected across the entire plot which extended outside the Subject Property. Plot data gathered for each attribute used to assess the function of the Subject Land vegetation is detailed in **Appendix B.** Vegetation Integrity Survey Scores, represented by existing vegetation within each vegetation zone, are detailed in **Table 13.**

Current Vegetation Integrity Score (VIS) assigned to PCT 3234 (Weed Infested) within the Subject Land is 32.4 (**Table 13**).

The future VIS post-development for the PCT 3234 (Weed Infested) (**Figure 12**) will be 4.4, as the development will result in the loss of all vegetation within the Subject Land with the exception of all mature *Corymbia maculata*. To represent the removal of all understorey species as determined by Design and Landscaping Plans (Scope Architects 2025; Conzept 2025) and the partial loss of canopy vegetation (Complete Arborcare 2025), the grass, forb, and shrub composition and structure scores were reduced to zero while only the composition and structure score of the *Corymbia maculata* was retained.

The removal of all understorey vegetation, the partial loss of canopy vegetation and the retention of all mature *Corymbia maculata* within the Subject Land has an associated loss of -28 VIS.

Figure 12 depicts the location of specific vegetation proposed for impact and the canopy of *Corymbia maculata* proposed for retention. As the exotic canopy which overhangs Kamilaroi Road is exclusively exotic and inaccessible under the BAM, this portion of vegetation will not impact VIS. In total, the VI loss for the proposed development will be -28, resulting in a future VI score of 4.4 (**Figure 12**).

In accordance with section 9.2. of the BAM (DPIE 2020a) if, during the assessment of biodiversity values for any type of development, clearing or biodiversity certification proposal, the assessor determines that:

(a) an area of land does not contain native vegetation, or

(b) a vegetation zone has a vegetation integrity score <15 where the PCT is representative of an endangered or critically endangered ecological community, or

(c) a vegetation zone has a vegetation integrity score <17 where the PCT is associated with threatened species habitat (as represented by ecosystem credits), or is representative of a vulnerable ecological community, or

(d) a vegetation zone has a vegetation integrity score <20 where the PCT is not representative of a TEC or associated with threatened species habitat then for that vegetation zone:

(e) assessment of native vegetation is not required beyond Section 5.4, and

An offset is not needed for impacts on native vegetation if the vegetation integrity score is below those listed in subsection 9.2.1(1.) of the BAM (see above); however, if the entity is at risk of an SAII the assessor will need to address the relevant criteria in Section 9.1 of the BAM and include this in the BDAR. In the case of the Subject Land, the score is over 15 and is associated with an endangered ecological community, therefore, offset credits must be retired to offset residual impacts from the development.

4.4.2 Vegetation Integrity Scores

The Condition and VIS scores for the Subject Land are presented (**Table 13**).

Table 13. Vegetation Integrity Scores

Vegetation zone ID	Composition condition score	Structure condition score	Function condition score (where relevant)	Vegetation integrity score	Hollow bearing trees present?
PCT 3234 (Weed Infested)	48.2	9.6	73.2	32.4	Yes

4.4.3 Use of Benchmark Data

This development assessment used the BAM-C Version 1.2 benchmarks (OEH 2025a).

Figure 11. Historically Mapped Vegetation within the Subject Land (OEH 2016c)

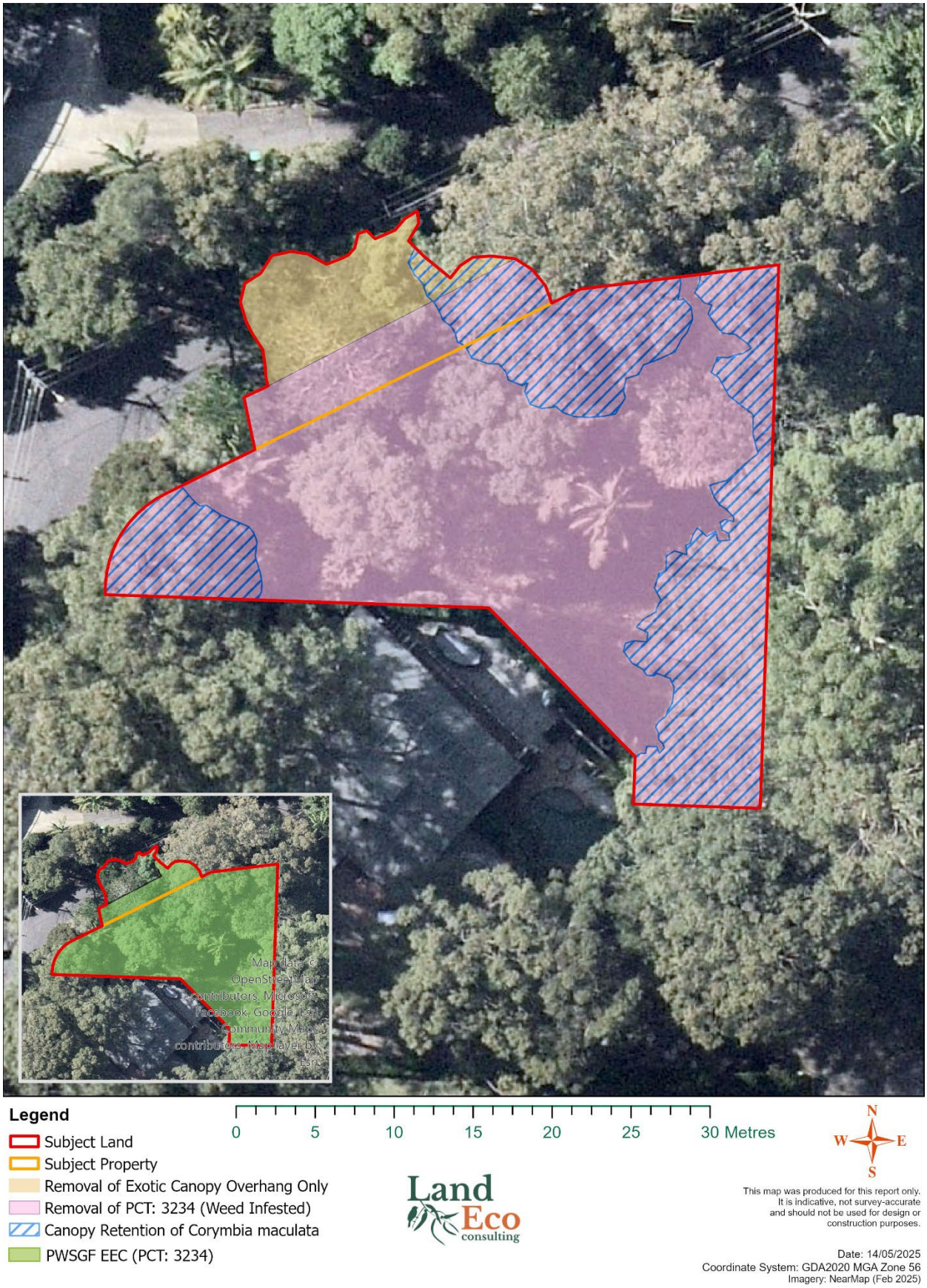

Figure 12. Field validated vegetation mapping of vegetation to be removed within the Subject Land

5. Habitat Suitability for Threatened Species

5.1 Identification Of Threatened Species for Assessment

5.1.1 Ecosystem Credit Species

This section provides a summary of the candidate Ecosystem Credit Species for the Subject Land derived from BAMC (OEH 2025a) and a 10km BioNet Atlas Search (NSW DCCEEW 2025d). Ecosystem credit species associated with the Subject Land are listed below in **Table 14**.

Table 14. Predicted ecosystem credit species

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Regent Honeyeater (Foraging)	*Anthochaera phrygia*	Critically Endangered	Critically Endangered	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Australasian Bittern	*Botaurus poiciloptilus*	Endangered	Endangered	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	No	No waterbodies, brackish or freshwater wetlands within the Subject Property.	N/A
Gang-gang Cockatoo (Foraging)	*Callocephalon fimbriatum*	Endangered	Endangered	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Glossy Black-Cockatoo (Foraging)	*Calyptorhynchus lathami*	Vulnerable	Vulnerable	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	No Allocasuarina and casuarina species present within the Subject Property.	N/A
Spotted Harrier	*Circus assimilis*	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Brown Treecreeper (eastern subspecies)	*Climacteris picumnus victoriae*	Vulnerable	Vulnerable	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Varied Sittella	*Daphoenositta chrysoptera*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Spotted-tailed Quoll	*Dasyurus maculatus*	Vulnerable	Endangered	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Beach Stone Curlew (Foraging)	*Esacus magnirostris*	Critically Endangered	-	Yes	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Eastern False Pipistrelle	*Falsistrellus tasmaniensis*	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Little Lorikeet	*Glossopsitta pusilla*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
White-bellied Sea-Eagle (Foraging)	*Haliaeetus leucogaster*	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Little Eagle (Foraging)	*Hieraaetus morphnoides*	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
White-throated Needletail	*Hirundapus caudacutus*	Vulnerable	Vulnerable	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Black Bittern	*Ixobrychus flavicolis*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	No waterbodies within Subject Land. No land within 40 m of freshwater and estuarine wetlands, in areas of permanent water and dense vegetation.	N/A
Swift Parrot (Foraging)	*Lathamus discolor*	Endangered	Critically Endangered	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Square-tailed Kite (Foraging)	*Lophoictinia isura*	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Black-chinned Honeyeater (Eastern Subspecies)	*Melithreptus gularis gularis*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Eastern Coastal Free-tailed Bat	*Micronomous norfolkensis*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Little Bent-winged Bat (Foraging)	*Miniopterus australis*	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Large Bent-winged Bat (Foraging)	*Miniopterus orianae oceanensis*	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Turquoise Parrot	*Neophema pulchella*	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Eastern Curlew (Foraging)	*Numenius madagascariensis*	-	Critically Endangered	Yes	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Eastern Osprey (Foraging)	*Pandion cristatus*	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Scarlet Robin	*Petroica boodang*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Flame Robin	*Petroica phoenicea*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
New Holland Mouse	*Pseudomys novaehollandiae*	-	Vulnerable	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Grey-headed Flying-fox (Foraging)	*Pteropus poliocephalus*	Vulnerable	Vulnerable	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Rose-crowned Fruit-Dove	*Ptilinopus regina*	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Superb Fruit-Dove	*Ptilinopus superbus*	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Australian Painted Snipe	*Rostratula australis*	Endangered	Endangered	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Yellow-bellied Sheathtail-bat	*Saccolaimus flaviventris*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Greater Broad-nosed Bat	*Scoteanax rueppellii*	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Freckled Duck	*Stictonetta naevosa*	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Rosenberg's Goanna	*Varanus rosenbergi*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Terek Sandpiper (Foraging)	*Xenus cinereus*	Vulnerable	Vulnerable	Yes	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested

5.1.2 Species Credit Species

This section provides a summary of the candidate Species Credit flora (**Table 15**) and fauna species (**Table 16**) for the Subject Land derived from BAMC (OEH 2025a) and a 10km BioNet Atlas Search (NSW DCCEEW 2025d). A summary of the targeted survey effort applied to each species is provided along with the results of the survey effort, specifically whether or not the Species Credit needs to be offset through retiring of Biodiversity Offset Credits (**Table 17; Table 18**). As this assessment is a Streamlined assessment module – Small area, 'Candidate species credit species that are not at risk of a Serious and Irreversible Impacts (SAII) and are not incidentally recorded on the subject land do not require further assessment' (DPIE 2020b). As such species not at risk of an SAII, that were not recorded on the Subject Land, were not further assessed.

Where a species is assumed to be present on the Subject Land, the species polygon must encompass the entire vegetation zone/s within which the candidate species is predicted to use/occur.

The assessor must determine an offset for the impacts of proposals on the habitat of threatened species assessed for ecosystem credits and associated with a PCT in a vegetation zone with a vegetation integrity score of ≥17. The assessor must determine an offset for the impacts of proposals on threatened species that require species credits, identified in accordance with Chapter 5 of the BAM (DPIE 2020a).

Table 15. Predicted flora species credit species

Common name	Scientific name	Listing status		Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act				
Eastern Australia Underground Orchid	*Rhizanthella slateri*	Vulnerable	Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	*Rhizanthella slateri* is restricted to New South Wales where it is currently known from 14 populations including Bulahdelah, the Watagan Mountains, the Blue Mountains, Wiseman's Ferry area, Agnes Banks and near Nowra (OEH 2025b). This species is thought to prefer sclerophyll forest with a reasonably deep layer of organic litter (OEH 2025b). Land Eco found the average litter cover within the Subject Land was 37%, with all 1mx1m litter cover plots estimating less than 55% litter cover (**Appendix B**). The Subject Land is within an urbanised and disturbed environment. The soil layer within the Subject Land is a heavily disturbed and weed infested and does not have a 'reasonably deep layer of organic litter'. There are also no records of this species within 10km of the Subject Land on BioNet (NSW DCCEEW 2025d). As such we have found it sufficient evidence to	PCT 3234 Weed infested

Common name	Scientific name	Listing status		Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act				
						suggest that this species is unlikely to occur or have suitable habitat within the Subject Land.	
Scrub Turpentine	*Rhodamnia rubescens*	Critically Endangered	Critically Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested
Native Guava	*Rhodomyrtus psidioides*	Critically Endangered	Critically Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	N/A	PCT 3234 Weed infested

Table 16. Predicted fauna species credit species

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Regent Honeyeater (Breeding)	*Anthochaera phrygia*	Critically Endangered	Critically Endangered	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Subject Land not mapped on the Important Habitat Map.	N/A
Loggerhead Turtle	*Caretta caretta*	Endangered	Endangered	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	No	No suitable habitat: No 'Dunes; Elevated sand dune above watertable and high tide'	N/A
Large-eared Pied Bat	*Chalinolobus dwyeri*	Endangered	Endangered	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	No suitable roosting or breeding habitat for this species is present within the Subject Land. This species has a reference for large sandstone caves. However suitable proximal breeding habitat including caves, scarps, cliffs, rock overhangs and disused mines may exist within a 100 m buffer distance of the Subject Property (DPIE 2021).	PCT 3234 Weed infested
Leatherback Turtle	*Dermochelys coriacea*	Endangered	Endangered	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	No	No suitable habitat: No 'Dunes; Elevated sand dune above watertable and high tide'	N/A

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Beach Stone-curlew (Breeding)	*Esacus magnirostris*	Critically Endangered	-	Yes	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	No	No suitable breeding habitat. 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 (NSW DCCEEW 2025d).	N/A
Swift Parrot (Breeding)	*Lathamus discolor*	Endangered	Critically Endangered	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Subject Land not mapped on the Important Habitat Map. Does not breed on mainland Australia.	N/A
Little Bent-winged Bat (Breeding)	*Miniopterus australis*	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	The Subject Land and surrounding area contain no complex limestone cave systems suitable for breeding by this cave-obligate bat species. The nearest known aggregation of the species is a non-breeding roost in St Michaels cave, Avalon Beach which is 5.2 km north-east of the Subject Land.	N/A
Large Bent-winged Bat (Breeding)	*Miniopterus orianae oceanensis*	Vulnerable	-	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	The Subject Land and surrounding area contain no complex limestone cave systems suitable for breeding by this cave-obligate bat species. The nearest known aggregation of the species is a non-breeding roost in St Michaels cave, Avalon Beach which is 5.2 km north-east of the Subject Land.	N/A
Giant Dragonfly	*Petalura gigantea*	Endangered	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	No	The Subject Land has no swamp habitat. Additionally, the PCT occurring within the Subject Land is not associated with this species. As such no suitable habitat is present.	N/A
Sooty Owl	*Tyto tenebricosa*	Vulnerable	-	No	☐ BAM-C ☒ TBDC ☐ Previous survey ☐ Current survey	No	No suitable habitat no: Caves Cliffs; including clifflines/ledges Escarpments; including clifflines/ledges Hollow bearing trees; a living or dead tree with a hollow >20 cm diameter that occurs >4 metres above the ground	N/A

Common name	Scientific name	Listing status		Dual credit species	Sources	Species retained for further assessment?	Reason for exclusion from further assessment	Vegetation zone ID species retained within, including PCT ID
		BC Act	EPBC Act					
Eastern Cave Bat	*Vespadelus troughtoni*	Vulnerable	-	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes	No suitable roosting or breeding habitat for this species is present within the Subject Land. This species has a reference for large sandstone caves. However suitable proximal breeding habitat including caves, scarps, cliffs, rock overhangs and disused mines may exist within a 100 m buffer distance of the Subject Property (DPIE 2021).	PCT 3234 Weed infested

5.2 Presence of Candidate Species Credit Species

The presence or absence of candidate species credit species are presented below (**Table 17;Table 18**).

Table 17. Determine the presence of candidate flora species credit species on the Subject Land

Common name	Scientific name	Listing status		Method used to determine presence	Present?	Further assessment required? (BAM Subsections 5.2.5 and 5.2.6)
		BC Act	EPBC Act			
Scrub Turpentine	*Rhodamnia rubescens*	Critically Endangered	Critically Endangered	Targeted threatened species survey	No	No
Native Guava	*Rhodomyrtus psidioides*	Critically Endangered	Critically Endangered	Targeted threatened species survey	No	No

Table 18. Determine the presence of candidate fauna species credit species on the Subject Land

Common name	Scientific name	Listing status		Method used to determine presence	Present?	Further assessment required? (BAM Subsections 5.2.5 and 5.2.6)
		BC Act	EPBC Act			
Large-eared Pied Bat	*Chalinolobus dwyeri*	Endangered	Endangered	Assumed present	Yes (assumed)	Yes
Eastern Cave Bat	*Vespadelus troughtoni*	Vulnerable	-	Assumed present	Yes (assumed)	Yes

5.3 Candidate Species Credit Species

Targeted surveys were conducted in tandem during the BAM VIS survey which covered all of the vegetation within the Subject Land (**Table 19; Table 20**).

Table 19. Threatened species surveys for candidate flora species credit species on the Subject Land

Common name	Scientific name	Threatened flora species surveys				Present	Further assessment required (BAM Subsections 5.2.5 and 5.2.6)
		Survey method (transects or grids)	Timing of survey – within recommended period? (BAM-C / TBDC)		Effort (hours & no. people)		
Scrub Turpentine	*Rhodamnia rubescens*	Meandering transect	Yes: 28/03/25	No:	1.5 hours, 2 people	No	No
Native Guava	*Rhodomyrtus psidioides*	Meandering transect	Yes: 28/03/25	No:	1.5 hours, 2 people	No	No

Table 20. Threatened species surveys for candidate fauna species credit species on the Subject Land

Common name	Scientific name	Threatened fauna species surveys				Present	Further assessment required (BAM Subsections 5.2.5 and 5.2.6)
		Survey method (e.g. harp trap, Elliott trap, bioacoustics, etc.)	Timing of survey – within recommended period? (BAM-C / TBDC)		Effort (hours & no. people)		
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

5.4 Expert Reports

No Expert Reports were relied upon to produce this report.

5.5 More Appropriate Local Data

No additional local data has been used to assess habitat suitability.

5.6 Area or Count, and Location of Suitable Habitat for a Species Credit Species (A Species Polygon)

Where a Species credit species is confirmed present or assumed to be present within the Subject Land, the assessor must assign species polygon that encompasses the entire vegetation zone(s) within which the candidate species is predicted to occur based on the correct application of the BAM (DPIE 2020a). The species polygon which corresponds to the all the species listed in **Table 21** is presented in **Appendix D**.

Three Species Credit Species were assumed present within the Subject Land (**Table 21; Table 22**).

Table 21. Results for present Species Credit Species (recorded within the Subject Land)

Common name	**Scientific name**	**Biodiversity risk weighting** (BAM-C & TBDC*)	**SAII entity**** (BAM-C & TBDC)	**Habitat constraints / microhabitats present on the subject land / vegetation zone**	**Abundance – No. individual plants present on subject land** (flora with unit of measure of count)	**Extent (ha) of suitable habitat present on site** (flora or fauna with unit of measure of area)	**TBDC species specific recommendations e.g. buffers, general comments** (where relevant)	**Habitat condition** (vegetation integrity score for each vegetation zone in the polygon – area species only)
Large-eared Pied Bat	*Chalinolobus dwyeri*	3	Yes	All habitat on the Subject Land where the Subject Land is within 2km of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels.	N/A	0.08 ha	N/A	PCT 3234: Weed infested 32.4 VIS
Eastern Cave Bat	*Vespadelus troughtoni*	3	Yes	All habitat on the Subject Land where the Subject Land is within 2km of caves, overhangs, escarpments, outcrops, crevices or boulder piles, or within two kilometres of old mines, tunnels, old buildings or sheds.	N/A	0.08 ha	N/A	PCT 3234: Weed infested 32.4 VIS

Table 22. Results for EPBC Act listed species present (recorded within the Subject Land)

Common name	Scientific name	Abundance – No. individual plants present on subject land (flora with unit of measure as count)	Extent (ha) of suitable habitat present on site (flora or fauna with unit of measure as area)
Large-eared Pied Bat	*Chalinolobus dwyeri*	N/A	0.08

6. Identifying Prescribed Impacts

This chapter of the report details the type and extent of impacts to biodiversity that will occur as a result of the proposed development (**Table 23**). Prescribed additional biodiversity impacts (prescribed impacts) must be assessed as part of the BOS, as per clause 6.1 of the BC Regulation. Such prescribed impacts (including direct and indirect impacts) are impacts:

a. on the habitat of threatened entities including:

i. karst, caves, crevices, cliffs, rocks and other geological features of significance, or

ii. human-made structures, or

iii. non-native vegetation

b. on areas connecting threatened species habitat, such as movement corridors

c. that affect water quality, water bodies and hydrological processes that sustain threatened entities (including from subsidence or upsidence from underground mining)

d. on threatened and protected animals from turbine strikes from a wind farm

e. on threatened species or fauna that are part of a TEC from vehicle strikes.

If relevant, these features must be identified on a map.

Table 23. Prescribed impacts identified

Feature	Present	Description of feature characteristics and location	Threatened entities that use, are likely to use, or are part of the habitat feature.	Describe how these features provide habitat for, or are used by, each threatened entity
Karst, caves, crevices, cliffs, rocks or other geological features of significance	☐Yes / ☒No	-	-	-
Human-made structures	☐Yes / ☒No	-	-	-
Non-native vegetation	☒Yes / ☐No	The vegetation within the Subject Land is infested with invasive weed species.	All Ecosystem Credit Species	Threatened species may forage within and around this non-native vegetation.
Habitat connectivity	☒Yes / ☐No	The Subject Property occurs in an urban landscape characterised by residential dwellings. Despite its urban situation, the Subject Property and surrounding locality contains a network of terrestrial habitat connections associated with the native remnant canopy of the locality. A habitat corridor runs through the Subject Property.	All Ecosystem Species Credits PWSGF EEC	This corridor contributes foraging habitat and a fly-way corridor, providing resource and genetic connectivity between bushland fragments across the landscape. PWSGF EEC benefits from species diversity and propagules.

Feature	Present	Description of feature characteristics and location	Threatened entities that use, are likely to use, or are part of the habitat feature.	Describe how these features provide habitat for, or are used by, each threatened entity
Waterbodies, water quality and hydrological processes	☒Yes / ☐No	There are no mapped watercourses within the Subject Property. The nearest mapped watercourse lies approximately 240m away from the Subject Land (**Figure 8**), however, an unmapped drainage line transverses the Subject Land (Scope Architects 2025; Taylor Consulting 2024). The proposed development therefore proposes a realignment of this drainage line. Its proposed realignment is illustrated in **Figure 3** (Scope Architects 2025). The '*upstream water will be directed around the site without contamination*' (Taylor Consulting 2024).	All Ecosystem Species Credits PWSGF EEC	Amphibians and threatened fauna may forage within and around this drainage channel.
Wind turbine strikes (wind farm development only)	☐Yes / ☒No	N/A	N/A	N/A
Vehicle strikes	☒Yes / ☐No	The proposed works include the construction of a driveway which will include vehicle use to the Subject Land. This is however unlikely to adversely impact any threatened species as the Subject Land is in a residential area surrounded by roads.	All Ecosystem Credit Species PWSGF EEC	Threatened species may forage within and around the vegetation within the Subject Land.

Stage 2: Impact Assessment (Biodiversity Values and Prescribed Impacts)

7. Avoid and Minimise Impacts

7.1 Avoid and Minimise Direct and Indirect Impacts

7.1.1 Project Location

The proposed development has been located to avoid and minimise indirect impacts on biodiversity values of the property in keeping with the purposeful use of the Subject Land. The proposed development involves the construction of a new dwelling, deck, garage and driveway within an urbanised residential area surrounded by roads (Scope Architects 2025). No important breeding habitat for any SAII species will be removed for the proposed development.

7.1.2 Project Design

The proposed development has been sensitively designed and sited to avoid removing remnant *Corymbia maculata* from the Subject Land. These remnant trees are of ecological significance and representative of PWSGF EEC. Their retention will maintain the habitat corridor which runs through the Subject Land as they constitute a large portion of the existing native canopy cover. Proposed plantings, as per Conzept (2025) landscaping scheme, will consist of 80% native species characteristic of the PWSGF EEC. This includes seven (7) tree species representative of this threatened community. In addition, two (2) native street tree species are also proposed for planting (Conzept 2025)

7.2 Avoid and Minimise Prescribed Impacts

7.2.1 Project Location

Impacts from clearing native vegetation and threatened species habitat can be avoided or minimised by locating the proposal in areas as detailed (**Table 24**). When selecting the proposal's location, all of the following have been analysed.

Table 24. Measures to locate the proposal to avoid or minimise direct and indirect impacts on native vegetation, threatened species, threatened ecological communities and their habitat

How has the proposal has been located in areas lacking biodiversity values?	The Subject Land is located on a weed-infested urbanised patch of PWSGF EEC. The ground and understorey vegetation within the Subject Land is heavily weed infested with a remnant canopy of *Corymbia maculata* in an urbanised locality surrounded by existing dwellings and associated infrastructure. The proposed works avoids removing the remnant *Corymbia maculata* within the Subject Land (Complete Arborcare 2025). These remnant trees are of ecological significance and representative of PWSGF EEC. No important breeding habitat for any SAII species will be directly impacted by the proposed development.
How has the proposal has been located in areas where the native vegetation or threatened species habitat is in the poorest condition (i.e. areas that have a low vegetation integrity score)?	The understorey vegetation across the Subject Land is disturbed by historical vegetation clearing and is heavily weed infested. This is reflected in the moderate VI score of 32.4. The proposed works avoids removing the remnant *Corymbia maculata* within the Subject Land (Complete Arborcare 2025). These remnant trees are of ecological significance and representative of PWSGF EEC.
How does the proposal avoid habitat for species with a high biodiversity risk weighting or land mapped on the important habitat map, or native	The proposed development has been sensitively designed and sited to avoid removing remnant *Corymbia maculata* from the Subject Land (Complete Arborcare 2025). These remnant trees are of ecological significance and representative of PWSGF EEC. Their retention will maintain the habitat corridor which runs through the Subject Land as they constitute a large portion of the existing native canopy cover. A AQF Level 5 Arborist will be engaged to

vegetation that is a TEC or a highly cleared PCT.	oversee/meet any arboricultural matters that may arise if the proposed works are approved as recommended by Complete Arborcare (2025). No important breeding habitat for any species with a high biodiversity risk weighting is likely to be significantly impacted by the proposed development.
Has the proposal been located outside of the buffer area around breeding habitat features such as nest trees or caves?	No important breeding habitat (hollow bearing trees, nests or caves) for any SAll species will be directly impacted by the proposed development. The existing hollows within the Subject Land are located on exotic trees and are not suitable for any SAll species. No stick nests or caves were recorded within the Subject Land.
Has the proposal sought alternative:	
• **modes or technologies that would avoid or minimise impacts on biodiversity values**	Rainwater storage tank will be configured in accordance with Sydney water specification 'Guidelines for Rainwater Tank on Residential Properties' (Taylor Consulting 2024).
• **routes that would avoid or minimise impacts on biodiversity values**	The proposed driveway, connecting the street frontage to the dwelling has been strategically positioned to reduce the overall area of hardstand and built form, thereby maximising space available for vegetation retention and new plantings (Scope Architects 2025) (**Figure 2; Figure 3**).
• **locations that would avoid or minimise impacts on biodiversity values**	The understorey vegetation across the Subject Land is disturbed by historical vegetation clearing and is heavily weed infested. The Subject Land is located within an urbanised locality surrounded by existing dwellings and associated infrastructure. The proposed development has been sensitively designed and sited to avoid removing remnant *Corymbia maculata* from the Subject Land (Complete Arborcare 2025). These remnant trees are of ecological significance and representative of PWSGF EEC. Their retention will maintain the habitat corridor which runs through the Subject Land as they constitute a large portion of the existing native canopy cover. As such the development has been positioned away from vegetation of highest ecological significance on the property and avoids the portion of the Subject Land which contains the highest biodiversity values.
• **sites within a property on which the proposal is located that would avoid or minimise impacts on biodiversity values.**	The Subject Land minimises the removal of trees by retaining remnant *Corymbia maculata* present within the Subject Land (Complete Arborcare 2025).
Detail the site constraints that have contributed to selecting this location	
• **bushfire protection requirements, including clearing for asset protection zones**	The Subject Property does not contain 'Bushfire Prone Land' (NSW DCCEEW 2025g).
• **flood planning levels**	The Subject Property has land mapped within the high, medium and low risk Flooding precinct by Northern Beaches Mapping (2025). The relevant Flood Risk

	Management Policies will require implementation. A Stormwater Management Plan has been produced (Taylor Consulting 2024).
• servicing constraints.	The proposed development has been located adjacent to existing residential dwellings. The proposed development will utilise the existing roads, and council services (e.g. sewage and rubbish collection).

7.2.2 Project Design

This BDAR documents the reasonable measures taken by the proponent to avoid or minimise clearing of native vegetation and threatened species habitat during proposal design, including placement of temporary and permanent ancillary construction and maintenance facilities (**Table 25**).

The proposed development has been designed to avoid and minimise avoid significant prescribed impacts on any threatened entities.

Table 25. Design the proposal to avoid or minimise direct and indirect impacts on native vegetation, threatened species, threatened ecological communities and their habitat

Efforts to reduce the proposal's clearing footprint by minimising the number and type of facilities	The ancillary facilities proposed for the new dwelling such as the garage and deck will be integrated with the main structure. Additionally, a small, proposed driveway, connecting the street frontage to the dwelling has been strategically positioned. These design proposals aim to reduce the overall area of hardstand and built form, thereby maximising space available for vegetation retention and new plantings (Scope Architects 2025) (**Figure 2; Figure 3**).
Efforts to locate ancillary facilities in areas that have no biodiversity values	The ancillary facilities proposed for the new dwelling such as the garage and deck will be integrated with the main structure to reduce the overall area of hardstand and built form, thereby maximising space available for vegetation retention and new plantings (Scope Architects 2025) (**Figure 2**). The dwelling has been sensitively designed and sited to avoid removing remnant *Corymbia maculata* from the Subject Land (Complete Arborcare 2025). These remnant trees are of ecological significance and representative of PWSGF EEC. Their retention will maintain the habitat corridor which runs through the Subject Land as they constitute a large portion of the existing native canopy cover. As such the development has been positioned away from vegetation of highest ecological significance on the property and avoids the portion of the Subject Land which contains the highest biodiversity values.
Efforts to locate ancillary facilities in areas where the native vegetation or threatened species habitat is in the poorest condition (i.e. areas with the lowest vegetation integrity scores)	The ancillary facilities proposed for the new dwelling such as the garage and deck will be integrated with the main structure to reduce the overall area of hardstand and built form, thereby maximising space available for vegetation retention and new plantings (Scope Architects 2025) (**Figure 2**). The Subject Land is located on a weed-infested urbanised patch of PWSGF EEC. The ground and understorey vegetation within the Subject Land is heavily weed infested. The dwelling has been sensitively designed and sited to avoid removing remnant *Corymbia maculata* from the Subject Land (Complete Arborcare 2025). These remnant trees are of ecological significance and representative of PWSGF EEC.

Efforts to locate ancillary facilities in areas that avoid habitat for species and vegetation that has a high threat status (e.g. an endangered ecological community (EEC) or critically endangered ecological community (CEEC) or is an entity at risk of a serious and irreversible impact (SAII)	The clearing of PWSGF EEC which is an SAII entity within the Subject Land will be limited to the removal approximately 0.08 ha. The vegetation to be removed occurs as a highly disturbed, weed infested form of this EEC. No important habitat for threatened species at risk of SAII occurs within the Subject Land or will be significantly impacted by the proposed development.
Actions and activities that provide for rehabilitation, ecological restoration and/or ongoing maintenance of retained areas of native vegetation, threatened species, threatened ecological communities and their habitat on the subject land.	The vegetation within the Subject Land is heavily weed infested. The proposed works will remove all High Threat Weed species from within the Subject Land (DPI 2025a). Proposed plantings, as per Conzept (2025) landscaping scheme, will consist of 80% native species characteristic of the PWSGF EEC. This includes seven (7) tree species representative of this threatened community. These actions will aid ecological restoration of this TEC, helping to remediate the disturbed EEC on the Subject Land, while also helping to maintain the existing habitat corridor within the Subject Property and continue to provide habitat for fauna.

8. Impact Assessment

8.1 Direct Impacts

Residual direct impacts from the proposed development are presented in **Table 26.** Changes in vegetation integrity scores as a result of the proposed development presented in **Table 27.**

8.1.1 Residual Direct Impacts

An assessment of residual direct impacts is detailed in **Table 26.**

Table 26. Summary of residual direct impacts

Direct impact (Describe the impact on PCT/TEC/EC or threatened species and their habitat)	BC Act status	EPBC Act status	SAII entity	Project phase/timing of impact (e.g. construction, operation, rehabilitation)	Extent (ha, number of individuals)
PCT: 3234 Hunter Coast Lowland Spotted Gum Moist Forest	Endangered Ecological Community	-	Yes	Construction, Operation	0.08 ha
Ecosystem Credit Species	Vulnerable, Endangered, Critically Endangered	Vulnerable, Endangered, Critically Endangered	No	Construction, Operation	0.08 ha of foraging habitat
Large-eared Pied Bat (*Chalinolobus dwyeri)*	Endangered	Endangered	Yes	Construction, Operation	0.08 ha of foraging habitat
Eastern Cave Bat (*Vespadelus troughtoni)*	Vulnerable	-	Yes	Construction, Operation	0.08 ha of foraging habitat

8.1.2 Change in Vegetation Integrity Scores

The change in VIS caused by the development in summarised in **Table 27**. **Figure 12** depicts the location of specific vegetation impacts including three management zones.

Table 27. Impacts to vegetation integrity

Vegetation zone	PCT ID	Area (ha)	Before development				After development				Change
			Composition	Structure	Function	VI score	Composition	Structure	Function	VI score	Change in VI score
Weed Infested	3234	0.08	48.2	9.6	73.2	32.4	0.5	2.1	41	4.4	-28

8.2 Indirect Impacts

This section of the report details the Indirect Impacts of the development that require address (**Table 28**).

Table 28. Summary of residual indirect impacts

Indirect impact (Describe impact, e.g. transport of weeds and pathogens form the site to adjacent vegetation)	Impacted entities (PCT/threatened entity and their habitats and where relevant, EPBC Act listing)	Extent (ha or zone reference)	Frequency	Duration (long-term/ short-term/ medium-term)	Project phase/ timing of impact (e.g. construction, operation, rehabilitation)	Likelihood and consequences
(a) inadvertent impacts on adjacent habitat or vegetation	PWSGF EEC All Ecosystem Credit species	Vegetation adjacent to Subject Land	During Construction	Long-term	Construction, Operation	Tree protection zones and no-go areas will minimise the potential for clearing of adjacent vegetation and vegetation to be retained in the Subject Land (Complete Arborcare 2025). In the unlikely event retained vegetation is cleared it is unlikely that this would cause significant impacts to threatened ecological communities or threatened species.
(b) reduced viability of adjacent habitat due to edge effects	PWSGF EEC All Ecosystem Credit species	Vegetation adjacent to Subject Land	During Construction	Long-term	Construction, Operation	The Subject Land and the surrounding vegetation is already edge-effected including weed-infestation due to its situation in an urbanised locality surrounded by roads. The proposed development is unlikely to introduce novel edge effects. As the use of the land will remain the same (residential dwelling) it is unlikely that edge effects would significantly increase beyond the status quo.
(c) reduced viability of adjacent habitat due to noise, dust or light spill	PWSGF EEC All Ecosystem Credit species	Vegetation retained within the Subject Land and adjacent vegetation	During Construction and Ongoing	Long-term	Construction, Operation	The proposed development may result in the increase of noise, dust or light spill associated with the construction activities and operation of the residential dwelling. However, the Subject Property is already impacted in these ways by existing residential dwellings in the suburb of Bayview. The proposed development is unlikely to exacerbate this reality beyond the current condition.
(d) transport of weeds and pathogens from the site to adjacent vegetation	PWSGF EEC All Ecosystem Credit species	Vegetation retained within the Subject Land and adjacent vegetation	During Construction and Ongoing	Long-term	Construction, Operation	The proposed development will result in soil disturbance on the Subject Land which may result in the propagation and spread of weed seeds from the soil bank to adjacent native vegetation. The Subject Property and adjacent vegetation outside the property is already weed infested. The proposed development is unlikely to significantly alter this reality.

Indirect impact (Describe impact, e.g. transport of weeds and pathogens form the site to adjacent vegetation)	Impacted entities (PCT/threatened entity and their habitats and where relevant, EPBC Act listing)	Extent (ha or zone reference)	Frequency	Duration (long-term/ short-term/ medium-term)	Project phase/ timing of impact (e.g. construction, operation, rehabilitation)	Likelihood and consequences
(e) increased risk of starvation, exposure and loss of shade or shelter	PWSGF EEC All Ecosystem Credit species	Vegetation retained within the Subject Land and adjacent vegetation	During construction and Ongoing	Short-term, Possible long-term	Construction, Operation	The proposed development will remove vegetation that may reduce shelter and increase the risk of exposure. This is unlikely to have a significant impact on any fauna. No stick nests were identified within the Subject Land. Although hollows and palm fronds may offer temporary shelter to microbats and other urban wildlife, shade and shelter will continue to occur in surrounding vegetation.
(f) loss of breeding habitats	N/A	N/A	N/A	N/A	N/A	Microbats and other urban wildlife may temporarily utilise the tree hollows and palm fronds as roosting/ sheltering habitat, however, due to the exposed nature of these habitat features and the disturbed nature of the Subject Land it is not likely this habitat forms breeding habitat.
(g) trampling of threatened flora species	N/A	N/A	N/A	N/A	N/A	No threatened flora is known or considered likely to occur within the Subject Land.
(h) inhibition of nitrogen fixation and increased soil salinity	PWSGF EEC	Vegetation retained within the Subject Land and adjacent vegetation	During construction and Ongoing	Long-term	Construction, Operation	The proposed development will remove a small area of nitrogen fixing vegetation however this is unlikely to substantially exacerbate the status quo in this urbanised locality. Soil salinity is not a significant issue in this part of Sydney and is unlikely to be adversely impacted by the proposed development.
(i) fertiliser drift	PWSGF EEC	Vegetation retained within the Subject Land and adjacent vegetation	During construction and Ongoing	Long-term	Construction, Operation	The use of fertiliser within residential gardens is likely to negligibly increase as a result of the proposed development. The Subject Property is already impacted by fertiliser drift from surrounding urban gardens. The proposed development is unlikely to significantly alter this reality.
(j) rubbish dumping	PWSGF EEC All Ecosystem Credit species	Vegetation retained within the Subject Land and adjacent vegetation	During construction and Ongoing	Short-term, Possible long-term	Construction, Operation	The Subject Land is in a highly disturbed, urbanised setting. The proposed development may result in the temporary stockpiling of construction material/waste on adjacent land. The proposed development is unlikely to disturb the adjacent habitat significantly in this way.
(k) wood collection	N/A	N/A	N/A	N/A	N/A	The proposed development is unlikely to increase the prevalence of wood collection.

Indirect impact (Describe impact, e.g. transport of weeds and pathogens form the site to adjacent vegetation)	Impacted entities (PCT/threatened entity and their habitats and where relevant, EPBC Act listing)	Extent (ha or zone reference)	Frequency	Duration (long-term/ short-term/ medium-term)	Project phase/ timing of impact (e.g. construction, operation, rehabilitation)	Likelihood and consequences
(l) bush rock removal and disturbance	N/A	N/A	N/A	N/A	N/A	The proposed development is unlikely to increase the prevalence of bush rock removal or disturbance.
(m) increase in predatory species populations	N/A	N/A	N/A	N/A	N/A	The Subject Property is already likely to support a population of predatory species. The proposed development is unlikely to increase the prevalence of predatory species population.
(n) increase in pest animal populations	N/A	N/A	N/A	N/A	N/A	The Subject Property is already likely to be visited by feral predatory pests such as foxes and cats. The proposed development is unlikely to increase the prevalence of pest species population.
(o) increased risk of fire	N/A	N/A	N/A	N/A	N/A	The Subject Land is in a highly disturbed, urbanised setting. The proposed development will remove vegetation from the Subject Land and reduce the risk of fire.
(p) disturbance to specialist breeding and foraging habitat, e.g. beach nesting for shorebirds.	N/A	N/A	N/A	N/A	N/A	No specialist breeding habitat occurs in or near the Subject Land and will be impacted by the proposed development.

8.3 Prescribed Impacts

This section of the report addresses impact mitigation measures for prescribed impacts.

8.3.1 Karst, caves, crevices, cliffs, rocks or other geological features of significance

Not applicable.

8.3.2 Human-made structures

Impacts of the development upon threatened species or fauna habitat associated with human-made structures are detailed in **Table 29**.

Table 29. Residual prescribed impacts – impacts to human-made structures

Nature	Threatened fauna or flora protected fauna that are at risk	SAII entities at risk	Likelihood	Extent	Duration	Consequences
N/A	N/A	N/A	N/A	N/A	N/A	N/A

8.3.3 Non-native vegetation

Impacts from the development upon threatened species or fauna habitat associated with non-native vegetation are detailed in **Table 30**.

Table 30. Residual prescribed impacts – impacts to non-native vegetation

Nature	Threatened fauna or flora protected fauna that are at risk	SAII entities at risk	Likelihood	Extent	Duration	Consequences
The vegetation within the Subject Land consists of a variety of exotic species and is infested with invasive weed species.	PWSGF EEC All Ecosystem Credit Species	PWSGF EEC	High	A total of 0.08 ha of mixed native/exotic vegetation will be removed for the proposed development.	This impact will be permanent.	Threatened species may forage within and around this non-native vegetation. This foraging habitat will be impacted by the proposed development. Other suitable foraging habitat will continue to occur in the locality and the foraging habitat to be removed is of low retention value. The removal of non-native vegetation from PWSGF EEC is a positive outcome.

8.3.4 Habitat connectivity

Impacts from the development upon habitat connectivity are detailed in **Table 31**.

Table 31. Residual prescribed impacts – impacts to habitat connectivity

Nature	Threatened fauna or flora protected fauna that are at risk	SAII entities at risk	Likelihood	Extent	Duration	Consequences
The Subject Property occurs in an urban landscape characterised by residential dwellings. Despite its urban situation, the Subject Property and surrounding locality contains a network of terrestrial habitat connections. Mature canopy within the Subject Property acts as connectivity between remnant canopy trees within the locality and habitat for fauna as they travel between significant vegetation corridors and throughout Bayview.	PWSGF EEC All Ecosystem Credit Species	PWSGF EEC	Low	A total of 0.08 ha of disturbed, weed-infested vegetation will be removed including 13 tree ferns and palm trees from the Subject Land. The loss of these trees will impact upon habitat connectivity.	This impact will be permanent.	The proposed development will not substantially alter habitat connectivity across the Subject Property or landscape. While some habitat will be removed, this will not prevent access to surrounding habitat owing to the small development footprint and the retention of mature native canopy trees (*Corymbia maculata*) (**Figure 9**). All mature *Corymbia maculata* within the Subject Land are proposed for retention. This retained canopy will continue to provide a habitat corridor post development.

8.3.5 Waterbodies, water quality and hydrological processes

There are no mapped watercourses within the Subject Property. The nearest mapped watercourse lies approximately 240m away from the Subject Land (**Figure 8**), however, an unmapped drainage line transverses the Subject Land (Scope Architects 2025; Taylor Consulting 2024). The proposed development therefore proposes a realignment of this drainage line. Its proposed realignment is illustrated in **Figure 3** (Scope Architects 2025). While the realignment of the drainage line may impact certain species, such as amphibians, the impact on biodiversity is expected to be minimal due to the low/ negligible, water flow. As such no impacts downstream are expected. Furthermore, no impacts are anticipated to species at risk of Serious and Irreversible Impact (SAII). The realignment will be carried out in accordance with the designs provided by Scope Architects (2025) and Taylor Consulting (2024). As outlined by Taylor Consulting (2024), upstream water will be safely redirected 'upstream water will be directed around the site without contamination'.

8.3.6 Wind turbine strikes

Not applicable.

8.3.7 Vehicle strikes

Not applicable.

8.4 Mitigating residual impacts – management measures and implementation

This section of the report provides mitigation measures for residual impacts (**Table 32**) and detail regarding monitoring, performance and adaptive management of those measures (**Table 33**).

Table 32. Summary of proposed mitigation and management measures for residual impacts (direct, indirect and prescribed)

Mitigation measure	Method/technique	Timing	Frequency	Responsibility	Likely efficacy (including risk of failure)
Project Location	The development footprint has been designed for the purposeful use of the Subject Land within an urbanised locality. The proposed development has minimised impacts on biodiversity by retaining native remnant trees (*Corymbia maculata*). This retained canopy will continue to provide a habitat corridor post development.	Pre-construction phase	Once	Proponent	High
Project Design	The ancillary facilities proposed for the new dwelling such as the garage and deck will be integrated with the main structure. Additionally, a small, proposed driveway, connecting the street frontage to the dwelling has been strategically positioned. These design proposals aim to reduce the overall area of hardstand and built form, thereby maximising space available for vegetation retention and new plantings (Scope Architects 2025) (**Figure 2**) (**Figure 3**).	Pre-construction phase	Once	Proponent	High
Project Planning	The proponent will prepare a Construction Environmental Management Plan (CEMP) to manage construction activity.	Pre-construction phase	Once	Proponent Engineer Ecologist	High
Assigning a Project Ecologist	Prior to construction, the proponent will commission the services of a qualified and experienced Ecologist Consultant (>3 years of experience) with a minimum tertiary degree in Science, Conservation, Biology, Ecology, Natural Resource Management, Environmental Science or Environmental Management. The Ecologist must be licensed with a current Department of Primary Industries Animal Research Authority permit and New South Wales Scientific License issued under the BC Act. The Ecologist must be a member of the NSW Ecological Consultants Association. The Ecologist will be commissioned to: • Supervise the clearing of all native vegetation and assist within the translocation of any protected fauna • Ecologist to conduct a pre-clearing survey to check for any potentially nesting or sheltering fauna including checking hollows, nests and within palm fronds.	Prior to vegetation clearance works	Once	Proponent	Moderate

Mitigation measure	Method/technique	Timing	Frequency	Responsibility	Likely efficacy (including risk of failure)
Erosion and Sedimentation	Appropriate erosion and sediment controls must always be erected and maintained during construction in order to avoid the potential of incurring impacts on biodiversity values. At a minimum, such measures should comply with the relevant industry guidelines such as 'the Blue Book' (Landcom 2004).	Construction phase	Ongoing	Proponent Construction Contractor	Moderate
Tree Protection	All trees to be retained must be protected in accordance with *Australian Standard - Protection of Trees on Development Sites (AS-4970-2009)*, which outlines that a Tree Protection Zone (TPZ) is the principal means of protecting trees on development sites. It is an area isolated from construction disturbance so that the tree remains viable. In accordance with Complete Arborcare (2025) '*tree sensitive construction measures such as pier & beam, suspended slabs, cantilevered buildings sections or screw piles will be required within the TPZ of tree T1*'. Additionally Complete Arborcare (2025) requires '*stem installation*' upon T1. As per Complete Arborcare (2025) a 'AQF Level 5 Arborist' should be engaged to oversee/meet any arboricultural matters. TPZ protection measures (as outlined in (Complete Arborcare 2025) will be implemented and maintained by the engaged arborist during construction works.	Prior to vegetation clearance works	During Construction	Project Arborist	Moderate
Storage and Stockpiling (Soil and Materials)	Allocate all storage, stockpile and laydown sites away from any native vegetation that is planned to be retained. Avoid importing any soil from outside the site as this can introduce weeds and pathogens to the site in order to avoid the potential of incurring indirect impacts on biodiversity values.	Construction phase	During construction	Construction Contractors	Moderate
Mitigating effects of Light Spill	Lighting will be minimised to wherever it is required. Lighting will be turned off at designated times in the evening to reduce impacts of light spill on biodiversity and the environment. Diurnal timing of construction and operational activities will reduce impacts of light spill. Lighting will not be utilised at night.	Prior and Post construction.	Ongoing	Proponent Construction Engineer Architect Contractors	Moderate
Mitigating effects of Construction Noise	All noise will be limited to standard daylight working hours 6am-6pm Monday to Friday, 7am-1pm Saturday. No work on Sunday.	Prior and During Construction	During construction	Proponent Construction Engineer Architect Contractors	Moderate

Mitigation measure	Method/technique	Timing	Frequency	Responsibility	Likely efficacy (including risk of failure)
Tree Replacement	Seven (7) native trees representative of PWSGF EEC are proposed for planting within the Subject Land (i.e. *Corymbia maculata, Pittosporum undulatum and Elaeocarpus reticulatus* (Conzept 2025). Additionally, two (2) native street tree species are also proposed for planting (Conzept 2025). As per Arborists Report '*These trees are to be chosen in accordance with AS 2303-2015 (Tree Stock for Landscape Use) and planting is to be undertaken by a suitably qualified AQF1 person/s before the issuing of a Certificate of Occupancy*' (Complete Arborcare 2025).	Post construction.	Ongoing	Proponent Arborist Landscape contactor	Moderate

Table 33. Implementation of the mitigation and management measures

Measure/action	**Monitoring and evaluation strategy** (Data, frequency, timing and reporting)	**Performance criteria** (linked to monitoring and evaluation strategy)	**Adaptive management threshold** (trigger for adaptive management plan/actions)	**Adaptive management response** (when triggered)
Assigning a Project Ecologist	Project Ecologist to be engaged by proponent. Ecologist to conduct a pre-clearing survey for any sensitive fauna, breeding fauna, or threatened species in the Subject Property. No less than 48 hours prior to clearing commencing. This includes the removal the palm fronds and hollow bearing trees which have the potential to provide microbat habitat.	Assigned Project Ecologist to prepare an '*Ecologist Pre-clearing Report*' to detail findings of the pre-clearing survey.	If a tree hollow, microbat, nesting, sensitive, or threatened fauna or flora is found, the Ecologist will prepare a strategy to maximise likelihood of safe relocation.	Relocate sensitive fauna or threatened entity. If a tree hollow is found, instruct an Arborist to carefully remove the hollow sections of the tree and prepare excised hollows for re-install within the Subject Land or Property.
Tree Protection	Project Arborist (Complete Arborcare 2025) to be engaged by proponent. Tree protection fencing to be installed around any trees and other native vegetation to prevent such trees/vegetation being impacted by the proposed excavation or construction.	Project Arborist to supervise the installation of tree protection fencing. Arborist to provide letter with photographic evidence to confirm appropriate controls have been installed.	If any trees that have not been approved for clearing are accidentally cleared/harmed, or excavation works occur within the 'drip zones' or structural root zones of trees that are to be retained on the Subject Property or neighbours property.	Stop works immediately. Qualified Consulting Arborist must be present to supervise any excavation works and provide advice to ensure such works do not harm trees on adjacent properties. The Project Ecologist will work with the Arborist to restore the vegetation cleared.
Erosion and Sedimentation	Appropriate Erosion and Sedimentation Controls informed by the Blue Book (Landcom 2004) to be included in a Construction Environmental Management	Minimum industry standards enforced prior to and during earthworks, clearing and construction.	If controls are not properly installed, or fail.	Engage Earthworks Contractor, Civil or Environmental Engineer to install appropriate controls within 24 hours of the breach.

Measure/action	Monitoring and evaluation strategy (Data, frequency, timing and reporting)	Performance criteria (linked to monitoring and evaluation strategy)	Adaptive management threshold (trigger for adaptive management plan/actions)	Adaptive management response (when triggered)
	Plan (CEMP) commissioned by the proponent.			
Storage and Stockpiling	All storage and stockpiling of construction resources must be in appropriate laydown areas away from the dripline of trees that will be retained. Ensure tree and vegetation protection fencing is installed around trees /vegetation that must be protected outside the development footprint.	No inadvertent impacts (harm) to trees, habitat or other vegetation.	Inadvertent impacts (e.g. accidental felling of trees or vegetation not approved for clearing) occur to adjacent vegetation as a result of improper management of construction materials.	Review controls and implement new measures. Restore the vegetation impacted under the guidance of the Project Ecologist.
Management of Light, Noise and Dust from Construction	Restrict construction to daylight hours. Manage dust, erosion and runoff in accordance with the provisions of 'The Blue Book' (Landcom 2004). Limit the unnecessary use of flood lighting.	Control measures implemented.	Control measures ineffective, resulting in disturbance to protected flora or fauna, or disturbance to nearby landholders.	Review controls and implement new measures under guidance of Construction Contractor to adequately mitigate impacts.
Tree Replacement	Seven (7) native trees representative of PWSGF EEC are proposed for planting within the Subject Land (i.e. *Corymbia maculata, Pittosporum undulatum and Elaeocarpus reticulatus* (Conzept 2025). Additionally, two (2) native street tree species are also proposed for planting (Conzept 2025). As per Arborists Report 'These trees are to be chosen in accordance with AS 2303-2015 (Tree Stock for Landscape Use) and planting is to be undertaken by a suitably qualified AQF1 person/s before the issuing of a Certificate of Occupancy' (Complete Arborcare 2025).	100% of tree survival rate.	Replace trees that have perished.	A watering schedule will need to be implemented.

8.5 Adaptive management strategy for uncertain impacts

No uncertain impacts are anticipated as a result of the proposed development.

9. Serious and Irreversible Impacts

9.1 Assessment for serious and irreversible impacts on biodiversity values

The determination of a serious and irreversible impact on biodiversity values is to be made by the decision-maker in accordance with the principles set out in the BC Regulation.

To assist the decision-maker to evaluate the extent and severity of the impact on an entity at risk of an SAII, the BDAR or BCAR must contain details of the assessment of SAIIs, in accordance with the criteria set out in Subsection 9.1.1 of the BAM for impacts on each TEC and in Subsection 9.1.2 for each threatened species. All criteria must be addressed for each TEC or threatened species at risk of an SAII and likely to be impacted by the proposal.

There are three Serious and Irreversible Impact (SAII) entities that may be impacted by the proposed development (**Table 34**):

- Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion Endangered Ecological Community (PWSGF EEC)
- *Chalinolobus dwyeri* (Large-eared Pied Bat) Endangered (BC Act) (EPBC Act) (assumed present)
- *Vespadelus troughtoni* (Eastern Cave Bat) Vulnerable (BC Act) (assumed present)

Due to the potential sensitivity of PWSGF EEC, Large-eared Pied Bat (*Chalinolobus dwyeri)* and Eastern Cave Bat (*Vespadelus troughtoni*) a determination of whether or not the proposed impacts are serious and irreversible is to be undertaken in accordance with section 9.1 of the BAM (DPIE 2020a). There are no prescribed impact thresholds for these entities. This means that any impact could be considered 'serious and irreversible'. Due to the potential sensitivity of these entities to any impact on habitat, a determination of whether or not the proposed impacts are serious and irreversible is to be undertaken in accordance with section 9.1 of the 'Assessment for serious and irreversible impacts on biodiversity values' (DPIE 2020a) (**Table 34**).

Efforts to locate the Final Determination listing for the Eastern Cave Bat (*Vespadelus troughtoni*) through available online resources were unsuccessful. Additionally, '*very little is known about the biology*' of this species (OEH 2025b). As a result, information such as current population estimates, distribution ranges, and specific ecological requirements could not be incorporated into this assessment. Despite this limitation, our assessment includes relevant sections that evaluate potential impacts of the proposed development on the species, based on existing scientific literature and available NSW Species Profile information (OEH 2025b).

It is considered unlikely that the proposed development will cause a serious and irreversible impact (SAII) to PWSGF EEC. Similar it is considered unlikely that the proposed development will cause a SAII to the Large-eared Pied Bat (*Chalinolobus dwyeri) and* the Eastern Cave Bat (*Vespadelus troughtoni*); however, these species have been included in the assessment based on the precautionary principle. The final determination as to whether an impact is serious and irreversible lies with the consent authority, Northern Beaches Council.

Table 34. SAII Entities Impacted by the Development

Common name	Scientific name	Reason for inclusion in assessment
Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion Ecological Community	*Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion*	Included in current list of entities at risk of an SAII and is likely to be impacted by the proposal
Large-eared Pied Bat	*Chalinolobus dwyeri*	Included in current list of entities at risk of an SAII and has the potential to be impacted by the proposal
Eastern Cave Bat	*Vespadelus troughtoni*	Included in current list of entities at risk of an SAII and has the potential to be impacted by the proposal

In accordance with section 9.1.1 of the BAM, the assessor is required to provide further information in the BDAR regarding the impacts on each TEC at risk of an SAII. This must include the action and measures taken to avoid the direct and indirect impact

on the TEC at risk of an SAII. These have been addressed in this BDAR (**Section 7, 8.4, 12**). We have consulted the TBDC and/or other sources to report on the current status of the TEC (**Table 35**).

Data and information include direct impacts (i.e. from clearing) and indirect impacts where partial loss of the TEC is likely as a result of the proposal. We have considered for example, changes to fire regime (frequency, severity), hydrology, pollutants, species interactions (increased competition, changes to pollinators or dispersal), fragmentation, increased edge effects and disease, pathogens and parasites, which are likely to contribute to the loss of flora and/or fauna species characteristic of the TEC.

Table 35. Serious and Irreversible Impact Assessment for Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion

Serious and Irreversible Impact (SAII) **Impact assessment provisions for ecological communities:** *Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion*	
BC Act Status: Endangered Ecological Community	
2. The assessor must consult the TBDC and/or other sources to report on the current status of the TEC including: **a) evidence of reduction in geographic distribution (Principle 1, clause 6.7(2)(a) BC Regulation) as the current total geographic extent of the TEC in NSW AND the estimated reduction in geographic extent of the TEC since 1970 (not including impacts of the proposal)**	The Final Determination for this EEC (NSW TSSC 2013) identifies the total extant area of Pittwater and Wagstaffe Spotted Gum Forest is c. 227 ha, (Bell and Stables 2012). The total reduction in geographic distribution of Pittwater and Wagstaffe Spotted Gum Forest since European settlement is estimated to be c. 75% (Bell 2009, Bangalay Ecological & Bushfire and Eastcoast Flora Survey 2011, Bell and Stables 2012). The community is therefore inferred to have undergone a large reduction in geographic distribution (NSW TSSC 2013).
b) extent of reduction in ecological function for the TEC using evidence that describes the degree of environmental degradation or disruption to biotic processes (Principle 2, clause 6.7(2)(b) BC Regulation) indicated by: **i. Change in community structure**	The structure of Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion was originally open-forest however, it now exists outside of reserves as woodland or remnant trees with few large stands remaining. Remnant trees may have particular ecological and genetic significance and may be important sources of propagation material for use in rehabilitation projects (NSW TSSC 2013).
ii. change in species composition	In the Pittwater local government area, most remnants of the community have not been burnt in a high intensity fire since at least the 1960's (Holden 1999). An absence of regular fire has also allowed the proliferation of bird-dispersed species, such as *Pittosporum undulatum, Glochidion ferdinandi, Livistona australis* and *Elaeocarpus reticulatus*, which have responded well to elevated nutrient levels and are increasing their abundance within the community (Smith and Smith 2000, Pittwater Council 2002, Bangalay Ecological & Bushfire and Eastcoast Flora Survey 2011). Prolonged absence of fire within this community is likely to result in a decline in abundance of short lived species with fire-cued germination and recruitment (Smith and Smith 2000).

Serious and Irreversible Impact (SAII) **Impact assessment provisions for ecological communities:** *Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion*	
iii. disruption of ecological processes	Inappropriate fire regimes are a major threat to Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion. In the Pittwater local government area, most remnants of the community have not been burnt in a high intensity fire since at least the 1960's (Holden 1999). An absence of regular fire has also allowed the proliferation of bird-dispersed species, such as *Pittosporum undulatum, Glochidion ferdinandi, Livistona australis* and *Elaeocarpus reticulatus*, which have responded well to elevated nutrient levels and are increasing their abundance within the community (Smith and Smith 2000, Pittwater Council 2002, Bangalay Ecological & Bushfire and Eastcoast Flora Survey 2011). Prolonged absence of fire within this community is likely to result in a decline in abundance of short lived species with fire-cued germination and recruitment (Smith and Smith 2000).
iv. invasion and establishment of exotic species	Weed invasion poses a significant threat to Pittwater and Wagstaff Spotted Gum Forest in the Sydney Basin Bioregion. Weed species affect the structure of the community and reduce its ecological function by smothering native plants, reducing both reproduction and survival, and inhibiting emergence and establishment of their seedlings (NSW TSSC 2013).
v. degradation of habitat, and	Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion is threatened by clearing for urban development, urban runoff, dumping of rubbish and garden refuse, weed invasion, inappropriate fire regimes, fragmentation, and demographic and environmental stochasticity due to the small size of most remaining remnants (Bell 2009, Bangalay Ecological & Bushfire and Eastcoast Flora Survey 2011).
vi. fragmentation of habitat	Approximately 33% of the remaining stands of the community are reserved, including c. 47 ha in Bouddi National Park and c. 3 ha in Brisbane Water National Park (Bell 2009). Thomas and Benson (1985) mapped c. 37 ha within Ku-ring-gai Chase National Park but this has not been substantiated in more recent studies. Within Pittwater local government area, c. 50 ha of the community occur in Council reserves (Bangalay Ecological & Bushfire and Eastcoast Flora Survey 2011), including Stapleton Park and McKay, Crown of Newport, and Angophora bushland reserves (NSW TSSC 2013).
c) evidence of restricted geographic distribution (Principle 3, clause 6.7(2)(c) BC Regulation), based on the TEC's geographic range in NSW according to the: **i. extent of occurrence**	The ecological community's geographic distribution is estimated or inferred to be: highly restricted, and the nature of its distribution makes it likely that the action of a threatening process could cause it to decline or degrade in extent or ecological function over a time span appropriate to the life cycle and habitat characteristics of the ecological community's component species (NSW TSSC 2013). The Final Determination for this EEC (NSW TSSC 2013) identifies the total extant area of Pittwater and Wagstaffe Spotted Gum Forest is c. 227 ha, (Bell and Stables 2012) and an extent of occurrence of c. 104 km² (based on a minimum convex polygon, as recommended by IUCN 2010). The geographic distribution is therefore inferred to be highly restricted.

Serious and Irreversible Impact (SAII) **Impact assessment provisions for ecological communities:** *Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion*	
ii. area of occupancy, and	The total extant area of Pittwater and Wagstaffe Spotted Gum Forest is c. 227 ha, (Bell and Stables 2012). This is equivalent to an area of occupancy of c. 88 km² based on 2 x 2 km grid cells, the scale recommended for assessing area of occupancy by IUCN (2010).
iii. number of threat-defined locations	The Final Determination of this TEC (NSW TSSC 2013) does not define a 'number of threat-defined locations'.
d) evidence that the TEC is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation).	The Final Determination of this TEC (NSW TSSC 2013) does not show evidence that this TEC is unlikely to respond to management.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a TEC for a criterion listed in Subsection 9.1.1(2.), the assessor must record this in the BDAR	N/A
4. In relation to the impacts from the proposal on the TEC at risk of an SAII, the assessor must include data and information on: **a) the impact on the geographic extent of the TEC (Principles 1 and 3) by estimating the total area of the TEC to be impacted by the proposal:** **i. in hectares,**	The proposed development will remove/impact approximately 0.08 ha of vegetation belonging to this TEC.
ii. as a percentage of the current geographic extent of the TEC in NSW.	The proposed development will remove/impact approximately 0.08 ha of vegetation belonging to this TEC. The total extant area of Pittwater and Wagstaffe Spotted Gum Forest is c. 227 ha, (Bell and Stables 2012). The estimated impact on the geographic extent of this TEC is therefore 0.035%.
b) the extent that the proposed impacts are likely to contribute to further environmental degradation or the disruption of biotic processes (Principle 2) of the TEC by: **i. estimating the size of any remaining, but now isolated, areas of the TEC; including areas of the TEC within 500**	The NSW Office of Environment and Heritage (OEH 2016c) 'The Native Vegetation of the Sydney Metropolitan Area' was used to demonstrate the known extent of Pittwater and Wagstaffe Spotted Gum Forest EEC (**Figure 13**). Approximately 13 ha of this TEC existing within a 500m buffer of the Subject Land.

Serious and Irreversible Impact (SAII) **Impact assessment provisions for ecological communities:** *Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion*	
m of the development footprint or equivalent area for other types of proposals	
ii. describing the impacts on connectivity and fragmentation of the remaining areas of TEC measured by: **• distance between isolated areas of the TEC, presented as the average distance if the remnant is retained AND the average distance if the remnant is removed as proposed, and**	The proposed development avoids the removal of all mature C*orymbia maculata* which forms part of PWSGF EEC (Complete Arborcare 2025). As these retained trees constitute a large portion of the existing native canopy cover of the Subject Land, the extent of this TEC will remain largely similar post-development. As such no fragmentation of this community is expected as a result of this development and distance between patches of this TEC will not increase (**Figure 9; Figure 13**). The habitat corridor will continue to allow natural regeneration, seed dispersal and genetic diversity to continue to occur across the landscape.
• estimated maximum dispersal distance for native flora species characteristic of the TEC, and	Given that this ecological community is a forest, dispersal distances are likely to be relatively large, with birds and arboreal mammals serving as the primary dispersal agents. The estimated maximum dispersal distance for native flora species characteristic of the TEC is c. 50km. This estimate is based on the behaviour of Grey-headed Flying-foxes, which can travel up to 50 km each night from their roosts to various feeding sites as food availability shifts (Eby 1991). The proposed development avoids the removal of all mature C*orymbia maculata* which have an extensive canopy over much of the PWSGF EEC on the site (Complete Arborcare 2025). These retained trees will maintain the integrity of the habitat corridor which runs through Subject Property. The habitat corridor will continue to allow natural regeneration, seed dispersal and genetic diversity to continue to occur across the landscape. Structurally important vegetation will continue to occur across the surrounding locality. The proposed development will not modify this community adversely beyond its current condition in the locality.
• other information relevant to describing the impact on connectivity and fragmentation, such as the area to perimeter ratio for remaining areas of the TEC as a result of the development	The removal of approximately 0.08 ha of PWSGF EEC including 13 native palm trees and tree ferns (Complete Arborcare 2025) will not directly or indirectly fragment habitat connectivity or fragment habitats across the landscape. The proposed development avoids the removal of all mature C*orymbia maculata* which form part of PWSGF EEC (Complete Arborcare 2025). These retained trees will help preserve the integrity of the habitat corridor that runs through the Subject Land (**Figure 9**), as they constitute a large portion of the existing native canopy cover. The habitat corridor will continue to allow natural regeneration, seed dispersal and genetic diversity to continue to occur across the landscape.
iii. describing the condition of the TEC according to the vegetation integrity score for the relevant vegetation zone(s) (Section 4.3). The assessor must also include the relevant composition, structure and function condition scores for each vegetation zone.	A total area of 0.08 ha of PWSGF EEC occurs on the Subject Property. This vegetation occurs in one zone across the Subject Land (Weed Infested) which has a current VI score of 32.4. The composition, structure and function condition scores for each vegetation zone is outlined in **Table 13.**

Serious and Irreversible Impact (SAII) **Impact assessment provisions for ecological communities:** *Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion*	
References Specific to this SAII Assessment	Bangalay Ecological & Bushfire and Eastcoast Flora Survey (2011) Bell SAJ (2009) 'The natural vegetation of the Gosford Local Government Area, Central Coast. Revised and Updated.' Version 3.0. Unpublished Report to Gosford City Council. Eastcoast Flora Survey. Bell SAJ, Stables M (2012) Floristic variability, distribution and an extension of range for the endangered Pittwater Spotted Gum Forest, Central Coast, New South Wales. Cunninghamia 12, 143-152. Eby, P. (1991). Seasonal Movements of Grey-headed Flying-foxes, *Pteropus poliocephalus* (*Chiroptera: Pteropodidae*), from Two Maternity Camps in Northern New South Wales. *Wildlife Research*. 18:547-559. IUCN Standards and Petitions Subcommittee (2010) 'Guidelines for Using the IUCN Red List Categories and Criteria Version 8.1.' Prepared by the Standards and Petitions Subcommittee in March 2010. (http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf) NSW Threatened Species Scientific Committee (NSW TSSC) (2013). Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion as an Endangered Ecological Community in Part 3 of Schedule 1 of the Act https://www2.environment.nsw.gov.au/sites/default/files/pittwater-wagstaffe-spotted-gum-forest-nsw-scientific-committee-final-determination.pdf Pittwater Council (2002). Smith J, Smith P (2000) Management Plan for Threatened Fauna and Flora in Pittwater. Unpublished report prepared for Pittwater Council. Thomas J, Benson DH (1985) Vegetation Survey of Ku-Ring-Gai Chase National Park. Royal Botanic Gardens, Sydney

Figure 13. PWSGF EEC within a 500 ha buffer surrounding the Subject Land

Serious and Irreversible Impact (SAII) Impact assessment provisions for Threatened Species: Large-eared Pied Bat (*Chalinolobus dwyeri*)	
BC Act Status: Endangered	
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:	
a) evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the:	
i)decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or	There is no robust estimate of the *Chalinolobus dwyeri* population sizes and therefore evidence of their decline can be challenging to quantitate. The geographic distribution of the species is highly restricted based on the number of known maternity roosts (AOO <500 km^2) (NSW TSSC 2024). Any impacts on breeding habitat used by this species could be considered potentially serious and irreversible (OEH 2025b). An example of large-scale decline is the flooding of the Copeton Dam in 1976 which destroyed the first known maternity roost of the species, likely leading to mortality and loss of habitat of many individuals in the region (Hoye 2005).
ii)decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	See above.
b) evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by:	
i)an estimate of the species' current population size in NSW, and	There is no robust estimate of the *Chalinolobus dwyeri* population size, though expert estimations of the overall population have ranged from 10,000 (Pennay & Thomson 2008) to 20,000 (Woinarski et al. 2014) individuals. Notably, the number of mature individuals would be substantially lower. The species is naturally rare, and analyses have found that it accounts for less than 1% of all bats reported across its range. In the area with its highest recorded density compared to other species, it only accounted for 6% of observations (NSW TSSC 2024).
ii) where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether	N/A

Serious and Irreversible Impact (SAII) Impact assessment provisions for Threatened Species: Large-eared Pied Bat (*Chalinolobus dwyeri*)	
the species is likely to undergo extreme fluctuations	
c) evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by:	
i) extent of occurrence	The extent of occurrence (EOO) for the current recorded *Chalinolobus dwyeri* distribution is 276,333 km² (range 276,333–279,734 km²) and the area of occupancy (AOO) is estimated to be<500 km² (range 12–3,092 km²) based on the number of maternity roosts. The EOO and AOO are inferred to be contracting due to ongoing loss of habitat through land clearing and loss of roosting sites. The EOO was calculated using a minimum convex hull, and the AOO calculated using a 2 x 2 km grid cell method, based on the IUCN Red List Guidelines (2022) (NSW TSSC 2024).
ii) area of occupancy	See above.
iii) number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and	*Chalinolobus dwyer* was found to be Endangered in accordance with several provisions including that 'it occurs in 5 threat-defined locations' category. For example: *Chalinolobus dwyeri* is considered to occur in 1–2 threat-defined locations based on the threat of drought to maternity roosts. It is likely that drought could affect a large proportion of the species' distribution over a short period. Singular or multiple drought events may impact multiple maternity roosts and lead to rapid decline in both the number of mature individuals and reproductive rate. While it is difficult to infer the exact number of locations defined by drought, a precautionary approach has been taken as it is possible that the number of locations could be as low as 1 or 2 based on this threat (NSW TSSC 2024).
iv) whether the species' population is likely to undergo extreme fluctuations	There is evidence to suggest extreme fluctuations in area of occupancy for *Chalinolobus dwyeri* (NSW TSSC 2024). This is based on the small number of maternity roosts and that the extent of occurrence and area of occupancy are inferred to be contracting due to ongoing loss of habitat through land clearing and loss of roosting sites. Significant threats include habitat loss and fragmentation, adverse fire regimes, increased temperatures, increased frequency and severity of drought, and habitat disturbance by Feral Goats (*Capra hircus*) (NSW TSSC 2024).
d) evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because:	
i) known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (e.g. species is clonal) on, a biodiversity stewardship site	The structure of maternity roosts appears to be very specific, and the number of known maternity roosts is small (3–6). Caves need to have indentations in the roof and be high and deep enough to allow juvenile bats to learn to fly inside. Roosting bats cluster in the indentations, which most likely allow the capture of heat. These physical characteristics are uncommon in the landscape and their scarcity poses another limiting factor in the distribution of *Chalinolobus dwyeri*. The number of maternity roosts is poorly known, and they likely occur in un-surveyed, inaccessible areas (NSW TSSC 2024).

Serious and Irreversible Impact (SAII) Impact assessment provisions for Threatened Species: Large-eared Pied Bat (*Chalinolobus dwyeri*)	
ii) the species is reliant on abiotic habitats which cannot be restored or replaced (e.g. karst systems) on a biodiversity stewardship site, or	The removal or impact of certain abiotic habitats particularly in proximity to maternity roosts can be detrimental to populations of this species. For example, the clearing of vegetation which provides foraging habitat, '*is likely to be particularly detrimental in the vicinity of maternity roosts, where pregnant and lactating females require close proximity to sufficient food resources to raise young* (DERM 2011)'. Additionally, *Chalinolobus dwyeri* is dependent on the presence of diurnal roosts. In areas where caves are uncommon or may not be suitable for roosting this species is known to use disused mine shafts. As such '*energy extraction and mining developments are a key threat to the species*' and the '*reopening of old, disused mine tunnels that are close to the surface would almost certainly lead to loss of roosting habitat for large-eared pied bats*' (DERM 2011). *Chalinolobus dwyeri* roosts are increasingly inhabited by Feral Goats (*Capra hircus*), which are becoming more common across the distribution. Feral Goats inhabiting roost caves is particularly prevalent in sandstone escarpment areas, where C. *dwyeri* roost for shelter This is another example of an abiotic habitat which cannot be restored or replaced. '*Bats were observed abandoning one of the few known maternity caves after it was disturbed by macropods, and suitable roosting caves in the Pilliga region have been used by Goats and other animals, which not only displaces* C. *dwyeri but may also prevent the species from roosting there in the future*' (DERM 2011).
iii) life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (e.g. frogs severely impacted by chytrid fungus).	Modelling of the distribution suggests that *Chalinolobus dwyeri* requires a combination of appropriate roosting and foraging habitat. It is usually found in areas with cliffs, escarpments or rocky outcrops for roosting (typically sandstone but also rhyolite). Without both foraging and roosting habitat, the species is unlikely to occur. This is a relatively restricted combination of habitat factors, especially as the extent of woodlands on fertile soils within the known range has been greatly diminished by land clearing (NSW TSSC 2024). The structure of maternity roosts appears to be very specific, and the number of known maternity roosts is small (3–6). Caves need to have indentations in the roof and be high and deep enough to allow juvenile bats to learn to fly inside. Roosting bats cluster in the indentations, which most likely allow the capture of heat. These physical characteristics are uncommon in the landscape and their scarcity poses another limiting factor in the distribution of *Chalinolobus dwyer* (Pennay 2008). It is likely that abiotic conditions such as drought could affect a large proportion of the species' distribution over a short period. 'Singular or multiple drought events may impact multiple maternity roosts and lead to rapid decline in both the number of mature individuals and reproductive rate' (NSW TSSC 2024).
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	
N/A	
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:	

Serious and Irreversible Impact (SAII) Impact assessment provisions for Threatened Species: Large-eared Pied Bat (*Chalinolobus dwyeri*)	
a. the impact on the species' population (Principles 1 and 2) presented by:	
i) an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and	There is no robust estimate of the *Chalinolobus dwyeri* population size, though expert estimations of the overall population have ranged from 10,000 to 20,000 individuals (NSW TSSC 2024). Within a 10km locality of the Subject Land, NSW Bionet (NSW DCCEEW 2025d) revealed 6 records. The nearest record is approximately 300m south of the Subject Land.
ii) an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or	There is no robust estimate of the *Chalinolobus dwyeri* population size, though expert estimations of the overall population have ranged from 10,000 to 20,000 individuals (NSW TSSC 2024). The highest estimated number of individuals on the site is <0.01% of the estimated population size. Therefore, the highest estimated number of individuals to be impacted by the proposed development is <0.01% of the estimated population size.
iii) if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	The highest estimated number of individuals on the site is <0.01% of the estimated population size. Therefore, the highest estimated number of individuals to be impacted by the proposed development is <0.01% of the estimated population size. The development will impact 0.09 ha of vegetation in total (including a portion of exotic canopy) within the Subject Land. The trees within the Subject Land have may provide foraging habitat and potentially temporary sheltering habitat e.g. within the palm fronds. As such the proposed development will impact some habitat, but no individuals of the species are expected to be directly impacted.
b. impact on geographic range (Principles 1 and 3) presented by:	
i) the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total AOO, or EOO within NSW	The extent of occurrence (EOO) for the current recorded *Chalinolobus dwyeri* distribution is 276,333 km² (27633300 ha). The area to be impacted by the proposed development is 0.08 ha. As such <0.01% of this species geographic range is to be impacted by the proposal.
ii) the impact on the subpopulation as either: **all individuals will be impacted (subpopulation eliminated);** **OR impact will affect some individuals and habitat;** **OR impact will affect some habitat, but no individuals of**	It is unlikely that any individuals of *Chalinolobus dwyeri* will be directly impacted by the proposal. Impacts to potential habitat include the loss of 0.09 ha of foraging habitat (including exotic vegetation), the loss of temporary sheltering habitat e.g. palm fronds and the temporary disturbance caused by noise/ vibration emitted by machinery during the construction phase of the development. As such the proposed development will impact some habitat, but no individuals of the species are expected to be directly impacted.

Serious and Irreversible Impact (SAII) Impact assessment provisions for Threatened Species: Large-eared Pied Bat (*Chalinolobus dwyeri*)	
the species will be directly impacted	
iii) to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (e.g. seed dispersal) and pollination distance for the species	The proposed development proposes the removal of approximately 0.09 ha of vegetation including native palm trees and tree ferns (and exotic canopy) (Complete Arborcare 2025). These trees may provide foraging habitat for this species. Additionally on rare occasion these trees may also provide temporary sheltering habitat e.g. palm fronds. However, given the development proposes the retention of all mature *Corymbia maculata*, and that no significant impacts to habitat connectivity are expected, the proposed development will not impact the viability of any persisting subpopulation and the habitat available within the locality is not likely to be adversely impacted beyond the status quo as a result of the proposed development.
iv) to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including: Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	The development proposes the removal of approximately 0.09 ha of vegetation including native palm trees and tree ferns (and exotic canopy) within the Subject Land. These trees likely provide foraging habitat and potentially temporary sheltering habitat e.g. within the palm fronds. However, an abundant number of trees will remain within and adjacent to the Subject Land post-development and as such no significant impacts to habitat connectivity are expected. No suitable breeding habitat features occur within the Subject Property and as such no breeding habitat will be impacted by the proposed development. As such, the proposed development will not impact the viability of persisting subpopulations.
changes to fire regimes (frequency, severity);	The Subject Property does not contain 'Bushfire Prone Land' (NSW DCCEEW 2025g). The Subject Land is situated in suburban Sydney, with very low frequency fires in the locality. The proposed development will remove vegetation from the Subject Land and reduce the risk of fire. The fire regime is unlikely change as a result of the development.
hydrology;	No mapped watercourses occur within the Subject Property. The nearest mapped watercourse lies approximately 240m away from the Subject Land (**Figure 8**). An existing unmapped drainage line does however transverse the Subject Land (Scope Architects 2025; Taylor Consulting 2024). The proposed development therefore proposes the realignment of this drainage line. No significant adverse impacts are expected to threatened species from these realignment works.
pollutants;	Construction works will be managed as outlined in **Section 8.4** avoid any potential pollutants affecting the surrounding habitat.
species interactions (increased competition and effects on pollinators or dispersal);	The proposed development is unlikely to alter species interactions. As the Subject Land is already disturbed, within an urbanised locality, it is unlikely that species interactions would significantly alter beyond the status quo and effects are likely to be negligible.

Serious and Irreversible Impact (SAII) **Impact assessment provisions for Threatened Species:** **Large-eared Pied Bat (*Chalinolobus dwyeri*)**	
increased edge effects;	The Subject Land and the surrounding vegetation is already edge-effected due to its situation in an urbanised locality surrounded by roads. The proposed development is unlikely to introduce novel edge effects beyond the status quo.
likelihood of disturbance;	The proposed development proposes the removal of 13 native palm and tree ferns and several exotic trees within the Subject Land. As such, the availability of foraging habitat for this species will be moderately reduced within the Subject Property. Noise/ vibration disturbance emitted by machinery during the construction phase of the development are also expected to occur, however these impacts are likely to be only temporary.
disease, pathogens and parasites.	The proposed development is unlikely to change the transmission of disease, pathogen or parasites within the *Chalinolobus dwyeri* population.
References Specific to this SAII Assessment	Department of Environment and Resource Management (DERM) (2011) National recovery plan for the large-eared pied bat *Chalinolobus dwyeri*. Report to the Department of Sustainability, Environment, Water, Population and Communities, Canberra. Hoye GA (2005) Recovery plan for the large-eared pied bat *Chalinolobus dwyeri*. Fly By Night Bat Surveys Pty Ltd. Queensland Parks and Wildlife Service. Brisbane IUCN Standards and Petitions Subcommittee (2022) Guidelines for Using the IUCN Red List Categories and Criteria. Version 15.1 [Online]. Available at: http://www.iucnredlist.org/documents/RedListGuidelines.pdf NSW Threatened Species Scientific Committee (2024) Final Determination to list the large-eared pied bat *Chalinolobus dwyeri* Ryan, 1966 as an ENDANGERED species in Part 2 of Schedule 1 of the Act and, as a consequence, to omit reference to *Chalinolobus dwyeri* Ryan, 1966 from Part 3 of Schedule 1 (Vulnerable species) of the Act. Listing of Endangered species is provided for by Part 4 of the Act. https://www.environment.nsw.gov.au/sites/default/files/large-eared-pied-bat-chalinolobus-dwyeri-final-determination.pdf Pennay M, Thomson B (2008) The IUCN Red List of Threatened Species Version 2011.2 Woinarski J, Burbidge AA, Harrison PL (2014). 'The Action Plan for Australian Mammals 2012.' (CSIRO Publishing: Collingwood, NSW)

Serious and Irreversible Impact (SAII) **Impact assessment provisions for Threatened Species:** **Eastern Cave Bat (*Vespadelus troughtoni*)**	
BC Act Status: Vulnerable	
2. The assessor must consult the TBDC and/or other sources to report on the current population of the species including:	
b) evidence of rapid decline (Principle 1, clause 6.7(2)(a) BC Regulation) presented by an estimate of the:	
i)decline in population of the species in NSW in the past 10 years or three generations (whichever is longer), or	Data deficient.
ii)decline in population of the species in NSW in the past 10 years or three generations (whichever is longer) as indicated by: an index of abundance appropriate to the species; decline in geographic distribution and/or habitat quality; exploitation; effect of introduced species, hybridisation, pathogens, pollutants, competitors or parasites	Data deficient.
b) evidence of small population size (Principle 2, clause 6.7(2)(b) BC Regulation) presented by:	
i)an estimate of the species' current population size in NSW, and	Data deficient.
ii) where such data is available, an estimate of the number of mature individuals in each subpopulation, or the percentage of mature individuals in each subpopulation, or whether the species is likely to undergo extreme fluctuations	Data deficient.
c) evidence of limited geographic range for the threatened species (Principle 3, clause 6.7(2)(c) BC Regulation) presented by:	

Serious and Irreversible Impact (SAII) Impact assessment provisions for Threatened Species: Eastern Cave Bat (*Vespadelus troughtoni*)	
i) extent of occurrence	Data deficient.
ii) area of occupancy	Data deficient.
iii) number of threat-defined locations (geographically or ecologically distinct areas in which a single threatening event may rapidly affect all species occurrences), and	Data deficient.
iv) whether the species' population is likely to undergo extreme fluctuations	Data deficient.
d) evidence that the species is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation) because:	
i) known reproductive characteristics severely limit the ability to increase the existing population on, or occupy new habitat (e.g. species is clonal) on, a biodiversity stewardship site	Data deficient.
ii) the species is reliant on abiotic habitats which cannot be restored or replaced (e.g. karst systems) on a biodiversity stewardship site, or	This species is reliant on abiotic factors that cannot be replaced. This species '*roosts in small groups in sandstone overhang caves and occasionally in buildings (Churchill 1998), although Schulz (1998) recorded small groups roosting in the nests of fairy martins (Hirundo ariel) beneath bridges*' (Law, Chidel and Mong 2005). They have also been recorded roosting in disused mine workings, occasionally in colonies of up to 500 individuals. (OEH 2025b)

Serious and Irreversible Impact (SAII) Impact assessment provisions for Threatened Species: Eastern Cave Bat (*Vespadelus troughtoni*)	
iii) life history traits and/or ecology is known but the ability to control key threatening processes at a biodiversity stewardship site is currently negligible (e.g. frogs severely impacted by chytrid fungus).	Data deficient.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a species for a criterion listed in Subsection 9.1.2(2.), the assessor must record this in the BDAR or BCAR.	
N/A Efforts to locate the Final Determination listing for the Eastern Cave Bat (*Vespadelus troughtoni*) through available online resources were unsuccessful. Additionally, '*very little is known about the biology*' of this species (OEH 2025b). As a result, critical information such as current population estimates, distribution ranges, and specific ecological requirements could not be incorporated into this assessment. Despite this limitation, our assessment includes relevant sections that evaluate potential impacts of the proposed development on the species, based on existing scientific literature and available NSW Species Profile information (OEH 2025b).	
4. In relation to the impacts from the proposal on the species at risk of an SAII, the assessor must include data and information on:	
a. the impact on the species' population (Principles 1 and 2) presented by:	
i) an estimate of the number of individuals (mature and immature) present in the subpopulation on the subject land (the site may intersect or encompass the subpopulation) and as a percentage of the total NSW population, and	Data deficient.
ii) an estimate of the number of individuals (mature and immature) to be impacted by the proposal and as a percentage of the total NSW population, or	Data deficient.
iii) if the species' unit of measure is area, provide data on the number of individuals on the site, and the estimated number that will be impacted, along with the area of habitat to be impacted by the proposal	Three (3) records of this species occur within 10km of the Subject Land. The development will impact 0.09 ha of vegetation in total (including a portion of exotic canopy) within the Subject Land. These trees may provide foraging habitat and potentially temporary sheltering habitat e.g. within the palm fronds. As such the proposed development will impact some habitat, but no individuals of the species are expected to be directly impacted.
b. impact on geographic range (Principles 1 and 3) presented by:	

Serious and Irreversible Impact (SAII) Impact assessment provisions for Threatened Species: Eastern Cave Bat (*Vespadelus troughtoni*)	
i) the area of the species' geographic range to be impacted by the proposal in hectares, and a percentage of the total AOO, or EOO within NSW	Data deficient.
ii) the impact on the subpopulation as either: **all individuals will be impacted (subpopulation eliminated);** **OR impact will affect some individuals and habitat;** **OR impact will affect some habitat, but no individuals of the species will be directly impacted**	It is unlikely that any individuals of *Vespadelus troughtoni* will be directly impacted by the proposal. Impacts to potential habitat include the loss of 0.09 ha of foraging habitat (including exotic vegetation), the loss of temporary sheltering habitat e.g. palm fronds and the temporary disturbance caused by noise/ vibration emitted by machinery during the construction phase of the development. As such the proposed development will impact some habitat, but no individuals of the species are expected to be directly impacted.
iii) to determine if the persisting subpopulation that is fragmented will remain viable, estimate (based on published and unpublished sources such as scientific publications, technical reports, databases or documented field observations) the habitat area required to support the remaining population, and habitat available within dispersal distance, and distance over which genetic exchange can occur (e.g. seed dispersal) and pollination distance for the species	The proposed development proposes the removal of approximately 0.09 ha of vegetation including native palm trees and tree ferns (and exotic canopy) (Complete Arborcare 2025). These trees may provide foraging habitat for this species. Additionally on rare occasion these trees may also provide temporary sheltering habitat e.g. palm fronds. However, given the development proposes the retention of all mature *Corymbia maculata*, and that no significant impacts to habitat connectivity are expected, the proposed development will not impact the viability of any persisting subpopulation and the habitat available within the locality is not likely to be adversely impacted beyond the status quo as a result of the proposed development.
iv) to determine changes in threats affecting remaining subpopulations and habitat if the proposed impact proceeds, estimate changes in environmental factors including: Where these factors have been considered elsewhere in relation to the target species, the assessor may refer to the relevant sections of the BDAR or BCAR.	The development proposes the removal of approximately 0.09 ha of vegetation including native palm trees and tree ferns (and exotic canopy) within the Subject Land. These trees may provide foraging habitat and potentially temporary sheltering habitat e.g. within the palm fronds. However, an abundant number of trees will remain within and adjacent to the Subject Land post-development and as such no significant impacts to habitat connectivity are expected. No suitable breeding habitat features occur within the Subject Property and as such no breeding habitat will be impacted by the proposed development. As such, the proposed development will not impact the viability of persisting subpopulations.

Serious and Irreversible Impact (SAII) Impact assessment provisions for Threatened Species: Eastern Cave Bat (*Vespadelus troughtoni*)	
changes to fire regimes (frequency, severity);	The Subject Property does not contain 'Bushfire Prone Land' (NSW DCCEEW 2025g). The Subject Land is situated in suburban Sydney, with very low frequency fires in the locality. The proposed development will remove vegetation from the Subject Land and reduce the risk of fire. The fire regime is unlikely change as a result of the development.
hydrology;	No mapped watercourses occur within the Subject Property. The nearest mapped watercourse lies approximately 240m away from the Subject Land (**Figure 8**). An existing unmapped drainage line does however transverse the Subject Land (Scope Architects 2025; Taylor Consulting 2024). The proposed development therefore proposes the realignment of this drainage line. No significant adverse impacts are expected to threatened species from these realignment works.
pollutants;	Construction works will be managed as outlined in **Section 8.4** avoid any potential pollutants affecting the surrounding habitat.
species interactions (increased competition and effects on pollinators or dispersal);	The proposed development is unlikely to alter species interactions. As the Subject Land is already disturbed, within an urbanised locality, it is unlikely that species interactions would significantly alter beyond the status quo and effects are likely to be negligible.
increased edge effects;	The Subject Land and the surrounding vegetation is already edge-effected due to its situation in an urbanised locality surrounded by roads. The proposed development is unlikely to introduce novel edge effects beyond the status quo.
likelihood of disturbance;	The proposed development proposes the removal of 13 native palm trees and tree ferns and several exotic trees within the Subject Land. As such, the availability of foraging habitat for this species will be moderately reduced within the Subject Property. Noise/ vibration disturbance emitted by machinery during the construction phase of the development are also expected to occur, however these impacts are likely to be only temporary.
disease, pathogens and parasites.	The proposed development is unlikely to change the transmission of disease, pathogen or parasites within the *Vespadelus troughtoni* population.
References Specific to this SAII Assessment	Churchill S, 1998. Australian bats. Reed New Holland: Sydney. Law B, Chidel M and Mong A, 2005. Life under a sandstone overhang: the ecology of the eastern cave bat *Vespadelus troughtoni* in northern New South Wales. Australian Mammalogy 27: 137-145. NSW Office of Environment & Heritage (OEH) (2025b) Threatened Species Profile https://threatenedspecies.bionet.nsw.gov.au/profile?id=20080 Schulz M and Eyre T, 2000. Habitat selection by the rare golden-tipped bat Kerivoula papuensis. Australian Mammalogy 22: 23-33. Schulz M, 1998. Bats and other fauna in disused Fairy Martin Hirundo ariel nests. Emu 98: 184- 191

10. Impact Summary

10.1 Determine an offset requirement for impacts

10.1.1 Impacts on Native Vegetation and Threatened Ecological Communities

Table 36. Impacts that do not require offset - ecosystem credits

Vegetation zone	PCT name	TEC	Impact area (ha)	TEC association	Entity at risk of an SAII?	Current VI score
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 37. Impacts that require an offset - ecosystem credits

Vegetation zone	PCT name	TEC	Impact area (ha)	Current VI score	Future VI score	Change in VI score	Biodiversity risk weighting	Number of ecosystem credits required
Weed Infested	**PCT 3234** – Hunter Coast Lowland Spotted Gum Moist Forest	*Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion*	0.08	32.4	4.4	-28	2	1
							Total credits	**1**

10.1.2 Impacts on Threatened Species and their Habitat (Species Credits)

Table 38. Impacts that require an offset - species credits

Common name	Scientific name	BC Act status	EPBC Act status	Loss of habitat (ha) or individuals	Biodiversity risk weighting	Number of species credits required
Large-eared Pied Bat	*Chalinolobus dwyeri*	Endangered	Endangered	0.08	3	2
Eastern Cave Bat	*Vespadelus troughtoni*	Vulnerable	-	0.08	3	2
					Total credits	**4**

10.1.3 Indirect and prescribed impacts

Table 39. Summary of proposed offsets for residual indirect and prescribed impacts

Residual indirect or prescribed impact (identified after mitigation)	Proposed offset (additional biodiversity credit requirement and/or other conservation measures)
N/A	N/A

10.2 Impacts that do not need further assessment

Table 40. Impacts that do not need further assessment for ecosystem credits

Impact	Location within subject land	Justification why no further assessment is required
N/A	N/A	N/A

11. Biodiversity Credit Report

11.1 Ecosystem credits

In accordance with section 9.2.1 of the BAM (DPIE 2020a) the assessor must determine an offset for all impacts of proposals on PCTs that are associated with a vegetation zone that has a vegetation integrity score of:

a. ≥15, where the PCT is representative of an EEC or a CEEC

b. ≥17, where the PCT is associated with threatened species habitat (as represented by ecosystem credits) or represents a vulnerable ecological community

c. ≥20, where the PCT does not represent a TEC and is not associated with threatened species habitat.

Table 41. Ecosystem credits class and matching credit profile

Credits to Retire	Attributes shared with matching credits						
	PCT name	PCT vegetation class	PCT vegetation formation	Associated TEC or EC	Offset trading group (BAM Section 10.2, Tables 4 & 5)	Hollow bearing trees present?	IBRA subregion (in which proposal is located)
1	N/A	N/A	N/A	N/A	Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion This includes PCT's: 3234, 3437	Yes	Pittwater, Cumberland, Sydney Cataract, Wyong and Yengo. or Any IBRA subregion that is within 100 kilometres of the outer edge of the impacted site

11.2 Species credits

In accordance with section 9.2.2 of the BAM (DPIE 2020a):

1. The assessor must determine an offset for the impacts of proposals on the habitat of threatened species assessed for ecosystem credits and associated with a PCT in a vegetation zone with a vegetation integrity score of ≥17.

2. The assessor must determine an offset for the impacts of proposals on threatened species that require species credits, identified in accordance with Chapter 5 of the BAM (DPIE 2020a).

3. The method for determining offset requirements for impacts on threatened species and threatened species habitat is described in Chapter 10 of the BAM (DPIE 2020a).

4. An offset requirement can be proposed for a prescribed impact in accordance with Section 8.6 of the BAM (DPIE 2020a).

No threatened species credits require offsetting for the proposed development (**Table 42**).

Table 42. Species credit class and matching credit profile

Credits to Retire	Attributes shared with matching credits				
	Name of threatened species	Kingdom	BC Act status	EPBC Act status	IBRA region
2	*Chalinolobus dwyeri*/ Large-eared Pied Bat	Fauna	Endangered	Endangered	Pittwater, Cumberland, Sydney Cataract, Wyong and Yengo. or Any IBRA subregion that is within 100 kilometres of the outer

Credits to Retire	Attributes shared with matching credits				
	Name of threatened species	Kingdom	BC Act status	EPBC Act status	IBRA region
					edge of the impacted site.
2	*Vespadelus troughtoni*/ Eastern Cave Bat	Fauna	Vulnerable	-	Pittwater, Cumberland, Sydney Cataract, Wyong and Yengo. or Any IBRA subregion that is within 100 kilometres of the outer edge of the impacted site.

12. Other Relevant Legislation, Plans & Policies Requiring Address

12.1 Pittwater Local Environmental Plan 2014

This section details Environmental Controls relevant to the terrestrial biodiversity associated with the Subject Property and surrounds (**Table 43**).

Table 43. Environmental controls relevant to the terrestrial biodiversity associated with the Subject Property and surrounds.

Local Environmental Plan Reference	Application	Suitable Action
Part 2.1 Land Use Zones	The Subject Property is zoned 'C4 - Environmental Living' (NSW DCCEEW 2025g).	The proposed development is permitted with consent ('Dwelling houses'). This BDAR report accompanies the DA that seeks consent.
Part 7.2 Earthworks	The proposed development will involve earthworks that will disturb soil and sediment in the Subject Land. Mismanagement of materials may result in impact on native vegetation.	In accordance with Complete Arborcare (2025) '*tree sensitive construction measures such as pier & beam, suspended slabs, cantilevered buildings sections or screw piles will be required within the TPZ of tree T1*'. Additionally Complete Arborcare (2025) requires '*stem installation*' upon T1. As per Complete Arborcare (2025) a '*AQF Level 5 Arborist*' should be engaged to oversee/meet any arboricultural matters. Stockpiles are not to be situated within the structural root zone of any native trees. Retained vegetation must be protected with best practice methods. At a minimum industry stand guidelines 'the Blue book' must be implemented to control erosion and sedimentation (Landcom 2004).

Local Environmental Plan Reference	Application	Suitable Action
Part 7.6 Biodiversity	The Subject Property contains Mapped Terrestrial Biodiversity (Pittwater Council 2025; NSW DCCEEW 2025g).	The proposed development will involve the removal of 0.08 ha of vegetation belonging to PWSGF EEC including 13 native tree ferns and tree palms (Complete Arborcare 2025). This BDAR assesses the impact of this vegetation removal on native vegetation, threatened species, PWSGF EEC, and the habitat connectivity of the locality. The development is designed, sited and will be managed to avoid any significant adverse environmental impacts. The proposed development has minimised impacts on biodiversity by positioning and designing the proposed dwelling to avoid removing all remnant *Corymbia maculata* within the Subject Land. The retention of the mature remnant canopy of *Corymbia maculata* will ensure links within and surrounding the Subject Property are maintained to facilitate the movement of species through the biodiversity corridors in the locality. *Corymbia maculata* constitutes the majority of the existing canopy cover within the Subject Land. These remnant trees are all proposed for retention. Indirect impacts on retained vegetation from the proposed development will be mitigated and managed through the implementation of mitigation measures presented in **Table 33** and through 'tree sensitive construction measures' outlined in Complete Arborcare (2025). The engaged 'AQF Level 5 Arborist' (as recommended by Complete Arborcare (2025)) will oversee the implementation of tree protective measures as outlined in the Arborist Report. No hollow-bearing trees or stick nests that provide suitable breeding habitat for any SAll listed species will be impacted by the proposed development. Proposed plantings, as per Conzept (2025) landscaping scheme, will consist of 80% native species characteristic of PWSGF EEC. This includes seven (7) tree species representative of this threatened community. In addition, two (2) native street tree species are also proposed for planting (Conzept 2025). The vegetation within the Subject Land is heavily weed infested. The proposed works will remove all High Threat Weed species from within the Subject Land (DPI 2025a).

12.2 Pittwater 21 Development Control Plan

This section details Development Controls relevant to the terrestrial biodiversity within the Subject Property and surrounds (**Table 44**).

Table 44. Development controls relevant to the terrestrial biodiversity within the Subject Property and surrounds

Clause Number	Control Name	Does this control apply?	Reason	Suitable Action Proposed
B4.1- B4.6	Controls relating to Land mapped on the 'Pittwater 21 DCP- Wildlife Corridor Map' (Pittwater 21 DCP)	No	The Subject Property is not mapped as containing any land relevant to 'Wildlife Corridors' on the Pittwater 21 DCP- Wildlife Corridor Map	N/A
B4.7	Pittwater Spotted Gum Forest - Endangered Ecological Community	Yes	The Subject Property contains vegetation belonging to Pittwater Spotted Gum EEC	The development proposes to remove 0.08 ha of PWSGF EEC including the removal of 13 native tree ferns and palm tree (Complete Arborcare 2025). Suitable foraging, roosting and potential breeding habitat for bats, birds and other threatened species will be impacted by the proposed development. A BDAR (this report) has been prepared to thoroughly address the impact of the clearing upon this threatened entity. The proposed development has been sensitively designed and sited to avoid removing remnant *Corymbia maculata* from the Subject Land. These remnant trees are of ecological significance and are representative of PWSGF EEC. Their retention will maintain the habitat corridor which runs through the Subject Property (**Figure 9**). The engaged 'AQF Level 5 Arborist' (as recommended by Complete Arborcare (2025)) will oversee the implementation of tree protective measures as outlined in the Arborist Report (Complete Arborcare 2025). Any future fencing must be passable by wildlife (e.g. not barbed wire or chain wire fencing). Landscaping for the proposed development does not include any Weeds of National Significance or Priority Weeds for the Greater Sydney (DPI 2025a). The *Corymbia maculata* constitute the majority of the existing canopy cover within the Subject Land. These remnant trees are all proposed for retention. Only a minority of palm trees/fern trees proposed for removed are not located under the canopy of existing tree/s. To compensate for this canopy loss, the development proposes the planting of seven (7) native tree species representative of PWSGF (Conzept 2025).

Clause Number	Control Name	Does this control apply?	Reason	Suitable Action Proposed
				Through the measures discussed in **Section 7.1 Avoid and Minimise**, the retention of canopy cover (from the retained *Corymbia maculata*) and the proposed planting of seven (7) tree species representative of PWSGF, the development will not 'result in significant onsite loss of canopy cover'.
B4.22	Preservation of Trees and Bushland Vegetation	Yes	This control applies to all land, waterways and Bushland covered by the Pittwater Local Environmental Plan 2014	This BDAR is to accompany the DA for the removal of 0.08 ha of mixed native and exotic vegetation including thirteen (13) native tree ferns and palm trees. Three (3) exotic (non-native) trees are also proposed for removal but are classified as 'exempt trees' by the Northern Beaches Council (2025). The proposed development has been sensitively designed and sited to avoid removing any remnant *Corymbia maculata* from the Subject Land. These remnant trees are of ecological significance and are representative of PWSGF EEC. The engaged 'AQF Level 5 Arborist' (as recommended by Complete Arborcare (2025)) will oversee the implementation of tree protective measures as outlined in the Arborist Report (Complete Arborcare 2025).
B3.11	Flood Prone Land	Yes	The Subject Property has land mapped within the high, medium and low risk Flooding precinct by Northern Beaches Mapping (2025).	Flood Risk Management Policy 2017 will be require implementation. A Stormwater Management Plan has been produced (Taylor Consulting 2024).
C1.1	Landscaping	Yes	This control applies to 'Dwelling house'	As vegetation within the Subject Land forms part of an EEC '*Development Control specifically covering the requirements for Landscaping in an Endangered Ecological Community*' applies i.e. clause B4.7 applies. As per the proposed landscape plan (Conzept 2025) the planting schedule includes a '*range of low-lying shrubs, medium-high shrubs and canopy trees*' '*to soften the built form*' in addition to proposing planting '*at least 2 canopy trees in the front yard and 1 canopy tree in the rear yard*' *(Pittwater 21 DCP)*. Landscaping for the proposed development will incorporate 80% locally indigenous species representative of PWSGF EEC within the Subject Land (Conzept 2025). The planting schedule does not include any Weeds of National Significance or Priority Weeds for the Greater Sydney (DPI 2025a).

12.3 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

No Matters of National Environmental Significance were recorded present on the Subject Land or have the potential to be significantly impacted by the proposed development.

Commonwealth listed threatened species that are MNES have potential to occur in the Subject Land on occasion. This includes, Grey-headed Flying-fox (*Pteropus poliocephalus*), nomadic nectivorous birds such as Swift Parrot (*Lathamus discolor*), microbats and predatory birds that may intermittently forage within the Subject Land, though are unlikely to rely heavily upon the vegetation within the Subject Land owing to its small overall area and occurrence in a disturbed urban matrix. As the majority of the canopy cover within the Subject Land will be retained, habitat connectivity and intermittent habitat use are expected to remain largely consistent with current levels following development.

No EPBC listed threatened ecological community occurs within the Subject Property.

No referral to the Commonwealth is required for the proposed development.

12.4 State Environmental Planning Policy (Biodiversity and Conservation)

12.4.1 Chapter 2: Vegetation in Non-Rural Areas

All clearing of vegetation (native and non-native) including dying or dead vegetation that is required as habitat of native animals requires a permit granted by the consent authority.

12.4.2 Chapter 4: Koala Habitat Protection

The Subject Property is located within a Local Government Area listed in Schedule 1 of the Chapter 4: Koala Habitat Protection. One species of Koala Use Tree Species with documented koala use in the Central Coast Koala Management Area was identified within the Subject Property (OEH 2018c) (**Table 45**). A review of NSW Wildlife Atlas Data (BioNet) (NSW DCCEEW 2025d) revealed 69 Koala records within a 10km locality. These records all however predate the 21st Century. The closest record is from 1949 approximately 350 m south-east of the Subject Property. The Subject Land is not considered 'core koala habitat'. While suitable koala use trees are present, the Subject Land is within an urbanised environment with no koalas recorded present in the last 18 years.

Table 45. Koala Use Tree Species within the Subject Property

Species	Documented Koala Use in the Central Coast Koala Management Area
Corymbia maculata	Irregular use

12.5 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*.

The Subject Land contains no land mapped under this SEPP (NSW DCCEEW 2025g).

12.6 Fisheries Management Act 1994

The Subject Land contains no mapped 'Key Fish Habitat' (KFH) and is not located in proximately to any areas mapped as Key Fish Habitat' (DPI 2025b).

13. References

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Commonwealth of Australia (2010c) Survey guidelines for Australia's threatened frogs. Guidelines for detecting frogs listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999

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14. Appendices

Appendix A. Fauna recorded in the Subject Property by Land Eco Consulting

Appendix B. BAM VIS Field Survey Forms (copied from electronic data sheet)

Appendix C. Suitable temporary roosting habitat for microbats

Appendix D. Species Polygon

Appendix E. Biodiversity Credit Reports from Biodiversity Assessment Method Calculator

Appendix A. Fauna recorded in the Subject Property 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	Grey Butcherbird	Protected
Aves	*Dacelo novaeguineae*	Laughing Kookaburra	Protected
Aves	*Manorina melanocephala*	Noisy Miner	Protected Key Threatening Process
Aves	*Trichoglossus moluccanus*	Rainbow Lorikeet	Protected

Appendix B. BAM VIS Field Survey Forms (copied from electronic data sheet)

BAM Site - Field Survey Form

Date:	28.3.25	**Plot ID:**	Plot 1	**Photo #:**	Plate 1
Zone:	56H	**Plot Dimensions:**	Irregular	**Easting:**	342298
Datum:	GDA 2020	**Middle Bearing (o) at 0m:**	Irregular	**Northing:**	6273879
PCT:	PCT 3234	**Condition Class**	Weed Infested	**Ecologists:**	Semonn Oleksyn and Juliette Hennessy

Counts apply when the **number of tree stems** within a size class is ≤ 10. Estimates can be used when > 10 (eg. 10, 20, 30…, 100, 200, 300…). For a **multi-stemmed tree**, only the largest living stem is included in the count/estimate. **Tree stems must be living.**

Growth Form	Scientific Name	Cover	Abundance
Tree (TG)	*Corymbia maculata*	10	N/A
Other (OG)	*Livistona australis*	23	N/A
HTW	*Erythrina crista-galli*	6	N/A
Non-native	*Phyllanthus tenellus*	0.1	10
Non-native	*Solanum mauritianum*	4	10
Other (OG)	*Smilax australis*	0.1	2
Non-native	*Erigeron bonariensis*	0.2	20
Forb (FG)	*Commelina cyanea*	0.1	5
HTW	*Phyllostachys spp. (P. aurea and P. nigra)*	10	N/A
Other (OG)	*Cayratia clematidea*	0.1	2
Forb (FG)	*Sigesbeckia orientalis subsp. orientalis*	0.1	4
Other (OG)	*Archontophoenix cunninghamiana*	4	4
Non-native	*Jacaranda mimosifolia*	15	N/A
Non-native	*Potentilla indica*	0.1	3
Other (OG)	*Stephania japonica*	0.1	2
HTW	*Ehrharta erecta*	10	N/A
Tree (TG)	*Glochidion ferdinandi*	0.1	2
Shrub (SG)	*Ficus coronata*	0.1	2
Non-native	*Passiflora edulis*	0.1	2
Non-native	*Syngonium podophyllum*	0.2	6
Fern (EG)	*Pteris tremula*	0.1	2

DBH	# Tree Stems Count
80+cm	2
50-79cm	3
30-49cm	1
20-29cm	1
10-19cm	0
5-9cm	0
<5cm	2

Number of Hollow-bearing Trees
1

For **hollows**, count only the presence of a stem containing hollows. For a **multi-stemmed tree**, only the largest stem is included in the count/estimate. **Stems may be dead and may be shrubs.**

Length of Logs (m)	8.5

(≥10 cm diameter, >50 cm in length)

BAM Attribute (1 x 1m plots)	Litter Cover (%)
1	55
2	45
3	15
4	25
5	45
Average (#no./5)	**37**

Litter cover is assessed as the average percentage ground cover of litter recorded from five 1 m x 1 m plots centred at 5, 15, 25, 35, 45 m along the plot midline. Litter cover includes leaves, seeds, twigs, branchlets and branches (less than 10 cm in diameter). Assessors may also record the cover of rock, bare ground and cryptogams.

Forb (FG)	*Oxalis sp.*	0.1	3
HTW	*Anredera cordifolia*	0.3	10
HTW	*Ligustrum lucidum*	3	1
Grass & grasslike (GG)	*Oplismenus aemulus*	0.5	30
HTW	*Ochna serrulata*	0.2	10
Other (OG)	*Cyathea cooperi*	6	N/A
HTW	*Tradescantia fluminensis*	15	N/A
Forb (FG)	*Centella asiatica*	0.1	10
Non-native	*Stellaria media*	0.1	1
Non-native	*Cirsium vulgare*	0.1	1
Non-native	*Sida rhombifolia*	0.1	20
Forb (FG)	*Geranium homeanum*	0.1	2
Non-native	*Crassocephalum crepidioides*	0.1	3
Other (OG)	*Cordyline stricta*	1	1
HTW	*Araujia sericifera*	0.1	2
Non-native	*Setaria palmifolia*	4	15
Forb (FG)	*Hydrocotyle sibthorpioides*	0.1	5
Tree (TG)	*Ficus macrophylla*	1	2
HTW	*Thunbergia alata*	0.1	5
Non-native	*Ageratum houstonianum*	0.1	5
Forb (FG)	*Solanum americanum*	0.1	2
Shrub (SG)	*Psychotria loniceroides*	0.1	1
HTW	*Cestrum parqui*	0.2	2
Forb (FG)	*Dianella caerulea*	0.1	3
Tree (TG)	*Melia azedarach*	0.1	1
Forb (FG)	*Dichondra repens*	0.1	5

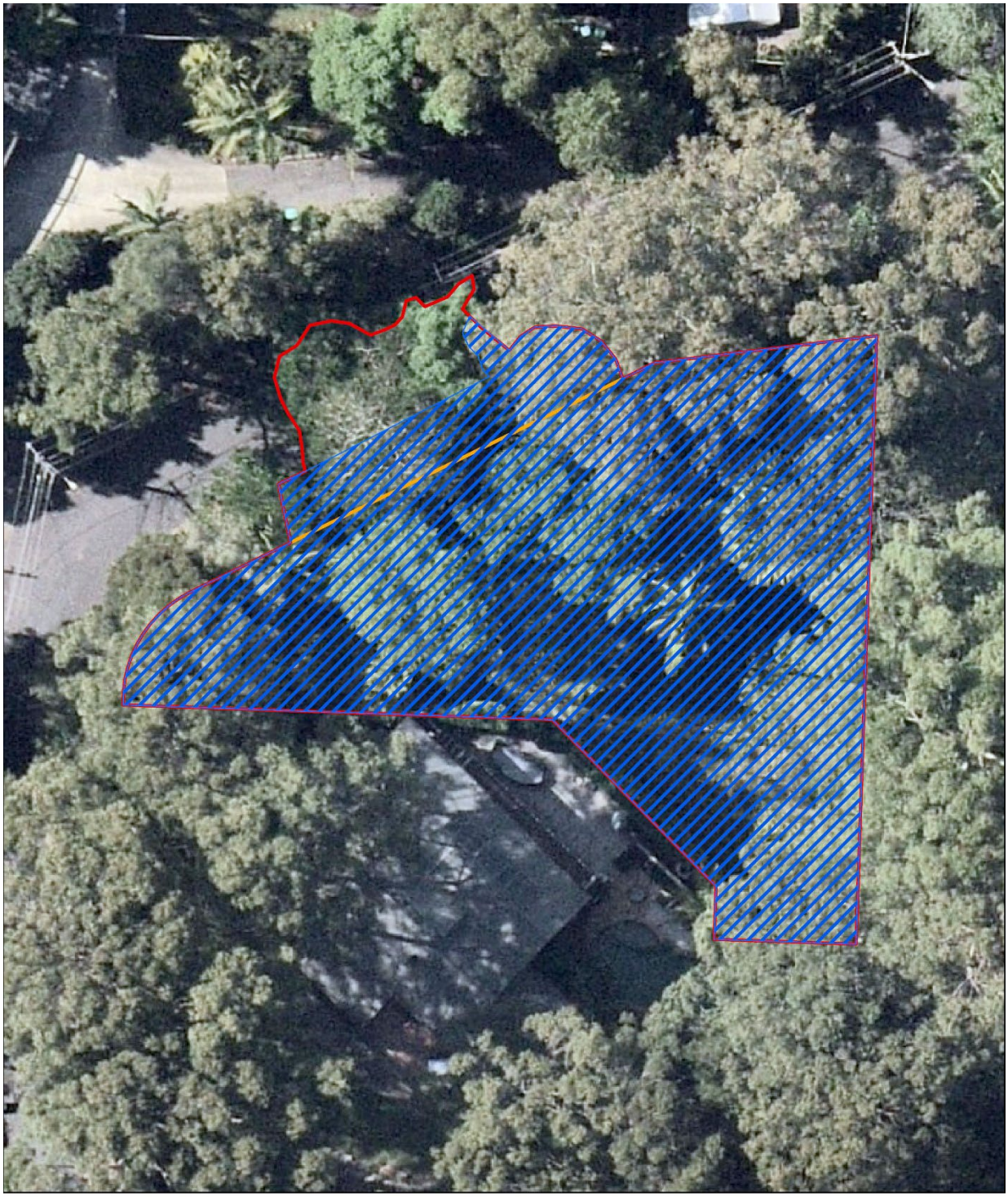
Growth Form	Composition Data	Structure Data
Tree	**4**	**11.2**
Shrub	**2**	**0.2**
Grass	**1**	**0.5**
Forb	**9**	**0.9**
Fern	**1**	**0.1**
Other	**7**	**34.3**
H.T.E	**10**	**44.9**

Cover: 0.1, 0.2, 0.3, …, 1, 2, 3, ..., 10, 15, 20, 25, ...100% (foliage cover); Note: 0.1% cover represents an area of approximately 63 x 63 cm or a circle about 71 cm across, 0.5% cover represents an area of approximately 1.4 x 1.4 m, and 1% = 2.0 x 2.0 m, 5% = 4 x 5 m, 25% = 10 x 10 m

Abundance: 1, 2, 3, …, 10, 20, 30, … 100, 200, …, 1000, …

Appendix C. Suitable temporary roosting habitat for microbats (Image A= Palm fronds and Image B= Small hollow in exotic tree).

Appendix D. Species Polygon



Legend

- Subject Land
- Subject Property
- Species Polygon

0 5 10 15 20 25 30 Metres

N W E S

Land Eco consulting

This map was produced for this report only. It is indicative, not survey-accurate and should not be used for design or construction purposes.

Date: 14/05/2025
Coordinate System: GDA2020 MGA Zone 56
Imagery: NearMap (Feb 2025)

Appendix E. Biodiversity Credit Reports from Biodiversity Assessment Method Calculator

BAM Credit Summary Report

Proposal Details

Assessment Id
00056384/BAAS18059/25/00056385

Proposal Name
Proposed Dwelling at 3 Alexandra Crescent Bayview NSW 2104

BAM data last updated *
28/10/2024

Assessor Name
Kurtis Lindsay

Report Created
09/07/2025

BAM Data version *
Current classification (live - default) (80)

Assessor Number
BAAS18059

BAM Case Status
Finalised

Date Finalised
09/07/2025

Assessment Revision
0

BOS entry trigger
BOS Threshold: Biodiversity Values Map

Assessment Type
Part 4 Developments (Small Area)

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAII	Ecosystem credits

Hunter Coast Lowland Spotted Gum Moist Forest												
1	3234_WeedInfested	Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion	32.4	28.0	0.08	Geographic Distribution	High Sensitivity to Gain	Endangered Ecological Community	Not Listed	2.00	True	1
											Subtotal	**1**
											Total	**1**

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAII	Species credits
Chalinolobus dwyeri / Large-eared Pied Bat (Fauna)									
3234_WeedInfested	32.4	32.4	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Endangered	Endangered	True	2
								Subtotal	**2**

Vespadelus troughtoni / Eastern Cave Bat (Fauna)									
3234_WeedInfested	32.4	32.4	0.08	Biodiversity Conservation Act listing status	Species dependent on habitat attributes	Vulnerable	Not Listed	True	2
								Subtotal	**2**

BAM Candidate Species Report

Proposal Details

Assessment Id 00056384/BAAS18059/25/00056385	Proposal Name Proposed Dwelling at 3 Alexandra Crescent Bayview NSW 2104	BAM data last updated * 28/10/2024
Assessor Name Kurtis Lindsay	Report Created 09/07/2025	BAM Data version * Current classification (live - default) (80)
Assessor Number BAAS18059	Assessment Type Part 4 Developments (Small Area)	BAM Case Status Finalised
Assessment Revision 0	BOS entry trigger BOS Threshold: Biodiversity Values Map	Date Finalised 09/07/2025

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
Chalinolobus dwyeri Large-eared Pied Bat	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Rhodamnia rubescens Scrub Turpentine	No (surveyed)	☐ Jan ☐ Feb ☑ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Rhodomyrtus psidioides Native Guava	No (surveyed)	☐ Jan ☐ Feb ☑ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Vespadelus troughtoni Eastern Cave Bat	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

Common Name	Scientific Name
Loggerhead Turtle	Caretta caretta
Leatherback Turtle	Dermochelys coriacea
Beach Stone-curlew	Esacus magnirostris
Giant Dragonfly	Petalura gigantea
Sooty Owl	Tyto tenebricosa

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Beach Stone-curlew	Esacus magnirostris	Refer to BAR
Eastern Australian Underground Orchid	Rhizanthella slateri	Refer to BAR
Giant Dragonfly	Petalura gigantea	Habitat constraints
Large Bent-winged Bat	Miniopterus orianae oceanensis	Habitat constraints
Leatherback Turtle	Dermochelys coriacea	Habitat constraints
Little Bent-winged Bat	Miniopterus australis	Habitat constraints
Loggerhead Turtle	Caretta caretta	Habitat constraints
Regent Honeyeater	Anthochaera phrygia	Habitat constraints
Sooty Owl	Tyto tenebricosa	Habitat constraints
Swift Parrot	Lathamus discolor	Habitat constraints

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00056384/BAAS18059/25/00056385	Proposed Dwelling at 3 Alexandra Crescent Bayview NSW 2104	28/10/2024
Assessor Name	**Report Created**	**BAM Data version ***
Kurtis Lindsay	09/07/2025	Current classification (live - default) (80)
Assessor Number	**Assessment Type**	**BAM Case Status**
BAAS18059	Part 4 Developments (Small Area)	Finalised
Assessment Revision	**BOS entry trigger**	**Date Finalised**
0	BOS Threshold: Biodiversity Values Map	09/07/2025

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Australian Painted Snipe	Rostratula australis	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Beach Stone-curlew	Esacus magnirostris	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Dusky Woodswallow	Artamus cyanopterus cyanopterus	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Eastern Coastal Free-tailed Bat	Micronomus norfolkensis	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Eastern Curlew	Numenius madagascariensis	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Eastern False Pipistrelle	Falsistrellus tasmaniensis	3234-Hunter Coast Lowland Spotted Gum Moist Forest

Eastern Osprey	Pandion cristatus	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Flame Robin	Petroica phoenicea	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Freckled Duck	Stictonetta naevosa	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Gang-gang Cockatoo	Callocephalon fimbriatum	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Greater Broad-nosed Bat	Scoteanax rueppellii	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Grey-headed Flying-fox	Pteropus poliocephalus	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Large Bent-winged Bat	Miniopterus orianae oceanensis	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Little Bent-winged Bat	Miniopterus australis	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Little Eagle	Hieraaetus morphnoides	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Little Lorikeet	Glossopsitta pusilla	3234-Hunter Coast Lowland Spotted Gum Moist Forest
New Holland Mouse	Pseudomys novaehollandiae	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Regent Honeyeater	Anthochaera phrygia	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Rose-crowned Fruit-Dove	Ptilinopus regina	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Rosenberg's Goanna	Varanus rosenbergi	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Scarlet Robin	Petroica boodang	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Spotted Harrier	Circus assimilis	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Spotted-tailed Quoll	Dasyurus maculatus	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Square-tailed Kite	Lophoictinia isura	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Superb Fruit-Dove	Ptilinopus superbus	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Swift Parrot	Lathamus discolor	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Terek Sandpiper	Xenus cinereus	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Turquoise Parrot	Neophema pulchella	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Varied Sittella	Daphoenositta chrysoptera	3234-Hunter Coast Lowland Spotted Gum Moist Forest
White-bellied Sea-Eagle	Haliaeetus leucogaster	3234-Hunter Coast Lowland Spotted Gum Moist Forest
White-throated Needletail	Hirundapus caudacutus	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris	3234-Hunter Coast Lowland Spotted Gum Moist Forest

BAM Predicted Species Report

Threatened species Manually Added

Common Name	Scientific Name
Freckled Duck	Stictonetta naevosa
Spotted Harrier	Circus assimilis
Beach Stone-curlew	Esacus magnirostris
Australian Painted Snipe	Rostratula australis
Eastern Curlew	Numenius madagascariensis
Terek Sandpiper	Xenus cinereus
Turquoise Parrot	Neophema pulchella
Eastern False Pipistrelle	Falsistrellus tasmaniensis
Greater Broad-nosed Bat	Scoteanax rueppellii
Australasian Bittern	Botaurus poiciloptilus
Rose-crowned Fruit-Dove	Ptilinopus regina

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Common Name	Scientific Name	Plant Community Type(s)
Australasian Bittern	Botaurus poiciloptilus	3234-Hunter Coast Lowland Spotted Gum Moist Forest
Black Bittern	Ixobrychus flavicollis	3234-Hunter Coast Lowland Spotted Gum Moist Forest
South-eastern Glossy Black-Cockatoo	Calyptorhynchus lathami lathami	3234-Hunter Coast Lowland Spotted Gum Moist Forest

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C
Australasian Bittern	Botaurus poiciloptilus	Habitat constraints
Black Bittern	Ixobrychus flavicollis	Habitat constraints
South-eastern Glossy Black-Cockatoo	Calyptorhynchus lathami lathami	Habitat constraints

BAM Vegetation Zones Report

Proposal Details

Assessment Id
00056384/BAAS18059/25/00056385

Assessment name
Proposed Dwelling at 3 Alexandra Crescent Bayview NSW 2104

BAM data last updated *
28/10/2024

Assessor Name
Kurtis Lindsay

Report Created
09/07/2025

BAM Data version *
Current classification (live - default) (80)

Assessor Number
BAAS18059

Assessment Type
Part 4 Developments (Small Area)

BAM Case Status
Finalised

Assessment Revision
0

BOS entry trigger
BOS Threshold: Biodiversity Values Map

Date Finalised
09/07/2025

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Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones
1	3234_WeedInfested	3234-Hunter Coast Lowland Spotted Gum Moist Forest	WeedInfested	0.08	1	

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00056384/BAAS18059/25/00056385

Proposal Name
Proposed Dwelling at 3 Alexandra Crescent Bayview NSW 2104

BAM data last updated *
28/10/2024

Assessor Name
Kurtis Lindsay

Assessor Number
BAAS18059

BAM Data version *
Current classification (live - default) (80)

Proponent Names
Les Hill

Report Created
09/07/2025

BAM Case Status
Finalised

Assessment Revision
0

BOS entry trigger
BOS Threshold: Biodiversity Values Map

Assessment Type
Part 4 Developments (Small Area)

Date Finalised
09/07/2025

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion	Endangered Ecological Community	3234-Hunter Coast Lowland Spotted Gum Moist Forest

Species
Chalinolobus dwyeri / Large-eared Pied Bat

Vespadelus troughtoni / Eastern Cave Bat

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
Calyptorhynchus lathami lathami / South-eastern Glossy Black-Cockatoo
Ixobrychus flavicollis / Black Bittern
Botaurus poiciloptilus / Australasian Bittern

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
3234-Hunter Coast Lowland Spotted Gum Moist Forest	Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion	0.1	1	0	1

BAM Biodiversity Credit Report (Like for like)

3234-Hunter Coast Lowland Spotted Gum Moist Forest

Like-for-like credit retirement options

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion This includes PCT's: 3234, 3437	-	3234_WeedInfested	Yes	1	Pittwater, Cumberland, Sydney Cataract, Wyong and Yengo. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Chalinolobus dwyeri / Large-eared Pied Bat	**3234_WeedInfested**	0.1	2.00
Vespadelus troughtoni / Eastern Cave Bat	**3234_WeedInfested**	0.1	2.00

Credit Retirement Options

Like-for-like credit retirement options

Chalinolobus dwyeri / Large-eared Pied Bat

Spp	IBRA subregion
Chalinolobus dwyeri / Large-eared Pied Bat	Any in NSW

Vespadelus troughtoni / Eastern Cave Bat	Spp	IBRA subregion
	Vespadelus troughtoni / Eastern Cave Bat	Any in NSW

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id

00056384/BAAS18059/25/00056385

Proposal Name

Proposed Dwelling at 3 Alexandra Crescent Bayview NSW 2104

BAM data last updated *

28/10/2024

Assessor Name

Kurtis Lindsay

Assessor Number

BAAS18059

BAM Data version *

Current classification (live - default) (80)

Proponent Name(s)

Les Hill

Report Created

09/07/2025

BAM Case Status

Finalised

Assessment Revision

0

BOS entry trigger

BOS Threshold: Biodiversity Values Map

Assessment Type

Part 4 Developments (Small Area)

Date Finalised

09/07/2025

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Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion	Endangered Ecological Community	3234-Hunter Coast Lowland Spotted Gum Moist Forest

Species
Chalinolobus dwyeri / Large-eared Pied Bat
Vespadelus troughtoni / Eastern Cave Bat

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
Calyptorhynchus lathami lathami / South-eastern Glossy Black-Cockatoo
Ixobrychus flavicollis / Black Bittern
Botaurus poiciloptilus / Australasian Bittern

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
3234-Hunter Coast Lowland Spotted Gum Moist Forest	Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion	0.1	1	0	1.00

3234-Hunter Coast Lowland Spotted Gum Moist Forest

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion This includes PCT's: 3234, 3437	-	3234_WeedInfested	Yes	1	Pittwater,Cumberland, Sydney Cataract, Wyong and Yengo. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

	Formation	Trading group	Zone	HBT	Credits	IBRA region
	Wet Sclerophyll Forests (Grassy sub-formation)	Tier 3 or higher threat status	3234_WeedInfested	Yes (including artificial)	1	IBRA Region: Sydney Basin, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Chalinolobus dwyeri / Large-eared Pied Bat	**3234_WeedInfested**	0.1	2.00
Vespadelus troughtoni / Eastern Cave Bat	**3234_WeedInfested**	0.1	2.00

Credit Retirement Options

Like-for-like options

Chalinolobus dwyeri/ Large-eared Pied Bat	Spp		IBRA region
	Chalinolobus dwyeri/Large-eared Pied Bat		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Pittwater, Cumberland, Sydney Cataract, Wyong and Yengo. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Vespadelus troughtoni/ Eastern Cave Bat	Spp		IBRA region
	Vespadelus troughtoni/Eastern Cave Bat		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Pittwater, Cumberland, Sydney Cataract, Wyong and Yengo. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

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