Sent:	25/01/2025 12:08:19 PM
Subject:	Application Number: DA2024/1693 -
Attachments:	32 & 34 Nareen Parade – 07-04-2022.MOV; Biodiversity assessments and calculation of the scheme entry requirements _ Biodiversity Offsets Scheme _ Environment and Heritage 23-01-2025.pdf; Report_-_Biodiversity_Development_Assessment_Report_(BDAR)_-_Amended 15-08-2024.pdf.pdf;

Council@northernbeaches.nsw.gov.au

Attn: Dean Pattalis Northern Beaches Council,

Please find our submission in regards to **DA Application Number: DA2024/1693**

I have attached the submission and relevant files as pdfs to this email, Please advise if you have any troubles viewing.

Thanks in advance,
Ann Homan

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Please phone customer service on 1300 434 434 and request this document be made available for viewing over the counter.

Biodiversity assessments and calculation of the scheme entry requirements

In this section

On this page

When and how the area clearing threshold applies

The area clearing threshold applies to local development and clearing proposals. It does not apply to major projects or biodiversity certification, because the scheme automatically applies to these projects and proposals.

The Biodiversity Offsets Scheme is activated by local development and clearing proposals that involve clearing native vegetation that exceeds the area clearing threshold.

The area clearing threshold varies according to the relevant minimum lot size at the proposal site (shown in the lot size maps made under local environment plans) or the actual lot size (where no minimum lot size is provided for in the relevant local environmental plan).

If there are multiple relevant minimum lot sizes, the smallest one applies.

Minimum lot size associated with the property	Threshold for clearing, above which the Biodiversity Assessment Method and Biodiversity 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
1,000 ha or more	2 ha or more

Use the Biodiversity Values Map and Threshold Tool to estimate if the area clearing threshold may have been exceeded.

Biodiversity Values Map and Threshold Tool (/biodiversity-values-map-and-threshold-tool)

For more information on how to identify the development footprint and calculate the area clearing threshold, download the guide:
Reviewing area clearing threshold results from the BMAT tool (https://www.environment.nsw.gov.au/research-and-publications/publications-search/reviewing-biodiversity-values-map-and-threshold-tool-area-clearing-threshold-results)

Include all native vegetation

All native vegetation proposed to be impacted by a proposal must be considered when applying the scheme entry requirements.

Native vegetation is defined in section 60B of *Local Land Services Act 2013* (NSW) as any of the following types of plants that are native to New South Wales:

- trees (including any sapling or shrub or any scrub)
- understorey plants
- ground cover (being any type of herbaceous vegetation)
- plants occurring in a freshwater wetland.

Native vegetation may exist as grassland, herb land and low shrublands that do not have trees or large shrubs.

Native vegetation is trees, shrubs, herbs and grasses that are indigenous to New South Wales.

A plant may be considered native to New South Wales if it is listed as native on the **New South Wales Flora Online database (https://plantnet.rbgsyd.nsw.gov.au/,)**which is maintained by the Botanic Gardens of Sydney.

Native vegetation extends to any planted vegetation that meets the definition of native vegetation.

Marine vegetation such as mangroves, seagrasses or any other plant species that at any time in its life cycle must inhabit water other than fresh water is not included in the area clearing threshold calculation. Clearing of marine vegetation is regulated under the *Fisheries Management Act 1994* (NSW).

Exotic vegetation

In certain circumstances you can adjust your calculations to account for exotic vegetation when considering the area clearing threshold.

Changes to the calculation **cannot** be made when:

- the primary community type is naturally a grassland plant community type
- the vegetation meets the definition of a **threatened ecological community** according to the scientific description in the final determination published by the **Threatened Species Scientific Committee (https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee)**
- the vegetation meets the definition of a threatened ecological community or habitat for a species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)

- the vegetation is assessed to determine land categorisation under the *Local Land Services Act 2013* (NSW).

Learn more about **threatened ecological communities (https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/about-threatened-species/threatened-ecological-communities)**

Calculations for partially exotic ground cover vegetation **may be adjusted** where the mid-shrub layer or tree layer is primarily absent. To make an adjustment:

- calculate areas that are greater than 75% native vegetation as 100% native
- calculate areas that are 15-75% native by multiplying the proportion (%) of native cover by the total area to be cleared
- calculate areas that are less than 15% native vegetation as 100% exotic and exclude from the native vegetation extent.

To determine the proportion of exotic species ground cover, use a robust and repeatable scientific method such as the quadrat field assessment method. The method and results should be documented to provide an evidence-based justification to the consent authority that demonstrates that the approach and calculations have been made appropriately.

For more information on applying the quadrat field assessment method, go to the guidance document: **Reviewing area clearing threshold results from the BMAT tool (https://www.environment.nsw.gov.au/research-and-publications/publications-search/reviewing-biodiversity-values-map-and-threshold-tool-area-clearing-threshold-results)**

Non-native vegetation or vegetation that is dead or dying

Non-native vegetation or vegetation that is dead or dying that occurs on category 2 - vulnerable regulated land must be considered in the same way as native vegetation for the Biodiversity Offsets Scheme entry requirements and assessments.

To learn more about the categories of regulated land, see **map categories (https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/native-vegetation-regulatory-map/view-your-map/map-categories)**

The total development footprint

The total footprint of the development must be considered when applying the Biodiversity Offsets Scheme entry requirements.

The development footprint can be referred to as the:

- total footprint of the development
- footprint of the development proposal
- clearing footprint
- proposed clearing footprint
- clearing activity
- proposed development
- total footprint
- total development.

The development footprint is the area **directly impacted** by the development and includes the entire area, subject to the proposal's construction and operational phases. It may also include non-vegetated areas such as existing buildings.

Include both permanent and temporary direct impacts in the development footprint. Examples of direct impacts include:

- access roads
- areas used to store construction materials
- ancillary infrastructure
- temporary structures (for example, access tracks or haul roads only used during construction)
- modifications to existing infrastructure (for example, road widening), driveways
- sheds or carports
- building envelopes
- landscaping
- access and easements
- the entire asset protection zone
- utilities
- fence lines
- effluent management areas.

If the proposed development is for a subdivision, the development footprint must be

based on the total area, that, in the opinion of the consent authority or other planning approval body, is required for the purposes for which the land is to be subdivided.

This includes, where relevant:

- clearing for new boundary fence lines in response to section 76 of the *Rural Fires Act 1997* (NSW)
- upgrading road or other infrastructure or ancillary services
- recreational and hobby farming activities
- any other uses ancillary to that development.

Bushfire safety clearing entitlements

Consider all biodiversity impacts resulting from proposed development, including any additional clearing entitlements (current or future) that apply because of the approval, such as clearing authorised by:

- **the 10/50 Vegetation Clearing Code of Practice** under section 100R of the *Rural Fires Act 1997* (NSW)
- **the Rural Boundary Clearing Code** under section 100RB of the Rural Fires Act
- **the Planning for Bush Fire Protection 2019** document, which contains specifications and requirements that developments must conform to under section 4.14 of the *Environmental Planning and Assessment Act 1979* (NSW) before development consent can be granted.

If the approved development allows clearing of native vegetation, including for the creation and management of asset protection zones or other fire management clearing, the areas eligible for clearing are added to the total development footprint when assessing scheme entry requirements.

Where the specifications of asset protection zones are yet to be discovered and the 10/50 Vegetation Clearing Code of Practice applies, a 50-metre buffer around proposed buildings must be included in the total development footprint.

Where the planned buffer is smaller than the 10/50 clearing entitlement, the consent conditions can require vegetation management beyond the asset protection zone up to 50 metres. Any clearing under the 10/50 Vegetation Clearing Code of Practice cannot be inconsistent with a condition of development consent that identifies and requires retaining and managing vegetation for conservation purposes.

If there is a proposal for an asset protection zone in partially cleared vegetation or a subsequent 10/50 clearing entitlement area, the partially cleared vegetation area

should still be included in the overall development footprint. This is done to check if the proposed development exceeds the scheme entry requirements.

Include Local Land Services Act clearing entitlements

Where a proposal, such as a subdivision on rural land, results in additional clearing entitlements as allowable activities under the *Local Land Services Act 2013* (NSW), the additional entitlements must be included in the total development footprint for that proposal.

This applies to determining the entry requirements for the Biodiversity Offsets Scheme and the subsequent Biodiversity Development Assessment Report (where applicable).

For example, if a new subdivision on rural land creates new boundaries or requires internal fence lines, you must include any areas subject to new clearing entitlements as a direct result of the approved subdivision (or development) in the proposed development.

This ensures that the proposed development's total biodiversity impacts are fully considered.

Category 1 land

Under Part 5A of the *Local Land Services Act 2013* (NSW), native vegetation on category 1 land is not included in any area clearing calculations when deciding whether a Biodiversity Development Assessment Report should be prepared, unless the native vegetation is assessed as a critically endangered ecological community.

Clearing of native vegetation on land that meets the definition of category 1 – exempt land under the *Local Land Services Act 2013* (NSW) does not require assessment or offsetting under the Biodiversity Assessment Method.

A development on category 1 – exempt land may involve other biodiversity impacts for which a Biodiversity Development Assessment Report will be required, including:

- a prescribed impact on land mapped on the Biodiversity Values Map – effects prescribed are listed in clause 6.1 of the Biodiversity Conservation Regulation 2017 (NSW) – not including native vegetation clearing associated with the prescribed impact

- a likely significant effect on threatened species, ecological communities or their habitats according to the test under section 7.3 of the *Biodiversity Conservation Act 2016* (NSW).

While the Native Vegetation Regulatory map is being finalised, landowners will be responsible for determining the categorisation of their land, in accordance with the *Local Land Services Act 2013* (NSW).

For more information please see the guidance in:
Determining native vegetation land categorisation for application in the Biodiversity Offsets Scheme (/sites/default/files/2024-02/determining-native-vegetation-land-categorisation-for-application-in-bos-230162.pdf) (PDF)(1.47 MB)

If you would like more information about this process:

- visit **Local Land Services (https://www.lls.nsw.gov.au/)**
- contact a member of the **Local Land Services team (https://www.lls.nsw.gov.au/sustainable-land-management/customerhelp)**

For developments occurring on rural land (not including RU5 land), the department recommends to accredited assessors that they first establish whether land is category 1 – exempt land. An application for planning approval submitted to a consent authority should clearly indicate the area of land determined to be category 1 – exempt land and be supported by evidence-based justification.

If the Biodiversity Offsets Scheme applies to the proposal, impacts on additional biodiversity values prescribed in the Biodiversity Conservation Regulation 2017 (NSW) need to be assessed in the category 1 area. Requirements for assessment of impacts on prescribed biodiversity values are set out in the Biodiversity Assessment Method. Prescribed impacts are listed in clause 6.1 of the Biodiversity Conservation Regulation.

Decision makers can expect that the Biodiversity Development Assessment Report will only contain information relevant to prescribed impacts for category 1 – exempt land. Impact assessment and offset calculations relating to vegetation integrity and habitat suitability are not required.

Related information

When the Biodiversity Offsets Scheme applies	→ (/topics/animals-and-plants/biodiversity-offsets-scheme/clear-and-develop-land/when-biodiversity-offsets-scheme-applies)
Biodiversity Values Map and Threshold Tool	→ (/topics/animals-and-plants/biodiversity-offsets-scheme/clear-and-develop-land/biodiversity-values-map-and-threshold-tool)
Relationship between the Native Vegetation Regulatory map and the Biodiversity Offsets Scheme	→ (/topics/animals-and-plants/biodiversity-offsets-scheme/clear-and-develop-land/biodiversity-values-map-and-threshold-tool/biodiversity-values-map-and-native-vegetation-map)

Updated September 09, 2024

ESEA
Environmental Services & Education Australia

32A, 34, 36 and 38 Nareen Parade, North Narrabeen

Streamlined Assessment (BDAR) – Small Area

15 August 2024

Version 2.0

Document Status

Version	Doc type	Approved by	Date issued
1.0	Draft	Clayton Woods	15th August 2024
2.0	Final	Clayton Woods	27th September 2024

Project Details

Project Name	32A, 34, 36 and 38 Nareen Parade North Narrabeen Streamlined Assessment (BDAR) – Small Area
Client	Civilised Contracting
Client Project Manager	Alexander D'Agruma
ESEA Project Manager	Clayton Woods
Document Number	20240035 38 Nareen Parade, North Narrabeen BDAR.docx

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16 August 2024

Alexander D'Agruma
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Strathfield, NSW 2135

32A, 34, 36 and 38 Nareen Parade North Narrabeen Streamlined Assessment (BDAR) – Small Area

The following Biodiversity Development Assessment Report (BDAR) has been prepared for the proposed reconstruction of an access driveway at 32A, 34, 36 and 38 Nareen Parade, North Narrabeen NSW 2101.

The proposed works involve the replacement of a driveway that was damaged by landslides following storm events starting 8 March 2022. It is understood that the affected driveway is approximately 22 m long and 2.4 m to 4.5 m wide. The new driveway will be constructed with an approximately 2.8 m wide extension to accommodate multi-driveway users. Associated works will involve minor earthworks for levelling and elevation correction, the construction of retaining walls, improved drainage lines, and the removal of nine (9) trees and a small amount of predominantly introduced ground cover.

The subject site area is approximately 0.67 ha. The proposed works have a footprint of approximately 0.047 ha (470 m^2), of which, the majority is concrete slab from the existing damaged driveway. Approximately 0.0038 ha (38.05 m^2) of vegetation will be impacted by the proposed works, including native and non-native vegetation. For BAMC calculations, the impacted area must be increased to the minimum size of 0.01 ha. This report therefore overestimates the impacted area.

The removal of native vegetation from mapped Biodiversity Values areas within the subject site triggers the Biodiversity Offset Scheme (BOS). As such, a Biodiversity Development Assessment Report (BDAR) is required. The proposed development meets the requirement for streamlined assessment for small area development as it does not exceed the maximum area clearing threshold for application of the small area development module of ≤1 ha for lot sizes of less than 1 ha.

Native vegetation within the development site was identified as representative of PCT 3592 – Sydney Coastal Enriched Sandstone Forest in poor condition. This PCT is not associated with any threatened ecological community under the *NSW Biodiversity Conservation Act 2016* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. This vegetation was assessed as posing a vegetation integrity score of 23.9. The total vegetation integrity loss from the subject site as a result of the proposed development would be -23.9 over 0.01 ha. One ecosystem credit has been applied to the proposed development to offset the loss of this PCT.

BAM Important Areas for *Lathamus discolor* (Swift Parrot) are mapped throughout the subject site and within the area of impact. The proposed works were assessed against the Significant Impact Criteria and it was determined that the proposed development is unlikely to have a serious and irreversible impact (SAII) on the species. Species credits are applicable to the proposed development and have been applied to the candidate species *Lathamus discolor* (Swift Parrot) and *Genoplesium baueri* (Bauer's Midge Orchid) to offset the loss of potential habitat for these species.

Environmental Services & Education Australia (ESEA) considers that the proponent has demonstrated application of the "avoid, minimise, offset hierarchy" by, where possible, retaining native canopy trees that are outside of the immediate driveway footprint.

The following tables present information on the ecosystem and species credits required to offset the residual impacts of the proposed works. The BAM-C credit report identifies the numbers and classes of biodiversity credits required to be retired in accordance with the like-for-like requirements of the offset rules. The BDAR

must be submitted to the decision-maker within 14 days of the date the BAM-C credit report is finalised. The full credit report is provided in Appendix A.

Table 0-1 Impacts that require an offset – ecosystem credits

Vegetation Zone	PCT name	TEC	Total area (ha)	Impact area (ha)	Current VI score	Future VI score	Change in VI score	Biodiversity risk weighting	Number of ecosystem credits required
Zone 1	3592 – Sydney Coastal Enriched Sandstone Forest	N/A	0.47	0.01	23.9	0	-23.9	1.75	1

Table 0-2 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
Bauer's Midge Orchid	*Genoplesium baueri*	Endangered	Endangered	0.01 ha	3.00	1
Swift Parrot	*Lathamus discolor*	Endangered	Critically Endangered	0.01	3.00	1

Yours sincerely

Clayton Woods
Director - Environmental Services & Education PTY LTD
cwoods@eseaustralia.com

CONTENTS

APPENDICES

LIST OF FIGURES

LIST OF TABLES

SHORTENED FORMS

APZ	Asset Protection Zone
BAM	Biodiversity Assessment Method
BAM-C	Biodiversity Assessment Method Calculator
BC Act	Biodiversity Conservation Act 2016 (NSW)
BC Regulation	Biodiversity Conservation Regulation 2017 (NSW)
BDAR	Biodiversity Development Assessment Report
BOAMS	Biodiversity Offsets and Agreement Management System
BOS	Biodiversity Offsets Scheme
CEEC	critically endangered ecological community
DBH	diameter at breast height over bark
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
EEC	endangered ecological community
HTW	high threat weed
IBRA	Interim Biogeographic Regionalisation for Australia
LLS Act	Local Land Services Act 2013 (NSW)
MNES	matters of national environmental significance
NPW Act	National Parks and Wildlife Act 1974 (NSW)
NSW	New South Wales
PCT	plant community type
SAII	serious and irreversible impact
SEARs	Secretary's Environmental Assessment Requirements
TBDC	Threatened Biodiversity Data Collection
TEC	threatened ecological community
VEC	vulnerable ecological community
Vegetation SEPP	State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 (NSW)

DECLARATIONS

Certification under clause 6.15 *Biodiversity Conservation Act 2016*

I 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).

Signature: 

Date: 27 September 2024

BAM Assessor Accreditation no: BAAS24031

Details and experience of author/s and contributors

Authors and contributors

Name	BAM Assessor Accreditation no. (if relevant)	Position/Role	Tasks performed	Relevant qualifications
Kat Duchatel	BAAS17054	Director / Principal Ecologist - Ecologique	BAM-C data entry and analysis Report preparation Document review	BSc Environmental Science BAM Accredited Assessor CEnvP EIANZ
Clayton Woods	BAAS24031	Director / Principal Ecologist - ESEA	Report preparation Document review Figure preparation BAM plot surveys Targeted threatened species surveys BAM-C data entry and analysis	BSc (Hons) Ecology and Environmental Science – 1st Class, University of Edinburgh BAM Accredited Assessor

Conflict of interest

I declare that I have considered the circumstances and there is no actual, perceived, or potential conflict of interest.

This declaration has been made in the interests of full disclosure to the decision-maker. Full disclosure has also been provided to the client.

Signature: 

Date: 27 September 2024

BAM Assessor Accreditation no: BAAS24031

1 INTRODUCTION

1.1 Development Overview

This Biodiversity Assessment Development Report (BDAR) has been prepared to support a development application (DA) for the proposed reconstruction of an access driveway at 32A, 34, 36 and 38 Nareen Parade, North Narrabeen NSW 2101. The following lots are associated with the development:

- Lot 39 DP 11356 (38 Nareen Parade),
- Lot 40 DP 11356 (36 Nareen Parade),
- Lot 41 DP 11356 (34 Nareen Parade), and
- Lot 421 DP 1004511 (32 A Nareen Parade)

The DA will be assessed under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Several cracks were observed within the pavement of the existing driveway as a result of the landslides following storm events starting on 8 March 2022. It is understood that the affected driveway is approximately 22 m long and 2.4 m to 4.5 m wide. A new driveway will be constructed to replace the existing driveway. The new driveway is proposed to have an approximately 2.8 m wide extension to accommodate multi-driveway users (Figure 1-1).

Associated works will involve minor earthworks for levelling and elevation correction, the construction of retaining walls, improved drainage lines, and the removal of nine (9) trees and a small amount of predominantly introduced ground cover.

The subject site is approximately 0.67 ha. The proposed works have a footprint of approximately 0.047 ha (470 m^2), of which, the majority is concrete slab from the existing damaged driveway (Figure 1-2). Approximately 0.0038 ha (38.05 m^2) of vegetation will be impacted by the proposed works, including native and non-native vegetation. For the purpose of BAMC calculations, the impacted area must be increased to the minimum size of 0.01 ha. This assessment therefore overestimates the impacted area.

1.2 Location

The subject site is located approximately 19 km north of Sydney CBD, 1.4 km northwest of Narrabeen town centre and 700 m north of Narrabeen Lagoon. The combined area of the subject lots is approximately 0.67 ha.

The subject site is in the Northern Beaches Council local government area (LGA) and Northern Beach Council (Council) is the approval authority. The site occurs entirely within land zoned C4 – Environmental Living under the *Pittwater Local Environmental Plan 2014* (LEP). The subject site does not occur within a Sydney Region Growth Centre, and is not within subject lands for biocertification.

The site currently possesses an existing concrete slab driveway, four residential dwellings and several outhouse/shed structures. One distinct patch of remnant native canopy vegetation occurs over the entire subject area, fragmented only by structures and driveways. This patch contains a well-established canopy and mid-stratum, but a degraded and highly eroded ground stratum. The area has not been subject to any environmental works such as revegetation with native species.

The closest conservation land to the proposed subject site is Narroy Reserve, located approximately 50 m south of the subject site, and Bilarong Reserve, located approximately 900 m south.

1.3 Biodiversity Offset Scheme Entry

The subject land is mapped as containing Biodiversity Values (as defined by clause 7.3(3) of the *Biodiversity Conservation Regulation 2017*) (Figure 1-3). Clearing of vegetation within mapped Biodiversity Values areas triggers entry into the NSW Biodiversity Offsetting Scheme (the Scheme). Under Division 2 Section 6.7 of the *Biodiversity Conservation Act 2016* (BC Act) the NSW Environment Minister established the Biodiversity Assessment Method (BAM) in connection with the Scheme.

Compliantly, the proposed development's impacts on biodiversity have been assessed through the application of the BAM and are documented in this Biodiversity Development Assessment Report (BDAR).

The works meet the requirement for the application of the streamlined assessment module for small area developments. The proposed works do not exceed the maximum area clearing threshold for application of this module of ≤1 ha for lot sizes of less than 1 ha.

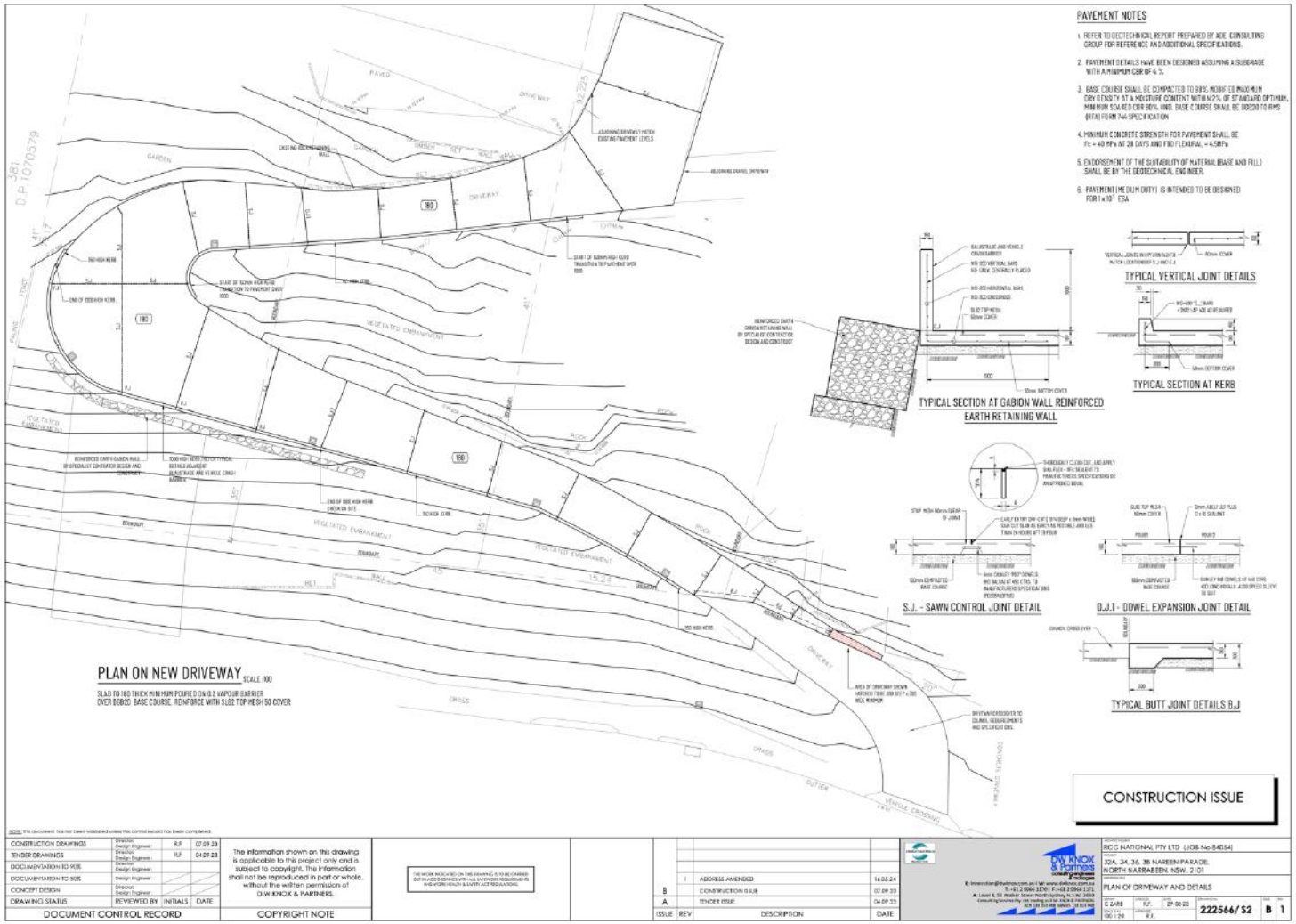


Figure 1-1 Proposed Development

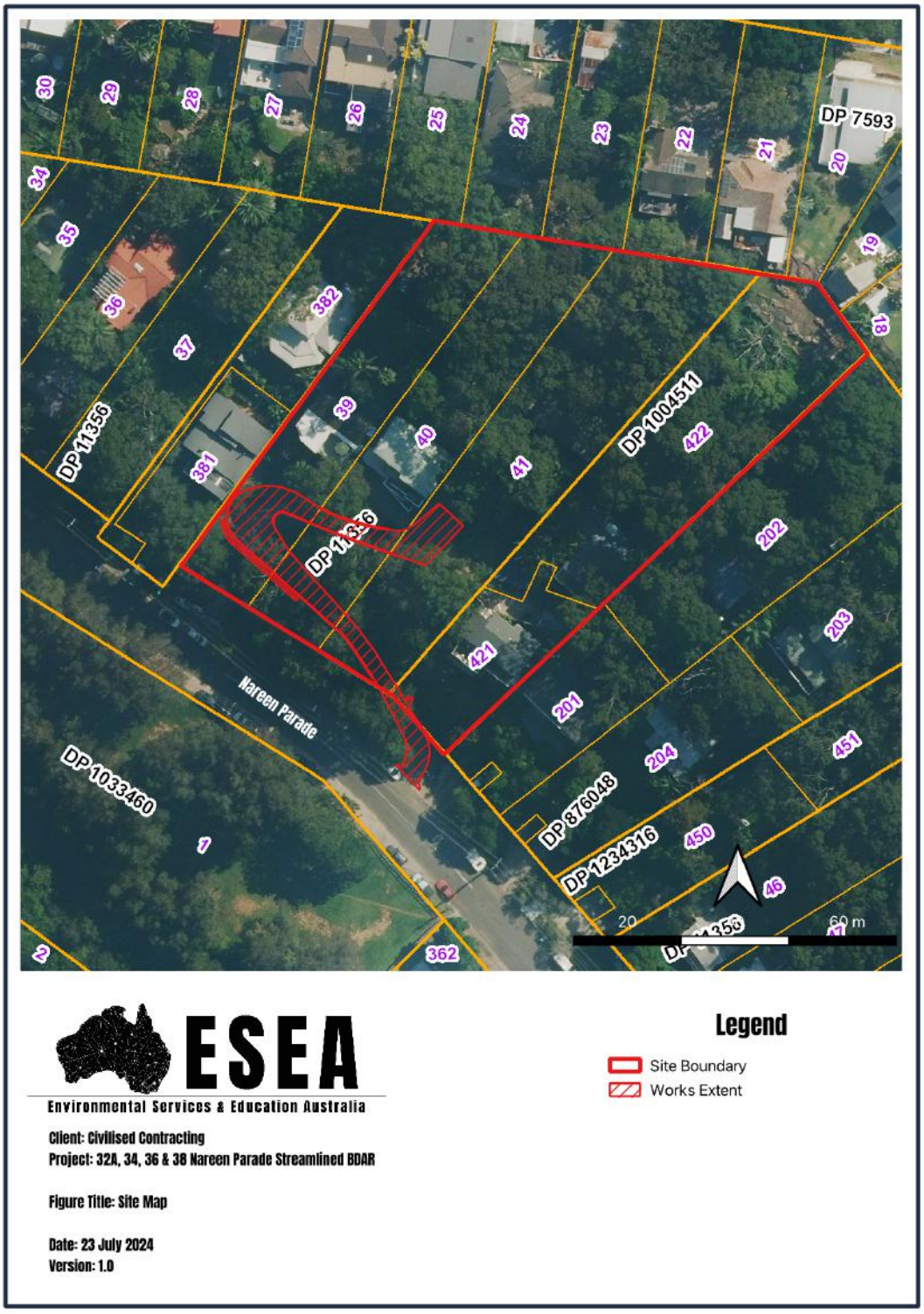


Figure 1-2 Site Map

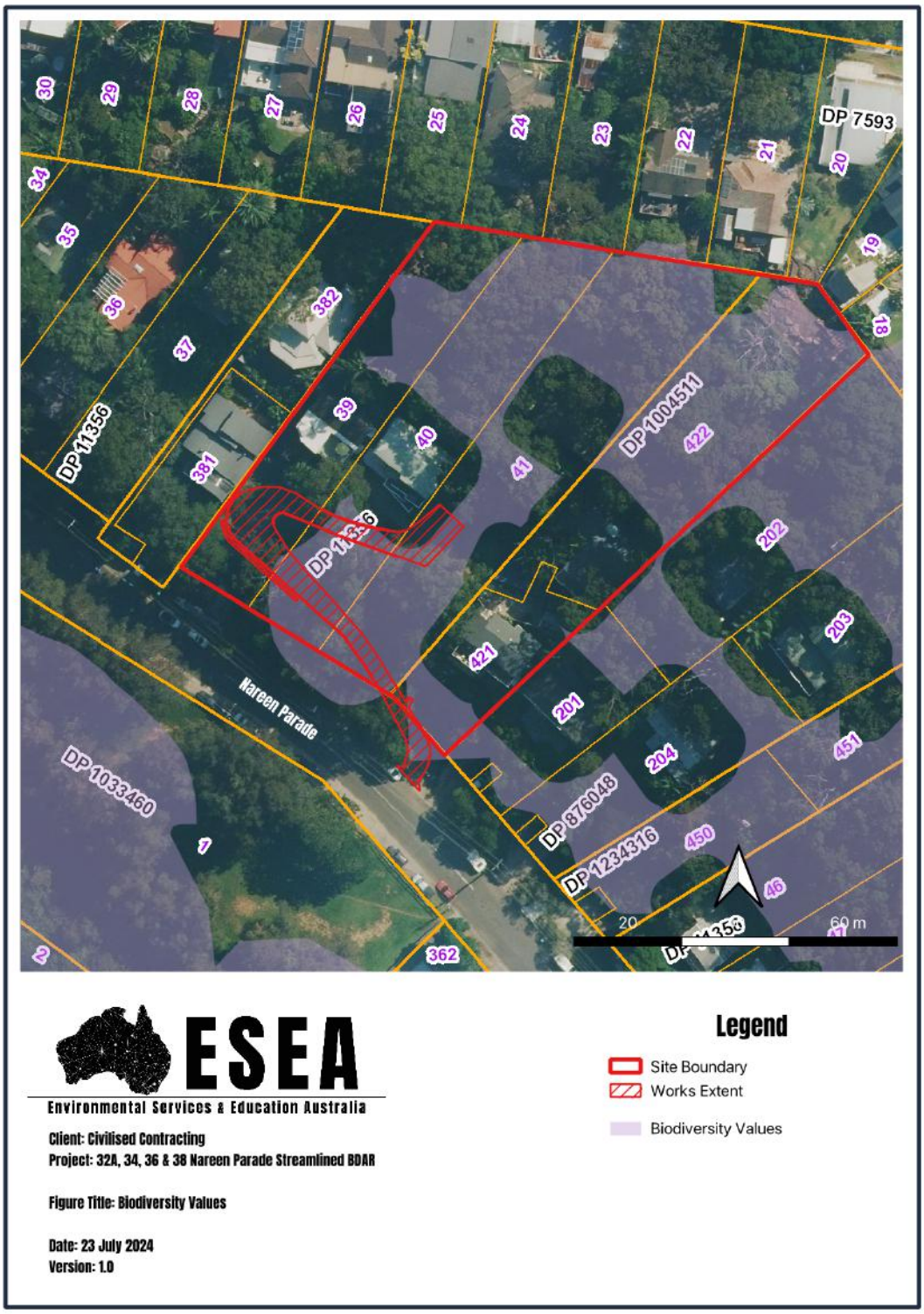


Figure 1-3 Biodiversity Values Map

2 INFORMATION SOURCES

The following information sources were used in the preparation of this report:

- Imagery:
  - Aerial imagery: MetroMap 2 August 2024
- Australian Government Department of Climate Change, Energy, the Environment and Water
  - Protected Matters Search Tool: https://pmst.awe.gov.au/
  - Species Profiles and Threats Database (SPRAT): http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl
  - Significant Impact Guidelines 1.1 - Matters of National Environmental Significance (Department of the Environment, Water, Heritage and the Arts, 2013 EPBC Act Policy Statement)
  - Interim Biogeographic Regionalisation for Australia (IBRA) version 7.0
- NSW Department of Planning, Industry and Environment (DPIE), Environment, Energy and Science (EES) Group, formerly the Office of Environment and Heritage (OEH)
  - NSW (Mitchell) Landscapes - version 3.1
  - Biodiversity Values Map: https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap
  - NSW State Vegetation Type Map: https://datasets.seed.nsw.gov.au/dataset/95437fbd-2ef7-44df-8579-d7a64402d42d
  - BioNet Threatened Biodiversity Data Collection
  - BioNet Vegetation Classification
  - NSW Spatial Services Historical Imagery Viewer: https://www.spatial.nsw.gov.au/products_and_services/aerial_and_historical_imagery

3 ESTABLISHING THE SITE CONTEXT

3.1 IBRA Subregion and Landscape Features

3.1.1 Identify the IBRA subregion in which the development takes place

The subject site lies within the Sydney Basin IBRA region and the Pittwater IBRA subregion.

3.1.2 Identify any relevant landscape features listed in Section 3.1 of the BAM

Landscape features relevant to the proposal have been assessed from within a 1500 m buffer zone (the BDAR assessment area) around the subject land, which covers 528 ha (Figure 3-1).

In accordance with Sections 3.1 and 3.2 of the BAM (2020) assessment and mapping of the landscape features has been undertaken as summarised in Table 3-1 and shown in Figure 3-1.

Figure 3-1 illustrates the extent of native vegetation within the BDAR assessment area.

Table 3-1 Landscape Assessment

Feature	Subject site	BDAR assessment area relevance
IBRA bioregion	Sydney Basin.	Sydney Basin.
IBRA subregion	Pittwater.	BDAR assessment area partially contains land within the Cumberland IBRA subregion and the Yengo IBRA subregion.
NSW (Mitchell) landscapes	Belrose Coastal Slopes.	The assessment area is split almost equally between the Belrose Coastal Slopes, and the Sydney – Newcastle Barriers and Beaches. Belrose Coastal Slopes runs directly through the centre of the BDAR assessment area and encompasses the entirety of the subject site.
Rivers and streams	According to NSW Water Management (General) Regulation 2018 Hydroline Spatial Data, no drainage lines occur within the subject site.	The closest mapped hydroline is 60 m south of the subject site. This is a first-order stream in this location. Mullet Creek and South Creek also occur within the BDAR Assessment Area. These appear to be approximate fourth-order streams in this location.
Wetlands	The subject site does not contain estuaries or wetlands.	The BDAR assessment area contains the Narrabeen Lake wetland. This is not a listed RAMSAR site or Commonwealth Marine Area.
Connectivity	The subject possesses connectivity for highly mobile species to the east and west. This occurs between remnant vegetation that occurs sporadically within residential garden areas and through Narroy Reserve.	Remnant vegetation with the BDAR assessment area is generally scattered and patchy. Patches of remnant vegetation are confined to small reserves such as Narroy Reserve and Billarong Reserve, but are otherwise confined to remnants within residential garden areas. Overall connectivity in the area is moderate – low, and largely only suitable to highly mobile species.

Geological features	The subject site does not contain any geological features of significance, including karst, caves, crevices, or cliffs.	Narrabeen Lagoon occurs with the BDAR assessment area. No karsts, caves, crevices, cliffs, or areas of geological significance have been identified within the BDAR assessment area.
Areas of outstanding biodiversity value	The subject site does not contain any Areas of Outstanding Biodiversity Value.	No Areas of Outstanding Biodiversity Value occur within the BDAR assessment area.
Native vegetation cover	The subject site is approximately 0.67 ha and contains approximately 0.45 ha of remnant native vegetation.	The BDAR assessment area including the subject land is approximately 528 ha. The total of native vegetation cover in the BDAR assessment area is approximately 84 ha, which equates to 16%.

3.2 Site Context

3.2.1 Native vegetation cover

Native vegetation cover within the subject site must be assessed in relation to native vegetation cover across a broader BDAR assessment area. The cover of native vegetation within the BDAR assessment area is required to determine the context of the subject land. The cover of native vegetation was assessed via desktop assessment as follows:

- Clipping the NSW State Vegetation Type Map within the greater BDAR assessment area using QGIS;
- Editing the shapefile to remove areas of vegetation no longer evident, based on up-to-date satellite imagery, and the addition of new polygons identifying areas of vegetation not represented in mapping.

An on-site field assessment was then conducted to refine the result of the desktop assessment and determine the floral composition of the site. The flora survey consisted of irregular traverses within the assessment area, ensuring comprehensive coverage of all vegetation present. Physical data including plant species composition, health, and weed coverage were recorded.

The BDAR assessment area including the subject land is approximately 528 ha. The total native vegetation cover in the BDAR assessment area is approximately 84 ha, which equates to 16%. The subject site is approximately 0.67 ha and contains approximately 0.45 ha of remnant vegetation.

3.2.2 Patch size

A patch is an area of native vegetation that occurs within the BDAR assessment area and includes native vegetation that has a gap of less than 100 m from the next area of native vegetation (or ≤ 30 m for non-woody ecosystems). Patch size was calculated using available vegetation mapping for all patches of intact native vegetation on and adjoining the subject site. Patch size was assigned to one of four classes (<5 ha, 5-24 ha, 25-100 ha or ≥100 ha).

A patch size of 5-24 ha (estimated at 17 ha) was determined for the subject site and entered in the BAMC.

3.2.3 Native vegetation extent

Table 3-2 summarises the extent of native vegetation cover within the assessment area. Figure 3-1 shows native vegetation cover within the assessment area.

Table 3-2 Native vegetation extent

Assessment area (ha)	528 ha
Total area of native vegetation cover (ha)	84 ha
Percentage of native vegetation cover (%)	16%
Class (0-10, >10-30, >30-70 or >70%)	>10-30

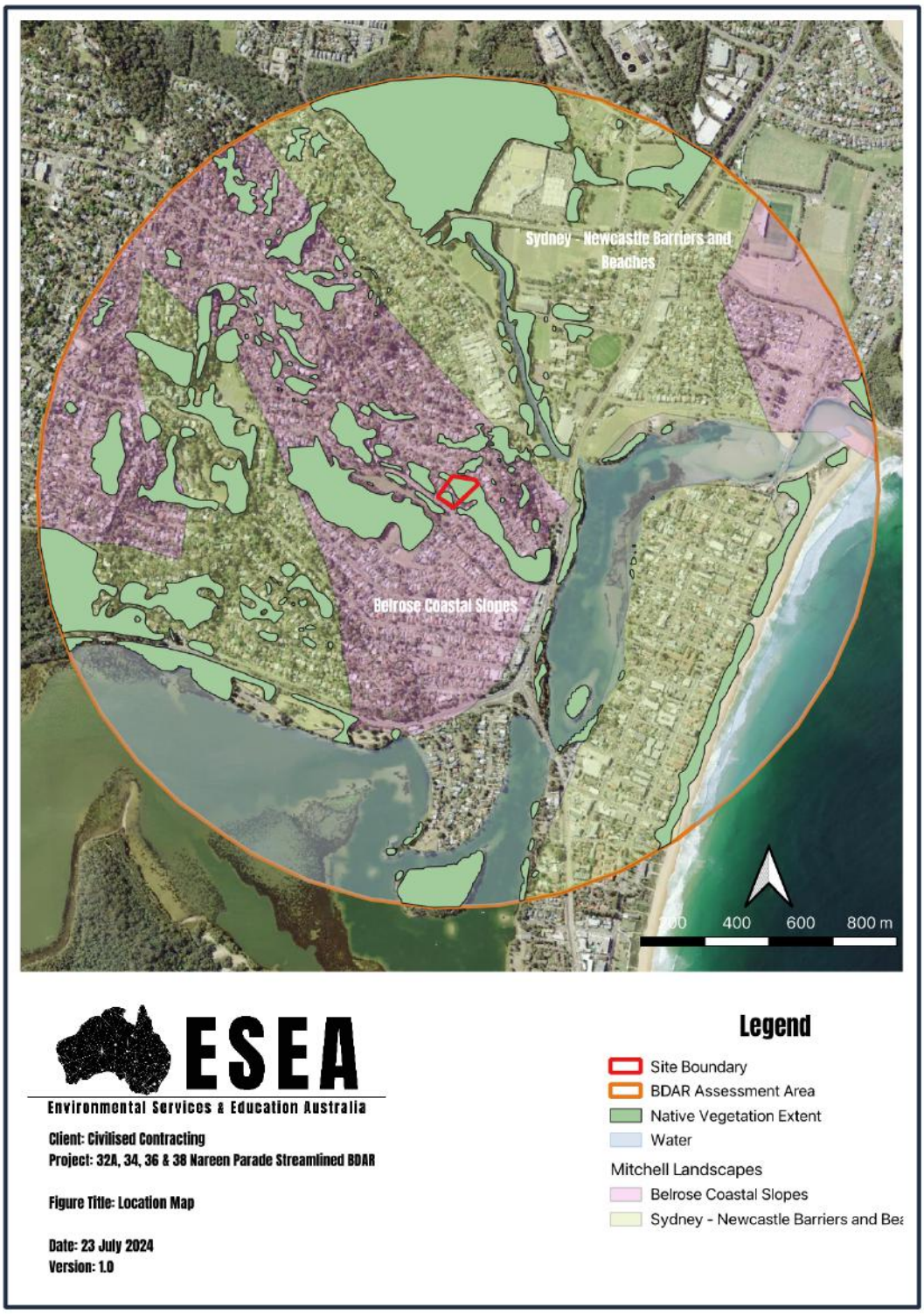


Figure 3-1 Location Map

4 ASSESSING NATIVE VEGETATION, THREATENED ECOLOGICAL COMMUNITIES AND VEGETATION INTEGRITY

4.1 Native Vegetation Mapping

4.1.1 Plot-based vegetation survey

Floristic surveys were carried out on Monday 29th July 2024. Identification of plant community types (PCTs) within the subject land were confirmed during site surveys with reference to the BioNet Vegetation Classification database and data collected from floristic and site integrity plots/transects in accordance with Section 2 of the BAM (2020).

One floristic vegetation plot was surveyed to obtain an accurate representation of the vegetation present.

4.1.2 Vegetation integrity survey

The vegetation integrity survey was conducted as per the BAM 2020 Operation Manual. One plot was conducted within the subject site. This plot assessed the one patch of native vegetation within the footprint of the proposed works.

4.1.3 Changes to mapped native vegetation extent

According to the NSW State Vegetation Type Mapping, two PCTs are mapped as occurring within the subject site (Figure 4-1). These include:

- PCT 3595 – Sydney Coastal Sandstone Gully Forest; and,
- PCT 4028 – Estuarine Swamp Oak Twig-rush Forest.

Native vegetation extent within the subject site has been refined based on data collected during field surveys. The extent of mapped native vegetation has been increased to include areas that contain native canopy and midstratum species.

Native vegetation extent within the subject site covers an area of approximately 0.47 ha (Figure 4-2). The remaining 0.2 ha of land within the subject site is not native vegetation. These areas are characterised by existing residential dwellings, concreted driveway areas, and introduced garden species.

4.1.4 Areas that are not native vegetation

Areas that are not native vegetation within the subject land extend over approximately 0.2 ha of the subject site. This consists of existing residential dwellings, concreted driveway areas, and introduced garden species and weeds. Table 4-1 illustrates the nature of native and non-native vegetation within the subject site.

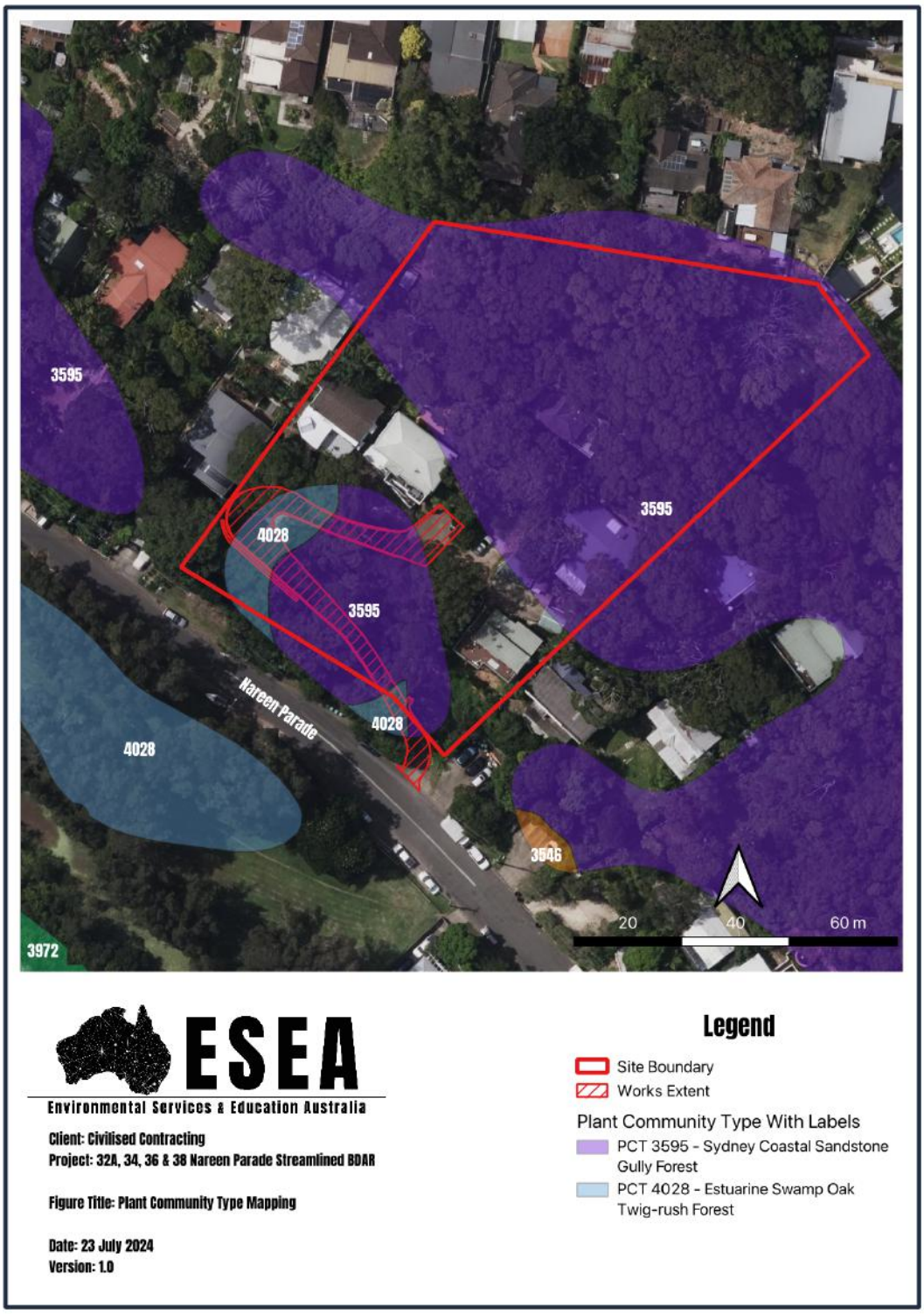
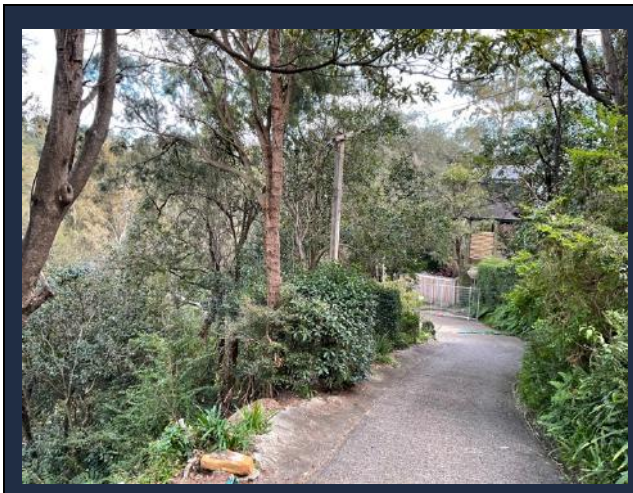


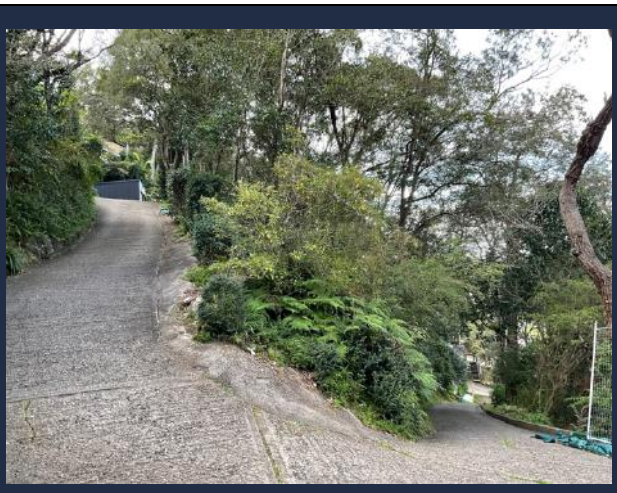
Figure 4-1 Plant Community Type Mapping

Figure 4-2 Native Vegetation Extent within Subject Site

Table 4-1 Photo-plate 1: site images



Top of existing driveway looking down to the west



Centre bend of existing driveway

Bottom of existing driveway looking up to the west

Centre of BAM plot running directly downslope to the south

East side of BAM plot

West side of BAM plot

4.2 Identification of Plant Community Types

Various attributes were considered in combination to assign vegetation to the best fit PCT. This included dominant species in each stratum and relative abundance, community composition, soils and landscape position. Reference was made to the PCT descriptions in the BioNet Vegetation Classification.

Areas of native vegetation within the subject site were identified as PCT 3592 – Sydney Coastal Enriched Sandstone Forest, in poor condition.

PCT 3592 – Sydney Coastal Enriched Sandstone Forest was selected for the following reasons:

- The subject site is in the Sydney Basin IBRA region and Pittwater IBRA subregion,
- The subject site is in the Belrose Coastal Slope Mitchell Landscape, and is within the Northern Beaches LGA,
- The subject site possesses sandy-clay soil on weathered sandstone bedrock. Sydney Soil Landscape Series Sheet (9030), indicates that the site is part of Watagan landscape "Wn",
- Vegetation has dry sclerophyll forest formation,
- The presence of characteristic canopy species *Angophora costata* (Sydney Red Gum), *Allocasuarina torulosa* (Forest She-oak), *Syncarpia glomulifera* (Turpentine), *Eucalyptus resinifera* (Red Mahogany), *Glochidion ferdinandi* (Cheese Tree),
- The presence of characteristic shrub species including *Pittosporum undulatum* (Sweet Pittosporum) and fern species *Pteridium esculentum*.

PCT ID	PCT Name	Area within subject land (ha)
3592	Sydney Coastal Enriched Sandstone Forest	0.47
	Total area	0.47

4.2.1 PCT 3321 Cumberland Shale-Sandstone Ironbark Forest

4.2.1.1.1 PCT overview

PCT ID	3592
PCT name	Sydney Coastal Enriched Sandstone Forest
Vegetation formation	KF_CH5B Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	Sydney Coastal Dry Slerophyll Forests
Percent cleared value (%)	60.82
Extent within subject land (ha)	0.47

PCT 3592 within the subject area comprises remnant canopy trees and midstratum vegetation overlying a highly disturbed and eroded ground cover that mainly comprises exotic species. Overall, the PCT is considered to be in poor condition, due to limited native groundcover being present.

The extent of PCT 3592 has been revised from that depicted on the NSW State Vegetation Type Map. Revisions include the amendment of mapped PCT from 3595 to PCT 3592, and the inclusion of areas that comprise native vegetation that were not previously mapped. The mapping has also been revised to remove PCT 4028 from the subject site, as this is not considered present.

One condition zone has been attributed to PCT 3592 in the subject site, which extends over 0.47 ha in total. The patch size for native vegetation within the BDAR assessment area has been estimated as 17 ha.

4.3 Identification of Threatened Ecological Communities

4.3.1 Alignment with TECs

In accordance with Section 4.2 of the BAM the identification of Threatened Ecological Communities (TECs) must be considered against the NSW Threatened Species Scientific Committee (the Committee) Final Determination for the TEC.

PCT 3592 – Sydney Coastal Enriched Sandstone Forest is not associated with any threatened ecological communities (TECs). As such, comparisons of vegetation within the subject site against TEC Final Determination have not been conducted.

The vegetation within the subject site is not considered eligible for consideration as a threatened ecological community.

4.4 Assessment of Vegetation Integrity

4.4.1 Vegetation integrity survey plots

Table 4-2 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
PCT 3592 Poor	3592 – Sydney Coastal Enriched Sandstone Forest	Poor condition – minimal native understory present	0.47	☐ <5 ha ☒ 5–24 ha ☐ 25–100 ha ☐ >100 ha	1	1	1	BAM Plot 1

Table 4-3 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 3592 Poor	11.2	31.6	38.7	23.9	No

5 HABITAT SUITABILITY FOR THREATENED SPECIES

5.1 Identification of Threatened Species for Assessment

5.1.1 Ecosystem credit species

Ecosystem credit species predicted to occur within the subject site are generated by the BAM-C following the input of vegetation integrity data and the PCTs identified within Section 4. Ecosystem credit species predicted to occur at the subject site, their associated habitat constraints, geographic limitations and sensitivity to gain class are included in Table 5-1. The relevant justification for the exclusion of ecosystem credit species is also included in Table 5-1.

5.1.2 Species credit species

Species credit species are threatened species for which vegetation surrogates and/or landscape features cannot reliably predict the likelihood of their occurrence or components of their habitat. These species are identified in the TBDC. A targeted survey or an expert report is required to confirm the presence of these species on the subject land. Alternatively, for a development activity, clearing, or biodiversity certification proposal the proponent may elect to assume the species is present.

Species credit species that require further assessment on the subject site (i.e., candidate species), their associated habitat constraints, geographic limitations and sensitivity to gain class are included in **Error! Reference source not found.**.

5.1.3 Dual credit species

Dual credit species are threatened species that the TBDC identifies as both ecosystem credits and species credit species. Dual credit species are generally highly mobile species that rely on particular habitat components for breeding or require particular areas in the landscape important for their survival. For dual credit species, part of the habitat is assessed as a species credit. The remaining habitat components for the species are assessed as an ecosystem credit (e.g. foraging habitat).

5.2 Assessment of Threatened Species Likely to Occur within the Development Site

5.2.1 Predicted ecosystem credit species

Table 5-1 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	Sensitivity to gain class
		BC Act	EPBC Act						
Dusky Woodswallow	*Artamus cyanopterus cyanopterus*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate
Gang-gang Cockatoo (foraging)	*Callocephalon fimbriatum*	Vulnerable	Endangered	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate
South-eastern Glossy Black-Cockatoo (foraging)	*Calyptorhynchus lathami lathami*	Vulnerable	Vulnerable	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate
Brown Treecreeper (eastern subspecies)	*Climacteris picumnus victoriae*	Vulnerable	Vulnerable	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High
Varied Sittella	*Daphoenositta chrysoptera*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate

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	Sensitivity to gain class
		BC Act	EPBC Act						
Spotted-tailed Quoll	*Dasyurus maculatus*	Vulnerable	Endangered	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High
Little Lorikeet	*Glossopsitta pusilla*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High
White-bellied Sea-Eagle (foraging)	*Haliaeetus leucogaster*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High
Little Eagle (foraging)	*Hieraaetus morphnoides*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate
White-throated Needletail	*Hirundapus caudacutus*	Not Listed	Vulnerable	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High
Black Bittern	*Ixobrychus flavicollis*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	BAM habitat constraint – subject site is not within 40 m of freshwater and estuarine wetlands, in areas of permanent water and dense vegetation	N/A	Moderate

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	Sensitivity to gain class
		BC Act	EPBC Act						
Swift Parrot (foraging)	*Lathamus discolor*	Endangered	Critically Endangered	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate
Square-tailed Kite (foraging)	*Lophoictinia isura*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate
Black-chinned Honeyeater (eastern subspecies)	*Melithreptus gularis gularis*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate
Eastern Coastal Free-tailed Bat	*Micronomus norfolkensis*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☒ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High
Little Bent-winged Bat (foraging)	*Miniopterus australis*	Vulnerable	Not Listed	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High
Large Bent-winged Bat (foraging)	*Miniopterus orianae oceanensis*	Vulnerable	Not Listed	Yes	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High

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	Sensitivity to gain class
		BC Act	EPBC Act						
Turquoise Parrot	*Neophema pulchella*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High
Eastern Osprey (foraging)	*Pandion cristatus*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate
Scarlet Robin	*Petroica boodang*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate
Flame Robin	*Petroica phoenicea*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	Moderate
Grey-headed Flying-fox (foraging)	*Pteropus poliocephalus*	Vulnerable	Vulnerable	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High
Yellow-bellied Sheathtail-bat	*Saccolaimus flaviventris*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High

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	Sensitivity to gain class
		BC Act	EPBC Act						
Rosenberg's Goanna	*Varanus rosenbergi*	Vulnerable	Not Listed	No	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		Zone 1 – PCT 3592	High

5.2.2 Candidate 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				
Large-eared Pied Bat	*Chalinolobus dwyeri*	Vulnerable	Vulnerable	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	BAM habitat constraint - No cliffs, caves, overhangs, escarpments, outcrops or crevices in proximity (2km) of the subject site.	N/A
	Deyeuxia appressa	Endangered	Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	BAM habitat constraint - The development site is substantially degraded. Highly restricted NSW endemic known only from two pre-1942 records in the Sydney area. Was first collected in 1930 at Herne Bay, Saltpan Creek, off the Georges River, south of Bankstown. Was then collected in 1941 from Killara, near Hornsby. Has not been collected since and may now be extinct in the wild due to the level of habitat loss and development that has occurred within these areas.	N/A

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				
Bauer's Midge Orchid	*Genoplesium baueri*	Endangered	Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		
	Haloragodendron lucasii	Endangered	Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		
Julian's Hibbertia	*Hibbertia spanantha*	Critically Endangered	Critically Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Geographic constraint - Species is only known from three small populations near the suburbs of Turramurra, Macquarie Park and Beecroft	
Swift Parrot (Breeding)	*Lathamus discolor*	Endangered	Critically Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		N/A
Deane's Paperbark	*Melaleuca deanei*	Vulnerable	Vulnerable	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Geographic constraint - Deane's Paperbark occurs in two distinct areas, in the Ku-ring-gai/Berowra and Holsworthy/Wedderburn areas respectively. There are also more isolated occurrences at Springwood (in the Blue Mountains), Wollemi National Park, Yalwal (west of Nowra) and Central Coast (Hawkesbury River) areas.	

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				
Little Bent-winged Bat (Breeding)	*Miniopterus australis*	Vulnerable	Not Listed	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	BAM habitat constraint - No caves, tunnels, mines, culverts or other structures present within the subject site that could be used for breeding.	N/A
Large Bent-winged Bat (Breeding)	*Miniopterus orianae oceanensis*	Vulnerable	Not Listed	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	BAM habitat constraint - No caves, tunnels, mines, culverts or other structures present within the subject site that could be used for breeding.	N/A
Hairy Geebung	*Persoonia hirsuta*	Endangered	Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	Yes		N/A
Seaforth Mintbush	*Prostanthera marifolia*	Critically Endangered	Critically Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Geographic constraint - currently only known from the northern Sydney suburb of Seaforth and has a very highly restricted distribution within the Sydney Basin Bioregion.	
Eastern Australian Underground Orchid	*Rhizanthella slateri*	Vulnerable	Endangered	☒ BAM-C ☐ TBDC ☐ Previous survey ☐ Current survey	No	Geographic constraint - currently known only from 10 locations, including near Bulahdelah, the Watagan Mountains, the Blue Mountains, Wiseman's Ferry area, Agnes Banks and near Nowra. The population in the Great Lakes area occurs at the known northern limit of the species' range and is disjunct from other known populations of the species.	

5.3 Threatened Species Surveys

Targeted surveys for several species groups were undertaken at the subject site in accordance with relevant survey guidelines and are detailed in Table 5-2. These surveys were undertaken to confirm the inputs within the BAMC. The locations of the BAM plot and targeted surveys are shown in Figure 5-2 and Figure 5-1.

5.3.1 Flora

Targeted flora surveys were conducted for the following species:

- *Persoonia hirsuta* (Hairy Geebung)
- *Haloragodendron lucasii*

Targeted flora surveys consisted of transects within areas of suitable habitat within the subject site (Figure 5-2). Transects were undertaken on foot for approximately two hours.

5.3.2 Fauna

No candidate fauna species are considered likely to occur within the subject site other than *Lathamus discolor* (Swift Parrot). As such, no targeted surveys for candidate fauna species were conducted.

A summary of surveys undertaken within the subject site by ESEA (2024) is presented in Table 5-2.

Table 5-2 Targeted surveys

Common name	Scientific name	Threatened flora species surveys				Results	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)		
	Haloragodendron lucasii	Transect search	☒ Yes	☐ No	Transect Search Friday 29/07/24 Total hours = 2.5 No. people = 1	None observed	No
Hairy Geebung	*Persoonia hirsuta*	Transect search	☒ Yes	☐ No	Transect Search Friday 29/07/24 Total hours = 2.5 No. people = 1	None observed	No

Figure 5-1 BAM Plot Location

Figure 5-2 Targeted Survey for *Haloragodendron lucasii* and *Persoonia hirsuta*

6 SPECIES AT RISK OF SERIOUS AND IRREVERSIBLE IMPACT

6.1 *Lathamus discolor* (Swift Parrot)

BAM Important Areas for the Swift Parrot are mapped throughout the subject site and within the area of impact. Significant Impact Criteria are applied in Table 6-1.

Table 6-1 Significant Impact Assessment for Swift Parrot

Criteria	Question	Response
An action is likely to have a significant impact on the species if there is a real chance or possibility that it will:		
1	lead to a long-term decrease in the size of a population	A 'population of a species' refers to a population, or collection of local populations, that occurs within a particular bioregion. No Swift Parrots have been recorded as occurring within, or in close proximity to the subject site; but the subject site is within mapped Important Habitat for the species. Approximately 0.0038 ha (38.05 m^2) of vegetation will be impacted by the proposed works, including native and non-native vegetation. This vegetation contains some flowering species that may be used as feed trees by the Swift Parrot, including *Eucalyptus resinifera* and *E. paniculata*. The foraging habitat available within the subject site is likely only low-quality feeding habitat, as it does not contain favoured feed trees such as *Eucalyptus robusta* (Swamp Mahogany), *Corymbia maculata* (Spotted Gum), *C. gummifera* (Red Bloodwood), *E. tereticornis* (Forest Red Gum), *E. sideroxylon* (Mugga Ironbark), and *E. albens* (White Box). It also does not contain any commonly used lerp infested trees include *E. microcarpa* (Inland Grey Box), *E. moluccana* (Grey Box), *E. pilularis* (Blackbutt), and *E. melliodora* (Yellow Box). Given that the species is highly mobile and can continue to access foraging habitat retained within the development site and surrounds, the proposed works would not lead to a long-term decrease in populations of the species. No breeding habitat would be impacted as part of the proposed works, as the species breeds in Tasmania between September and January, nesting in old trees with hollows.
2	reduce the area of occupancy of the species	The proposed action would reduce the area of occupancy of the species through the direct removal of approximately 0.0038 ha (38.05 m^2) of potential foraging habitat. More foraging habitat would be retained within the subject land and similar habitat is available adjacent to the development site. No breeding habitat would be removed.
3	fragment an existing population into two or more populations	The proposed works will not result in any fragmentation Swift Parrot populations. The area of vegetation proposed for removal is extremely small (0.0038 ha), and would not affect this highly-mobile species.
4	adversely affect habitat critical to the survival of a species	The National Recovery Plan for the Swift Parrot identifies critical habitat as those with a "level of site fidelity or possessing phenological characteristics likely to be of importance to the Swift Parrot, or are otherwise identified by the recovery team". The proposed works would not impact critical habitat for the species because the development site has not been identified as having site fidelity or been identified by the recovery team.
5	disrupt the breeding cycle of a population	The Swift Parrot breeds only in Tasmania. The breeding cycle of the species is unlikely to be impacted by the proposed works.
6	modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed action would remove 0.0038 ha of potential low-quality foraging habitat available for the species within the development site. The highly mobile species would still be able to access foraging habitat retained within the development site and surrounds. The foraging habitat available within the subject site is likely only low-quality feeding habitat, as it does not contain favoured feed trees such as *Eucalyptus robusta* (Swamp Mahogany),

		Corymbia maculata (Spotted Gum), *C. gummifera* (Red Bloodwood), *E. tereticornis* (Forest Red Gum), *E. sideroxylon* (Mugga Ironbark), and *E. albens* (White Box). It also does not contain any commonly used lerp infested trees include *E. microcarpa* (Inland Grey Box), *E. moluccana* (Grey Box), *E. pilularis* (Blackbutt), and *E. melliodora* (Yellow Box).
7	result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The proposed action is unlikely to result in the establishment of an invasive species that is harmful to the Swift Parrot.
8	introduce disease that may cause the species to decline	Psittacine Beak and Feather Disease may cause the species to decline. This spread through food sharing, excrement, feather and skin particles. The proposed works is not likely to increase these vectors, and is unlikely to increase the risk of spread of Psittacine Beak and Feather Disease.
9	interfere with the recovery of the species	One threat activity identified within the National Recovery Plan for the Swift Parrot 2011 is relevant to the proposed development - habitat loss and alteration. The proposed action would remove 0.0038 ha of potential low-quality foraging habitat for this species. However, this threat is considered minimal given that similar habitat would still be available for the highly mobile species within and adjacent to the site boundary, therefore not fragmenting foraging habitat or movement corridors.
Conclusion	Is there likely to be a significant impact	No. The proposed activity is considered unlikely to have a significant impact on the Swift Parrot for the following reasons: ■ No breeding habitat would be removed by the proposed action. ■ The area of potential feeding habitat to be removed is extremely small (0.0038 ha). ■ Similar foraging habitat for this highly mobile species is available adjacent to the development site and throughout the region and will not be impacted by the proposed works.

6.2 *Genoplesium baueri* (Bauer's Midge Orchid)

This species was not identified within the development site during surveys, as surveys could not be conducted during the February – March survey period, as stipulated by the TBDC. The species must be assumed present within the subject site, or be disregarded based on the subject site being significantly degraded to the point where it no longer constitutes suitable habitat. Whilst the subject site is in poor condition, it is not considered sufficiently degraded to the extent that there is no chance of the species' presence.

Table 6-2 Significant Impact Assessment for Bauer's Midge Orchid

Criteria	Question	Response
An action is likely to have a significant impact on the species if there is a real chance or possibility that it will:		
1	lead to a long-term decrease in the size of a population	No *Genoplesium baueri* were noted within the subject site, and it is considered unlikely that the species occurs within the subject site, as this is not within one of the 13 known locations for the species. Only 0.0038 ha of vegetated area within the subject site will be impacted by the proposed works, and this will all occur along the edge of the existing driveway where plant species composition was shown to be highly exotic or bare ground.

2	reduce the area of occupancy of the species	The species has been recorded from locations between Ulladulla and Port Stephens. About half the records were made before 1960 with most of the older records being from Sydney suburbs including Asquith, Cowan, Gladesville, Longueville and Wahroonga. No collections have been made from those sites in recent years. Currently the species is known from just over 200 plants across 13 sites. The species has been recorded at locations now likely to be within the following conservation reserves: Berowra Valley Regional Park, Royal National Park and Lane Cove National Park. It may occur in the Woronora, O'Hares, Metropolitan and Warragamba Catchments. The geographic distribution of *Genoplesium baueri* is highly restricted. The area of occupancy was estimated to be 168 km^2. The species grows in heathland to shrubby woodland or open forest, shrubby forest and heathy forest. It usually occurs in sands or sandy loams or well-drained sandy and gravely soils. The subject site is not within any of these known locations and is considered unlikely to possess *Genoplesium baueri*, based on the degraded and weedy nature of the site. The proposed action would reduce the area of occupancy of the species through the direct removal of 0.0038 ha of potential habitat.
3	fragment an existing population into two or more populations	The proposed action would remove 0.0038 ha of potential habitat for the species. The vegetation to be removed does not occur within one of the 13 known sites where the species has previously been recorded and it is considered unlikely that the species occurs within the subject site. It is considered very unlikely that the proposed works would fragment populations of the species.
4	adversely affect habitat critical to the survival of a species	Critical habitat for the species has not been identified within the subject site.
5	disrupt the breeding cycle of a population	*Genoplesium baueri* flowers during February – March. The species does not produce a new tuber at the end of each growing season but instead persists from the same tuber-like perennial root. The proposed works will not result in a disruption to the species lifecycle.
6	modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed action would remove 0.0038 ha of potential habitat available for the species within the development site.
7	result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The subject site already possesses a highly degraded ground stratum with a large number of high-threat weeds and other introduced species. The proposed works provides an opportunity to conduct weed management works and remove these high-threat weed species and replace with locally endemic groundcovers. This will likely improve habitat quality for *Genoplesium baueri.*
8	introduce disease that may cause the species to decline	The proposed works are not likely to introduce any diseases to the works area, provided that management actions outlined in Section 7 are applied.
9	interfere with the recovery of the species	The proposed action would remove 0.038 ha of potential habitat for this species. The species has never been recorded in the area, and is considered unlikely to be present due to the degraded nature of the site. The proposed works is therefore unlikely to interfere with the recovery of the species.
Conclusion	Is there likely to be a significant impact	No. The proposed activity is unlikely to have a significant impact on *Genoplesium baueri* for the following reasons:

		■ Groundcover within the subject site is significantly degraded and possesses a large number of high-threat weeds, and is therefore unlikely to be suitable habitat for *Genoplesium baueri* ■ Only 0.038 ha of vegetation will be removed as part of the proposed works. This is an incredibly small area, and is not likely to significantly interfere with the recovery of the species.

6.3 Species Polygons

The subject site is within mapped important habitat for *Lathamus discolor* (Swift Parrot). The species polygon for this species matches the mapped important habitat within the subject site and is depicted in Figure 6-1.

The candidate flora species *Genoplesium baueri* cannot be surveyed during the appropriate period and as such must be assumed to be present within the subject site. A species polygon for this species is depicted in Figure 6-2.

Figure 6-1 Species Polygon - Swift Parrot

Figure 6-2 Species Polygon - *Genoplesium baueri*

7 AVOIDING AND MINIMISING IMPACTS ON BIODIVERSITY VALUES

7.1 Methods to Avoid Impacts on Biodiversity Values

7.1.1 Project location

The BAM requires locating and designing a project to avoid and minimise direct and indirect impacts on biodiversity values and prescribed biodiversity impacts.

The proposed development involves the reconstruction of an existing access driveway. It cannot be entirely relocated or repositioned to avoid or minimise impacts on biodiversity. The proposed works have a footprint of approximately 0.047 ha (470 m^2), of which, the majority is existing concrete slabs from the damaged driveway. The proposed works require the construction of new retaining walls and a wider carriageway to provide for dual car use. Impacts on biodiversity will result from the proposed driveway reconstruction and improvement. Trees will be impacted by the encroachment of the new driveway into the tree Structure Root Zone (SRZ), and the encroachment of new drainage lines, pitfalls, and retaining walls. All of these new driveway components are required for asset protection, drainage and safety, and thus cannot be safely avoided.

The Arboricultural Impact Assessment (Treeism 2024) for the proposed works identified thirty-two (32) trees within proximity to the proposed works. Of these, nine (9) will be removed and twenty-three (23) will be retained. Redesign of both the driveway and drainage lines was conducted to ensure the retention of Tree 1 and Tree 2. Approximately 0.0038 ha (38.05 m^2) of vegetation will be impacted by the proposed works, including native and non-native vegetation. For the purpose of BAMC calculations, the impacted area must be increased to the minimum size of 0.01 ha. This therefore overestimates the impacted area. Approximately 0.47 ha of native vegetation that is present within the remainder of the subject site will also be retained.

The vegetation to be removed does not contain nest trees or caves. No caves were identified within 2 km of the site during a desktop assessment.

7.1.2 Project design

7.1.2.1 Native vegetation replanting

The proposed development can be designed to include native replanting that will provide amenity and biodiversity value to the site. This can occur around the periphery of the new driveway. Native species replanting would help to provide ground stabilisation, reduce high threat weed cover, and reduce weed regrowth. This also acts to replace the ecological value of the native vegetation area proposed for removal, helping to achieve the 'no net loss' initiative and enhance the natural and built environment.

The landscaped area may include existing native vegetation proposed for retention, which will be protected and enhanced. Maximum advantage will be taken of the existing mature trees, and these will be incorporated into the overall landscape strategy.

Native species replanting may introduce a broader species mix to the subject site. It may include groundcover and mid-stratum species (Table 7-1). Suggested species are a combination of those included in the Native Planting Guide - Pittwater Ward, and those characteristic of 3592 – Sydney Coastal Enriched Sandstone Forest. These include:

Table 7-1 Suggested species list for replanting

Type	Scientific Name	Common Name	Planting Size
Forb	*Dianella caerulea*	Blue Flax Lily	Tubestock
Forb	*Scaevola ramosissima*	Purple Fan-flower	Tubestock
Grass	*Lomandra longifolia*	Spiny-headed Mat-rush	Tubestock
Grass	*Gahnia aspera*	Saw Sedge	Tubestock
Grass	*Imperata cylindrica*	Blady Grass	Tubestock
Grass	*Microlaena stipoides*	Weeping Meadow Grass	Tubestock
Grass	*Oplismenus aemulus*	Basket Grass	Tubestock
Other	*Billardiera scandens*	Apple Berry Dumplings	Tubestock
Other	*Hibbertia scandens*	Golden Guinea Flower	Tubestock
Other	*Kennedia rubicunda*	Dusky Coral Pea	Tubestock
Shrub	*Pimelea linifolia*	Slender Rice-flower	Tubestock

7.2 Mitigating and Managing Remaining Impacts

Measures proposed to mitigate and manage the impacts of the proposed development before, during and after construction are outlined in Table 7-2.

Table 7-2 Measures proposed to mitigate and manage impacts

Measure	Risk before mitigation	Risk after mitigation	Action	Outcome	Timing	Responsibility
Time works to avoid critical life cycle events for native fauna such as breeding or nursing.	Moderate	Low	Vegetation clearing works should occur outside of the Spring nesting season. Prior to clearing works commencing, pre-clearing surveys to ensure fauna is not present should be conducted.	Impacts to fauna during nesting / nursing avoided.	During tree clearing works	Project manager / contractor
Implement clearing protocols including pre-clearing surveys, and clearing supervision involving the presence of a trained ecologist / wildlife-handler during clearing events.	Moderate	Low	A suitably qualified project ecologist should be appointed to conduct pre-clearance survey of trees to be removed and identification/location of active nests.	Any fauna utilising habitat within the subject site will be identified and managed to ensure clearing works minimise the likelihood of injuring resident fauna.	During tree clearing works	Project manager / ecologist
Implement clearing protocols that identify and protect vegetation to be retained.	High	Low	Vegetation designated for retention should be marked within "No-Go" zones. These should be fenced off the works area and displayed with appropriate signage.	Protection of retained vegetation.	During clearing works	Project manager
Install sediment barriers to control the release of sediment and sediment-laden runoff into the receiving environment.	Moderate	Low	Install sediment barriers and erosion control during and post construction to prevent runoff into adjacent environments. Maintain controls throughout construction and undertake weekly inspections. Detailed stormwater controls should be designed and implemented during the DA stage which manages quality and quantity of	Control of erosion, sedimentation and runoff of contaminated substances into adjacent vegetation and waterbodies.	Throughout life of project	Project Manager

			stormwater into the adjacent vegetation and aquatic habitats.			
Time construction and operational activities to reduce impacts of noise.	Low	Very Low	Daily timing of construction activities is recommended in accordance with Table 1 of Interim Noise Guidelines (2009).	Noise impacts associated with the development will be managed to minimise disturbance to fauna during construction.	During construction	Project manager / contractor
Ensure appropriate daily / seasonal timing of construction and operational activities to reduce impacts of light spill.	Low	Very Low	Conduct construction works during daylight hours. Lights should operate on a timer system during construction.	Avoid light disturbance to native fauna during construction and operation.	Throughout life of project	Project manager / contractor
Implement hygiene protocols to prevent the spread of weeds or pathogens.	Medium	Low	Vehicles, machinery and building refuse should remain within the subject site and only be disposed of at an appropriate waste management facility. Weed management is to be undertaken where required. Vehicles should be washed down before entering and exiting the site to prevent the spread of weeds to or from the site.	Prevent spread of disease to/from the site.	During construction	Project manager / contractor
Make provision for the ecological rehabilitation and/or ongoing maintenance of retained and replanted native vegetation within the subject site.	Medium	Low	Native vegetation replanting should occur within the subject site. This should ensure retained vegetation is not degraded over time as a result of weed incursion.	Ongoing maintenance of retained vegetation.	Following construction	Project manager

8 ASSESSING THE IMPACTS OF THE PROPOSAL ON BIODIVERSITY VALUES

8.1 Impacts on Vegetation Integrity

8.1.1 Impacts on native vegetation and TECs or ECs (ecosystem credits)

The subject site area is approximately 0.67 ha. The proposed works have a footprint of approximately 0.047 ha (470 m^2), of which, the majority is concrete slab from the existing damaged driveway. Approximately 0.0038 ha (38.05 m^2) of vegetation will be impacted by the proposed works, including native and non-native vegetation. For the purpose of BAMC calculations, the impacted area must be increased to the minimum size of 0.01 ha.

Table 8-1 and Table 8-2 identify impacts that require an offset (as per BAM Subsection 9.2.1(1.)).

Table 8-1 Impacts that require an offset – ecosystem credits

Vegetation Zone	PCT name	TEC	Total area (ha)	Impact area (ha)	Current VI score	Future VI score	Change in VI score	Biodiversity risk weighting	Number of ecosystem credits required
Zone 1	3592 – Sydney Coastal Enriched Sandstone Forest	N/A	0.47	0.01	23.9	0	-23.9	1.75	1

8.2 Impacts on Threatened Species Habitat

Table 8-2 Impacts that require and 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
Bauer's Midge Orchid	*Genoplesium baueri*	Endangered	Endangered	0.01 ha	3.00	1
Swift Parrot	*Lathamus discolor*	Endangered	Critically Endangered	0.01	3.00	1

9 APPLYING THE NO NET LOSS STANDARD

The following tables present information required on the ecosystem and species credits and matching credit profiles. The BAM-C credit report identifies the numbers and classes of biodiversity credits required to be retired in accordance with the like-for-like requirements of the offset rules. The BDAR must be submitted to the decision-maker within 14 days of the date the BAM-C credit report is finalised. The full credit report is provided in Appendix C.

9.1 Ecosystem Credit Requirements

Table 9-1 outlines the ecosystem credit requirements to offset the impacts of the proposed works.

Table 9-1 Impacts that require an offset – ecosystem credits

Vegetation Zone	PCT name	TEC	Total area (ha)	Impact area (ha)	Current VI score	Future VI score	Change in VI score	Biodiversity risk weighting	Number of ecosystem credits required
Zone 1	3592 – Sydney Coastal Enriched Sandstone Forest	N/A	0.47	0.01	23.9	0	-23.9	1.75	1

9.2 Species Credit Requirements

Table 9-2 outlines the species credit requirements to offset the impacts of the proposed works.

Table 9-2 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
Bauer's Midge Orchid	*Genoplesium baueri*	Endangered	Endangered	0.01 ha	3.00	1
Swift Parrot	*Lathamus discolor*	Endangered	Critically Endangered	0.01	3.00	1

10 SUMMARY

Environmental Services & Education Australia (ESEA) was engaged to prepare a BDAR to meet the requirements of the *Biodiversity Assessment Method 2020* and to accompany the Development Application for the proposed development at 32A, 34, 36 and 38 Nareen Parade, North Narrabeen NSW 2101.

The proposed works involve the replacement of an existing driveway that was damaged as a result of the landslides following storm events starting on 8 March 2022. The new driveway will be constructed with an approximately 2.8 m wide extension to accommodate multi-driveway users. Associated works will involve minor earthworks for levelling and elevation correction, the construction of retaining walls, improved drainage lines, and the removal of nine (9) trees and a small amount of predominantly introduced ground cover.

The subject site area is approximately 0.67 ha. The proposed works have a footprint of approximately 0.047 ha (470 m^2), of which, the majority is concrete slab from the existing damaged driveway. Approximately 0.0038 ha (38.05 m^2) of vegetation will be impacted by the proposed works, including native and non-native vegetation. For the purpose of BAMC calculations, the impacted area must be increased to the minimum size of 0.01 ha. This report therefore overestimated the impacted area.

The proposed development meets the requirement for streamlined assessment for small area development as it does not exceed the maximum area clearing threshold for application of the small area development module of ≤1 ha for lot sizes of less than 1 ha.

Native vegetation within the development site was identified as representative of PCT 3592 – Sydney Coastal Enriched Sandstone Forest in poor condition. This PCT is not associated with any threatened ecological community under the *NSW Biodiversity Conservation Act 2016* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

This vegetation was assessed as posing a vegetation integrity score of 23.9. The total vegetation integrity loss from the subject site as a result of the proposed development would be -23.9 over 0.01 ha. One ecosystem credit has been applied to the proposed development to offset the loss of this PCT.

BAM Important Areas for *Lathamus discolor* (Swift Parrot) are mapped throughout the subject site and within the area of impact. The proposed works were assessed against the Significant Impact Criteria and it was determined that the proposed development is unlikely to have a serious and irreversible impact (SAII) on the species.

Candidate species credits are applicable to the proposed development and have been applied to *Lathamus discolor* (Swift Parrot) and *Genoplesium baueri* (Bauer's Midge Orchid) to offset the loss of potential habitat for these species.

11 REFERENCES

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- NSW Office of Environment & Heritage (2024) SEED Vegetation Mapping. Accessed 12/08/2024. Available at: https://www.seed.nsw.gov.au/

APPENDIX A BAM-C OUTPUTS

BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00050449/BAAS24031/24/00050453	Nareen Parade North Narrabeen Streamlined BDAR	14/03/2024
Assessor Name	Report Created	BAM Data version *
Clayton McAllister Woods	27/09/2024	67
Assessor Number	BAM Case Status	Date Finalised
BAAS24031	Open	To be finalised
Assessment Revision	Assessment Type	BOS entry trigger
0	Part 4 Developments (Small Area)	BOS Threshold: Biodiversity Values Map

* 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

Sydney Coastal Enriched Sandstone Forest												
1	3592_Poor	Not a TEC	23.9	23.9	0.01	PCT Cleared - 61%	High Sensitivity to Gain			1.75		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
Genoplesium baueri / Bauer's Midge Orchid (Flora)									
3592_Poor	23.9	23.9	0.01	Population size	Effectiveness of management in controlling threats	Endangered	Endangered	True	1
								Subtotal	**1**

Lathamus discolor / Swift Parrot (Fauna)									
3592_Poor	23.9	23.9	0.01	Environment Protection and Conservation Act listing status	Effectiveness of management in controlling threats	Endangered	Critically Endangered	True	1
								Subtotal	**1**

BAM Candidate Species Report

Proposal Details

Assessment Id 00050449/BAAS24031/24/00050453	Proposal Name Nareen Parade North Narrabeen Streamlined BDAR	BAM data last updated * 14/03/2024
Assessor Name Clayton McAllister Woods	Report Created 27/09/2024	BAM Data version * 67
Assessor Number BAAS24031	Assessment Type Part 4 Developments (Small Area)	BAM Case Status Open
Assessment Revision 0	Date Finalised To be finalised	BOS entry trigger BOS Threshold: Biodiversity Values Map

* 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
Genoplesium baueri Bauer's Midge Orchid	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Haloragodendron lucasii Haloragodendron lucasii	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☑ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Lathamus discolor Swift Parrot	Yes (assumed present)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?
Persoonia hirsuta Hairy Geebung	No (surveyed)	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☑ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ Survey month outside the specified months?

Threatened species Manually Added

None added

Threatened species assessed as not on site

Refer to BAR for detailed justification

Common name	Scientific name	Justification in the BAM-C
Deane's Paperbark	Melaleuca deanei	Refer to BAR
Deyeuxia appressa	Deyeuxia appressa	Refer to BAR
Eastern Australian Underground Orchid	Rhizanthella slateri	Refer to BAR
Julian's Hibbertia	Hibbertia spanantha	Refer to BAR
Large Bent-winged Bat	Miniopterus orianae oceanensis	Habitat constraints
Large-eared Pied Bat	Chalinolobus dwyeri	Habitat constraints
Little Bent-winged Bat	Miniopterus australis	Habitat constraints
Seaforth Mintbush	Prostanthera marifolia	Geographic limitations

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00050449/BAAS24031/24/00050453	Nareen Parade North Narrabeen Streamlined BDAR	14/03/2024
Assessor Name	Report Created	BAM Data version *
Clayton McAllister Woods	27/09/2024	67
Assessor Number	Assessment Type	BAM Case Status
BAAS24031	Part 4 Developments (Small Area)	Open
Assessment Revision	BOS entry trigger	Date Finalised
0	BOS Threshold: Biodiversity Values Map	To be finalised

* 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)
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	3592-Sydney Coastal Enriched Sandstone Forest
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	3592-Sydney Coastal Enriched Sandstone Forest
Dusky Woodswallow	Artamus cyanopterus cyanopterus	3592-Sydney Coastal Enriched Sandstone Forest
Eastern Coastal Free-tailed Bat	Micronomus norfolkensis	3592-Sydney Coastal Enriched Sandstone Forest
Eastern Osprey	Pandion cristatus	3592-Sydney Coastal Enriched Sandstone Forest
Flame Robin	Petroica phoenicea	3592-Sydney Coastal Enriched Sandstone Forest
Gang-gang Cockatoo	Callocephalon fimbriatum	3592-Sydney Coastal Enriched Sandstone Forest
Grey-headed Flying-fox	Pteropus poliocephalus	3592-Sydney Coastal Enriched Sandstone Forest
Large Bent-winged Bat	Miniopterus orianae oceanensis	3592-Sydney Coastal Enriched Sandstone Forest

Little Bent-winged Bat	Miniopterus australis	3592-Sydney Coastal Enriched Sandstone Forest
Little Eagle	Hieraaetus morphnoides	3592-Sydney Coastal Enriched Sandstone Forest
Little Lorikeet	Glossopsitta pusilla	3592-Sydney Coastal Enriched Sandstone Forest
Rosenberg's Goanna	Varanus rosenbergi	3592-Sydney Coastal Enriched Sandstone Forest
Scarlet Robin	Petroica boodang	3592-Sydney Coastal Enriched Sandstone Forest
South-eastern Glossy Black-Cockatoo	Calyptorhynchus lathami lathami	3592-Sydney Coastal Enriched Sandstone Forest
Spotted-tailed Quoll	Dasyurus maculatus	3592-Sydney Coastal Enriched Sandstone Forest
Square-tailed Kite	Lophoictinia isura	3592-Sydney Coastal Enriched Sandstone Forest
Swift Parrot	Lathamus discolor	3592-Sydney Coastal Enriched Sandstone Forest
Turquoise Parrot	Neophema pulchella	3592-Sydney Coastal Enriched Sandstone Forest
Varied Sittella	Daphoenositta chrysoptera	3592-Sydney Coastal Enriched Sandstone Forest
White-bellied Sea-Eagle	Haliaeetus leucogaster	3592-Sydney Coastal Enriched Sandstone Forest
White-throated Needletail	Hirundapus caudacutus	3592-Sydney Coastal Enriched Sandstone Forest
Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris	3592-Sydney Coastal Enriched Sandstone Forest

Threatened species Manually Added

None added

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

Common Name	Scientific Name	Plant Community Type(s)
Black Bittern	Ixobrychus flavicollis	3592-Sydney Coastal Enriched Sandstone 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
Black Bittern	Ixobrychus flavicollis	Habitat constraints

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00050449/BAAS24031/24/00050453

Proposal Name
Nareen Parade North Narrabeen Streamlined BDAR

BAM data last updated *
14/03/2024

Assessor Name
Clayton McAllister Woods

Assessor Number
BAAS24031

BAM Data version *
67

Proponent Names

Report Created
27/09/2024

BAM Case Status
Open

Assessment Revision
0

Assessment Type
Part 4 Developments (Small Area)

Date Finalised
To be finalised

BOS entry trigger
BOS Threshold: Biodiversity Values Map

* 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
Nil		

Species
Lathamus discolor / Swift Parrot
Genoplesium baueri / Bauer's Midge Orchid

Additional Information for Approval

BAM Biodiversity Credit Report (Like for like)

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
Ixobrychus flavicollis / Black 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
3592-Sydney Coastal Enriched Sandstone Forest	Not a TEC	0.0	0	1	1

BAM Biodiversity Credit Report (Like for like)

3592-Sydney Coastal Enriched Sandstone Forest	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Sydney Coastal Dry Sclerophyll Forests This includes PCT's: 3583, 3592, 3594	Sydney Coastal Dry Sclerophyll Forests >=50% and <70%	3592_Poor	No	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
Genoplesium baueri / Bauer's Midge Orchid	**3592_Poor**	0.0	1.00
Lathamus discolor / Swift Parrot	**3592_Poor**	0.0	1.00

Credit Retirement Options

Like-for-like credit retirement options

Genoplesium baueri / Bauer's Midge Orchid	Spp	IBRA subregion
	Genoplesium baueri / Bauer's Midge Orchid	Any in NSW

Lathamus discolor / Swift Parrot	Spp	IBRA subregion
	Lathamus discolor / Swift Parrot	Any in NSW

BAM Vegetation Zones Report

Proposal Details

Assessment Id	Assessment name	BAM data last updated *
00050449/BAAS24031/24/00050453	Nareen Parade North Narrabeen Streamlined BDAR	14/03/2024
Assessor Name	Report Created	BAM Data version *
Clayton McAllister Woods	27/09/2024	67
Assessor Number	Assessment Type	BAM Case Status
BAAS24031	Part 4 Developments (Small Area)	Open
Assessment Revision	Date Finalised	BOS entry trigger
0	To be finalised	BOS Threshold: Biodiversity Values Map

* 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.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones

1	3592_Poor	3592-Sydney Coastal Enriched Sandstone Forest	Poor	0.01	1	