

BIODIVERSITY DEVELOPMENT ASSESSMENT REPORT- STREAMLINED ASSESSMENT MODULE- PLANTED NATIVE VEGETATION

Nepean Business Park



8889
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01 August 2024

REPORT

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This Biodiversity Development Assessment Report has been certified by the following accredited assessor:

Jack Tatler (Accredited BAM Assessor – BAAS 21006)



1 August 2024

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SUMMARY

Great River NSW Pty Ltd engaged RPS AAP Consulting Pty Ltd to prepare a Biodiversity Development Assessment Report for the assessment of impacts on biodiversity values affected by the raising of levels requiring landscaping and vegetation clearing works within vegetation bordering Old Castlereagh Road, Penrith located within the Nepean Business Park. Australian Tree Consultants Pty Ltd (2019) has determined the best long term outcome for all trees bordering Old Castlereagh Road, Penrith would be achieved by a full replacement strategy that would also permit comprehensive soil improvements and ensure consistent growth and health of all new trees. The Proposed Development is being assessed as development that requires consent under Part 4 of the *Environmental Planning and Assessment Act 1979*.

The Biodiversity Development Assessment Report is required due to the triggering of the Biodiversity Offset Scheme by the Area Clearing Threshold being exceeded. As a result of the Decision-making Key (Table 1 2) and with information available, the planted native vegetation within the Subject Land was determined to not easily fit into the D.1 Decision making key. However, the D.2 assessment of planted native vegetation for threatened species habitat was applied as a precaution.

No incidental sightings or evidence (e.g. scats, stick nests) of threatened species were identified as inhabiting or being part of the planted native vegetation during the site assessment.

The planted native vegetation within the Subject Land is potentially suitable for a range of threatened fauna species; however, no incidental sightings or evidence (e.g. scats, stick nests) of threatened species were identified during the site assessment.

During the design phase of the Proposed Development, the two identified hollow-bearing trees were avoided.

Habitat connectivity was identified within the Subject Land for a number of threatened species and therefore, mitigation measures were introduced to avoid and minimise impacts to these threatened species. Key mitigation includes:

- Pre-clearing inspections;
- Two-stage clearing process;
- Preparation of a VMP; and
- Hygiene protocols.

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Appendix A Minimum information requirements for the Biodiversity Development Assessment Report:
Streamlined assessment module – Planted native vegetation

Appendix B EPBC Act Protected Matters Report

Appendix C Determination of Development Application- To carry out gravel and sand extraction and
the rehabilitation of land within the Penrith Lakes Scheme Area

SHORTENED FORMS

Acronym	Full form
BAM	Biodiversity Assessment Method 2020
BAM-C	Biodiversity Assessment Method Calculator
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BC Regulation	Biodiversity Conservation Regulation 2017 (NSW)
BDAR	Biodiversity Development Assessment Report
BOS	Biodiversity Offsets Scheme
CEEC	critically endangered ecological community
EC	ecological community listed under the EPBC Act
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwth)</i>
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EEC	endangered ecological community
IBRA	Interim Biogeographic Regionalisation for Australia
MNES	matters of national environmental significance
NPW Act	<i>National Parks and Wildlife Act 1974 (NSW)</i>
NSW	New South Wales
PCT	plant community type
TBDC	Threatened Biodiversity Data Collection
TEC	threatened ecological community

DECLARATIONS

i. 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: 01/08/2024

BAM Assessor Accreditation no: 21006

This BDAR has been prepared to meet the requirements of BAM 2020. **Appendix A** provides an assessment of compliance with the minimum information requirements outlined in BAM Appendix L.

ii. Details and experience of author/s and contributors

Authors and contributors

Name	BAM Assessor Accreditation no. (if relevant)	Position/Role	Tasks performed	Relevant qualifications
Dr Jack Tatler	21006	Principal Ecologist	Document review	BSc (Zoology & Entomology), Hons (Zoology), PhD (Ecology)
Angus McClelland	Nil	Ecologist	Site Assessment Report preparation	BSc
Natalie Wood	Nil	Spatial Analyst	Figure preparation	Nil

iii. 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: 01/08/2024

BAM Assessor Accreditation no: 21006

1 INTRODUCTION

1.1 Proposed Development

1.1.1 Development overview

Great River NSW Pty Ltd (the proponent) engaged RPS AAP Consulting Pty Ltd (RPS) to prepare a Biodiversity Development Assessment Report (BDAR) for the assessment of impacts on biodiversity values affected by raising of levels requiring landscaping and vegetation clearing works within vegetation bordering Old Castlereagh Road, Penrith located within the Nepean Business Park (herein referred to as the ‘Proposed Development’).

Australian Tree Consultants Pty Ltd (2019) has determined the best long term outcome for all trees bordering Old Castlereagh Road, Penrith would be achieved by a full replacement strategy that would also permit comprehensive soil improvements and ensure consistent growth and health of all new trees.

The Proposed Development is being assessed as development that requires consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.1.2 Location

The Proposed Development is located with the Penrith City Council Local Government Area (LGA) across three properties including 14-28, 30-68 and 70-98 Old Castlereagh Road, Penrith, NSW 2750 (Lots 1-3 DP1263486, **Table 1-1**).

Table 1-1: Proposed Development Description

Feature	Description
Locality	Penrith, NSW 2750
LGA	Penrith City Council
SEPP	State Environmental Planning Policy (Precincts – Western Parkland City) 2021- Chapter 5 Penrith Lakes Scheme
Address/ Lot/DP	The Subject Land occurs over three land ownerships, including: <ul style="list-style-type: none"> • 14-28 Old Castlereagh Road, Penrith 2750 (Lot 3/DP1263486) • 30-68 Old Castlereagh Road, Penrith 2750 (Lot 2/DP1263486) • 70-98 Old Castlereagh Road, Penrith 2750 (Lot 1/DP1263486)
Zoning	The Subject Land occurs within two land zonings: <ul style="list-style-type: none"> • DM: Deferred Matter. • EP: Employment.
Current Land Use	The Subject Land is currently being used as a visual screen.

1.1.3 Proposed Development and Subject Land

The changing of levels itself is approved under the 2 year plan of the Nepean Business Park; however, the clearing of native vegetation bordering Old Castlereagh Road, Penrith has not yet received approval. The Proposed Development will require the removal of a patch of planted native vegetation which is the subject of this report (the ‘Subject Land’, **Figure 1-1**). Following the relocation of the batter, the Subject Land will be revegetated with a full structure (canopy, mid, ground-storey) of locally indigenous native species in a way that is more sustainable to the land use and ecologically viable in the long term (**Figure 1-2**).

The Subject Land follows Old Castlereagh Road in parallel and is generally flat, occurring at approximately 25 m above sea level (Google 2022). The Subject Land does not contain hydrological entities nor their riparian buffers. The geology of the Subject Land is characterised by quaternary alluvium consisting of sand, silt and gravels derived from sandstone and shale (DPE 2023g).



LOCATION

Mulgoa
Esri, HERE, Garmin,
Foursquare, FAO, METI/
Bringing
NASA, USGS

Legend

- Subject Land
- Subject Property
- Vegetation Removal
- Cadastre
- Hydroarea
- Roads

THE SUBJECT LAND

CLIENT: Great River NSW Pty Ltd
PROJ: AU213008889
LOCATION: 14-28, 30-68 and 70-98 Old Castlereagh Road

MAP: Subject Land
VERSION: A
DATE EXPORTED: 20/04/2023
TECHNICIAN: Natalie.Wood

DATA SOURCES
 Client, RPS, NSWSS, Nearmap 10/01/2023 and 12/08/2021

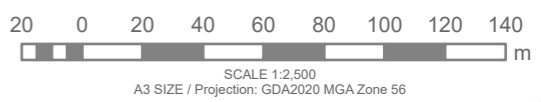


FIGURE 1-1



IMPORTANT NOTE
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PROJECT PATH: J:\JOBS\6000 Series\8889 - Nepean Business Park- Landscape Corridor Rehabilitation\10 - Geospatial\03_Projects\BDAR_8889_Figures.aprx

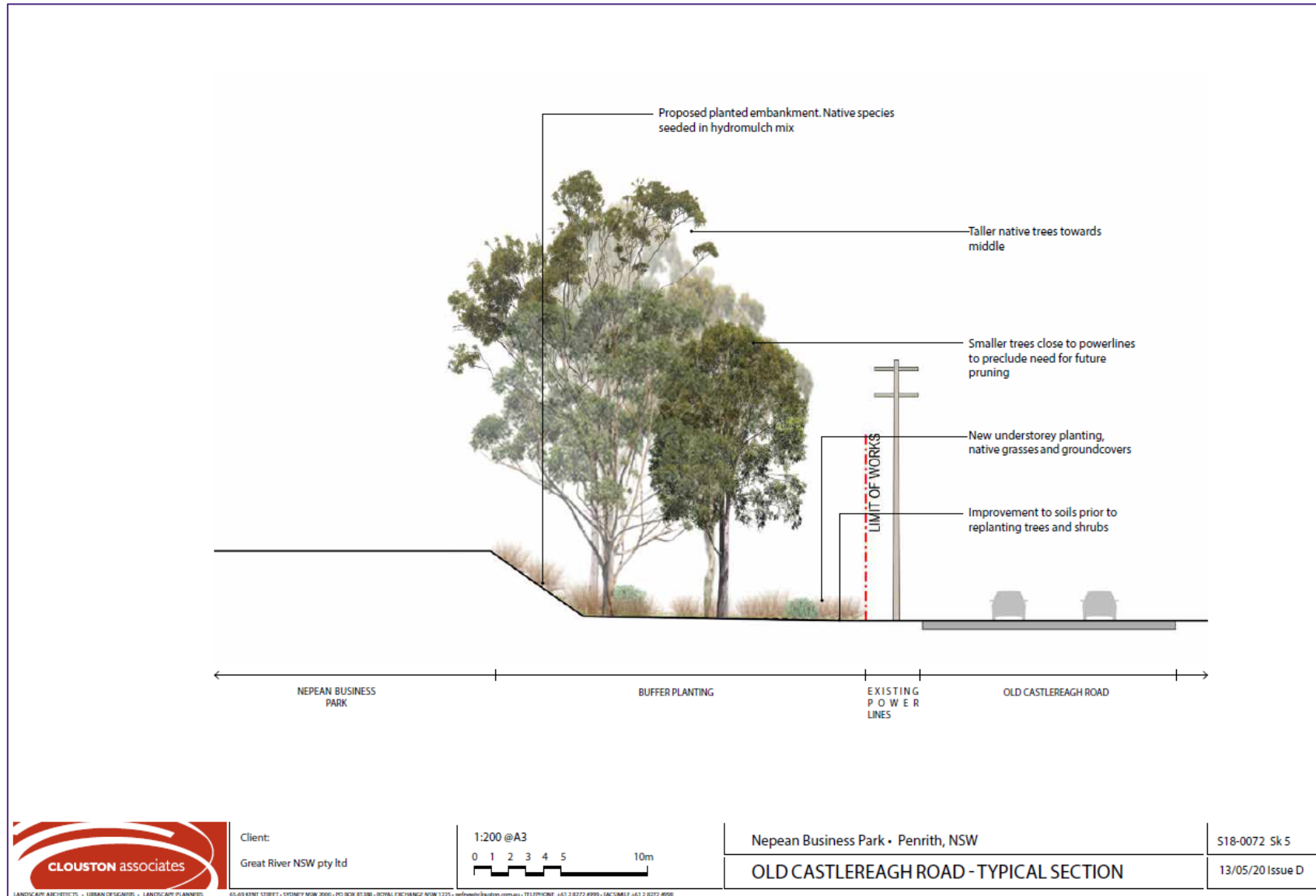


Figure 1-2 Proposed typical section of the Subject Land.

1.2 Biodiversity Offset Scheme entry

As no minimum lot size is prescribed to the Subject Property, the actual lots size of the smallest lot adjoining or owned by the proponent (approx. 12.37 ha) was used. Therefore, the threshold for clearing above which the BAM and offsets scheme apply is 0.5 ha or more (DPE 2020a). The Subject Land includes the impact of approximately 1.33 ha of native vegetation; therefore the BOS is triggered by the Area Clearing Threshold.

1.3 Excluded impacts

The Subject Land does not include any areas of excluded impacts.

1.4 Matters of national environmental significance

Under the EPBC Act, a proponent must not take an action if that action will have, or is likely to have a significant impact on matters protected under the EPBC Act, referred to as Matters of National Environmental Significance (MNES). The EPBC Act identifies eight MNES:

- World Heritage properties;
- National Heritage places;
- Wetlands of international importance (those listed under the Ramsar Convention);
- Listed threatened species and communities;
- Migratory species listed under international agreements;
- Great Barrier Reef Marine Park;
- Commonwealth marine areas; and
- Nuclear actions.

The Protected Matters Search Tool (**Appendix B**) identified the following as potentially occurring within the Subject Land (or within the area):

- Eleven Threatened Ecological Communities;
- Sixty Threatened species; and
- Sixteen Migratory species.

No MNES were identified within the Subject Land.

1.5 Information sources

The following information sources have been used in the preparation of this BDAR:

- Design plans by Clouston Associates, Issue D (13/05/2020);
- Arborist Inspection – Tree Survey -Australian Tree Consultants Pty Ltd (2019);
- NearMap Imagery (January 2023);
- Department of Planning and Environment's (DPE) BioNet Threatened Biodiversity Data Collection;
- DPE's NSW State Vegetation Map;
- NSW Biodiversity Values Map and Threshold Tool;
- DPE's BioNet Vegetation Classification;
- DPE's BioNet Atlas;
- DPE's Biodiversity Assessment Method 2020;

- Interim Biogeographical Regionalisation for Australia (IBRA) and IBRA sub-regions v7 (<http://www.environment.gov.au/land/nrs/science/ibra>);
- NSW National Parks and Wildlife Service's (NPWS) NSW Mitchell Landscapes map and descriptions;
- NSW Spatial Services Historical Imagery Viewer;
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) Australian Government's Species Profiles and Threats (SPRAT) database;
- DCCEEWs EPBC Act Protected Matters Search Tool; and
- DCCEEWs Directory of Important Wetlands in Australia.

1.6 Streamlined assessment module- Planted native vegetation

RPS investigated the applicability of Appendix D of the Biodiversity Assessment Method 2020 (BAM, DPE 2020) Streamlined Assessment Module – Planted Native Vegetation (the Module) to the Subject Land (**Figure 1-1**).

An assessment of the Subject Land was undertaken on the 28th of February 2023 in order to collect the information required to support this decision-making key. As a result of the assessment, the vegetation of the Subject Land was identified as native vegetation, with strong evidence of planting [i.e., trees of even age in furrow lines with uniform spacings (**Plate 1 & Plate 2**) & jute matting surrounding tree bases (**Plate 3 & Plate 4**)]. Therefore, the D1. Decision-making Key (BAM 2020) was applied, see **Table 1-2**.

As a result of the Decision-making Key (**Table 1-2**) and with information available, the planted native vegetation within the Subject Land was determined to not easily fit into the D.1 Decision making key, as stated in the BAM (DPE 2020): *There may be other types of occurrences of planted native vegetation that do not easily fit into the decision-making key above. Assessors should contact the BAM Support mailbox at bam.support@environment.nsw.gov.au for further advice on using the BAM to assess other types of occurrences of planted native vegetation.* However, the D.2 assessment of planted native vegetation for threatened species habitat was applied as a precaution.

Upon compiling the Planted Native Vegetation BDAR the assessor must assess the suitability of the planted native vegetation for use by threatened species and record any incidental sightings or evidence (e.g. scats, stick nests) of threatened species credit species (flora and fauna) using, inhabiting or being part of the planted native vegetation. If there is evidence that threatened species are using the planted native vegetation as habitat, the assessor must apply Section 8.4 of the BAM to mitigate and manage impacts on these species. Species credits are not required to offset the proposed impacts.



Plate 1 Trees in furrow lines with even age and uniform spacing (example 1).



Plate 2 Trees in furrow lines with even age and uniform spacing (example 2).



Plate 3 Jute matting surrounding base of tree (example 1).



Plate 4 Plate 4 Jute matting surrounding base of tree (example 2).

Table 1-2 D1. Decision-making Key (BAM 2020).

Question	Discussion	Outcome
<p>1. Does the planted native vegetation occur within an area that contains a mosaic of planted and remnant native vegetation and which can be reasonably assigned to a Plant Community Type (PCT) known to occur in the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion as the Proposed Development?</p>	<p>A combination of desktop and site assessments were used to inform whether the planted native vegetation occurs within an area that contains a mosaic of planted and remnant native vegetation. For the purpose of this question, remnant vegetation was defined as native vegetation that has not been recently cleared and exists in a mature state with high ecological function.</p> <p>Desktop assessments involved the review of the Historical Imagery Viewer (NSW Spatial Services 2023) of the area surrounding the Subject Land. The desktop assessment revealed that the Subject Land and the area surrounding was completely cleared of native vegetation prior to 1947 (Figure 1-3), the Subject Land and area surrounding was still in a cleared state in 1965 (Figure 1-4) and in 1986 plantings were evident (Figure 1-5).</p> <p>The Subject Land included dominant canopy species <i>Eucalyptus tereticornis</i>, <i>Eucalyptus amplifolia</i>, <i>Eucalyptus moluccana</i>, <i>Melaleuca decora</i>, <i>Melaleuca nodosa</i> and <i>Melaleuca styphelioides</i>. The mid-storey was generally absent but included some occurrences of <i>Acacia parramattensis</i> and <i>Melia azedarach</i>. The ground storey was generally dominated by exotics but included patches of native species <i>Microlaena stipoides</i>, <i>Dichondra repens</i>, <i>Commelina cyanea</i>, <i>Cynodon dactylon</i> and <i>Themeda triandra</i>. Dominant exotic species included <i>Avena fatua</i>, <i>Bidens pilosa</i>, <i>Cenchrus clandestinus</i>, <i>Chloris Gayana</i>, <i>Dactylis glomerata</i>, <i>Eragrostis curvula</i>, <i>Paspalum dilatatum</i>, <i>Senecio madagascariensis</i>, <i>Setaria parviflora</i>, <i>Sida rhombifolia</i>, <i>Solanum nigrum</i>, <i>Solanum sisymbriifolium</i> and <i>Taraxacum officinale</i>.</p> <p>The nearest patch of remnant vegetation was identified as being approximately 430 m south-west of the Subject Land (Figure 1-3). Therefore, as the remnant patch is located more than 100 m away, it is not considered the same patch as the vegetation of the Subject Land.</p> <p>Therefore, the Subject Land does not occur within an area that contains a mosaic of planted and remnant native vegetation.</p>	<p>No. Got to 2.</p>
<p>2. Is the planted native vegetation planted for the purpose of environmental rehabilitation or restoration under an existing conservation obligation listed in BAM Section 11.9(2.), and the primary objective was to replace or regenerate a plant community type or a threatened plant species population or its habitat?</p>	<p>A Vegetation Management Plan (VMP, Great River NSW Pty Ltd 2021) was prepared in 2021 for the Subject Property, which is after the planting of the native vegetation within the Subject Land (approx. 1986; Figure 1-5). The VMP address' relevant parts of the Penrith Lakes Development Control Plan (DCP) Stage 1 as part of a recent development application.</p> <p>A review of information relevant to Section 11.9(2.) of the BAM (DPE 2022a) was undertaken. The review identified one information source of relevance, the Determination of a Development Application for the Subject Land (Appendix C, the 'Determination'). The Determination outlines the requirement for the rehabilitation of the Subject Land through the preparation of a Land Management Plan (Section 7 and</p>	<p>No. Go to 3.</p>

Question	Discussion	Outcome
	<p>8). No other information sources of relevance were identified relevant to Section 11.9(2.) of the BAM.</p> <p>Therefore, on the basis of the above, no conservation obligation listed in Section 11.9(2) of the BAM (DPE 2022A) is imposed on the planted native vegetation of the Subject Land, including as part of the VMP. Furthermore, the conditions of the Determination (Appendix C) refer to rehabilitation but does not state an intent for the rehabilitation being to regenerate a plant community type or a threatened plant species population or its habitat.</p> <p>Therefore, the planted native vegetation within the Subject Land was not planted for the purpose of environmental rehabilitation or restoration under an existing conservation obligation listed in BAM Section 11.9(2.) with the primary objective being to replace or regenerate a plant community type or a threatened plant species population or its habitat.</p>	
<p>3. Is the planted or translocated native vegetation individuals of a threatened species or other native species planted or translocated for the purpose of providing threatened species habitat under one of the following:</p> <ul style="list-style-type: none"> a. species recovery project; b. Saving our Species project; c. other types of government funded restoration project; d. condition of consent for a development approval that required those species to be planted or translocated for the purpose of providing threatened species habitat; e. legal obligation as part of a condition or ruling of court; f. ecological rehabilitation to re-establish a PCT or TEC that was, or is carried out under a mine operations plan; or g. approved vegetation management plan? 	<p>One threatened flora species was identified within the Subject Land, namely <i>Eucalyptus nicholii</i> (Narrow-leaved Black Peppermint) which is listed as vulnerable under the <i>Biodiversity Conservation Act 2016</i> (BC Act) and <i>Environmental Protection and Biodiversity Conservation Act 1999</i> (EPBC Act). However, the individual is a commonly planted horticultural tree significantly outside its natural range of occurrence (i.e. New England Tablelands) and does not form part of a viable population. As such this individual was not planted as part of a project to restore a threatened flora species population and should not be considered in question 3 of the D1 Decision Making Key.</p> <p>A recent site assessment (February 2023) and the Ecological Assessment Report for the Nepean Business Park (RPS 2021) did not identify any other threatened species within the Subject Land.</p> <p>The Vegetation Management Plan (VMP, Great River NSW Pty Ltd 2021) was prepared significantly after the planting of the native vegetation within the Subject Land (approx. 1986; Figure 1-5). The vegetation was not planted under this VMP nor does the VMP specify providing habitat for threatened species as an objective. The objectives of the VMP are as follows:</p> <ul style="list-style-type: none"> • Protect existing native trees and shrubs within the Management Zone identified for retention; • Remove and control exotic plant species that diminish the floristic character of native vegetation found within the local area; • Restore the management zone to a patch of native vegetation by introducing native trees, shrubs and groundcovers; and • Demonstrate a stable patch of native vegetation comprising native species in the tree, midstory and groundcover strata and minimal exotic flora cover. <p>The Determination (Appendix C) does not detail the purpose of the vegetation planting to be for any of the purposes outlined in Q3.</p>	<p>No. Go to 4.</p>

Question	Discussion	Outcome
	<p>Therefore, the planted native vegetation within the Subject Land is not considered to be individuals of a threatened species or other native species planted or translocated for the purpose of providing threatened species habitat under the above.</p>	
<p>4. Was the planted native vegetation (including individuals of a threatened flora species) undertaken voluntarily for revegetation, environmental rehabilitation or restoration without a legal obligation to secure or provide for management of the native vegetation?</p>	<p>The planted native vegetation was likely planted as a result of the conditions of the Determination (Appendix C); thus, not voluntarily.</p> <p>The planted native vegetation is managed under a VMP (Great Lakes Pty Ltd 2021) for the purpose of revegetation, environmental rehabilitation and restoration; however, the vegetation was not planted under this VMP.</p> <p>Therefore, the planted native vegetation within the Subject Land was not undertaken voluntarily for revegetation, environmental rehabilitation or restoration without a legal obligation to secure or provide for management of the native vegetation.</p>	<p>No. Go to 5.</p>
<p>5. Is the native vegetation (including individuals of a threatened flora species) planted for functional, aesthetic, horticultural or plantation forestry purposes?</p>	<p>The planted native vegetation was likely planted as a result of the conditions of the Determination (Appendix C). This determination states the purpose of the plantings was for rehabilitation.</p> <p>Therefore, the planted native vegetation within the Subject Land was not planted for functional, aesthetic, horticultural or plantation forestry purposes.</p>	<p>No. Go to 6.</p>
<p>6. Is the planted native vegetation a species listed as a widely cultivated native species on a list approved by the Secretary of the Department (or an officer authorised by the Secretary)?</p>	<p>The planted native vegetation is not made up of species listed on the widely cultivated native species list and is not species known to conform to the widely cultivated native species criteria.</p>	<p>No. There may be other types of occurrences of planted native vegetation that do not easily fit into the decision-making key above. Assessors should contact the BAM Support mailbox at bam.support@environment.nsw.gov.au for further advice on using the BAM to assess other types of occurrences of planted native vegetation. However, the D.2 assessment of planted native vegetation for threatened species habitat was applied as a precaution.</p>



Figure 1-3 1947 aerial of the Subject Land (in red) and surrounding area.



Figure 1-4 1965 aerial of the Subject Land (in red) and surrounding area.

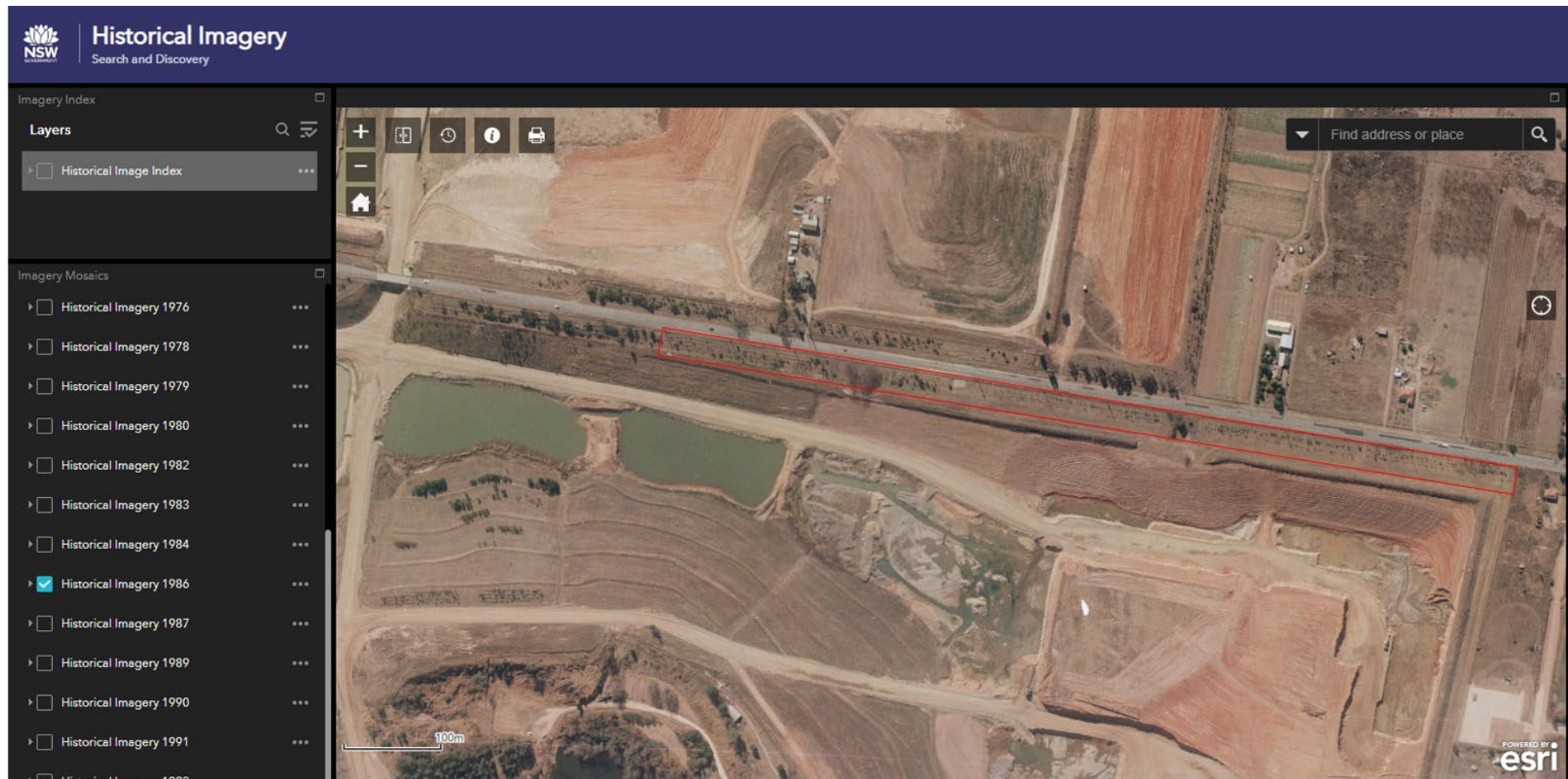


Figure 1-5 1986 aerial of the Subject Land (in red) and surrounding area . Evidence of planting along Old Castlereagh Rd.

2 METHODS

2.1 Site context and methods

A site assessment of the Subject Land was conducted over one day on the 28th of February 2023 to identify landscape features within the Subject Land in accordance with the BAM (DPE 2020a), including:

- Rivers, streams, estuaries and wetlands;
- Habitat connectivity; and
- Karst, caves, crevices, cliffs, rocks or other geological features of significance.

2.2 Native vegetation, threatened ecological communities and vegetation integrity methods

In accordance with Appendix D.1 Q5.i of the BAM, this streamlined assessment does not require the vegetation within the Subject Land to be assigned to a PCT, TEC or for vegetation integrity to be assessed,

2.3 Threatened species

A desktop review of existing information was undertaken prior to the site assessment. The review included previous biodiversity assessment (RPS 2021) and database searches within a 10 km radius of the Subject Land (DPE 2023b, DPE 2023c, DCCEEW 2023b).

The BAM Calculator (BAMC DPE 2023e) was run using benchmark data from the lineage PCT (PCT 835 - Cumberland riverflat forest) of the mapped PCT (PCT 4025 - Cumberland Red Gum Riverflat Forest, DPE 2022a) to create a list of ecosystem and species credit flora species (**Table 2-1** and **Table 2-2**) for consideration as part of this assessment. No flora ecosystem credits were derived from this process.

2.3.1 Threatened flora survey methods

2.3.1.1 Review of existing information

The desktop review identified one threatened flora species occurring within the Subject Land, *Eucalyptus nicholii* (New England Narrow-leaved peppermint, BC Act- Vulnerable, EPBC Act- Vulnerable, RPS 2021). However, this individual is a commonly planted horticultural tree significantly outside its natural range of occurrence (i.e. New England Tablelands) and does not form part of a viable population. Therefore, this individual was not considered as part of this assessment.

Table 2-1 List of candidate threatened flora species (Species credits).

Scientific Name	Common Name	BC Act	EPBC Act
<i>Grevillea juniperina</i> subsp. <i>juniperina</i>	Juniper-leaved Grevillea	V	-
<i>Pilularia novae-hollandiae</i>	Austral Pillwort	V	V
<i>Pimelea spicata</i>	Spiked Rice-flower	E	E
<i>Pomaderris brunnea</i>	Brown Pomaderris	E	-
<i>Eucalyptus benthamii</i>	Camden White Gum	E	-
<i>Persoonia hirsuta</i>	Hairy Geebung	CE	CE
<i>Hibbertia</i> sp. <i>Bankstown</i>	<i>Hibbertia</i> sp. Bankstown	E	E
<i>Marsdenia viridiflora</i> subsp. <i>viridiflora</i> - endangered population	-	E	E
<i>Callistemon linearifolius</i>	Netted Bottle Brush	V	-

Scientific Name	Common Name	BC Act	EPBC Act
<i>Wahlenbergia multicaulis</i> - endangered population	-	EP	-
<i>Persicaria elatior</i>	Tall Knotweed	V	V
<i>Cynanchum elegans</i>	White-flowered Wax Plant	E	E

Note- V- Vulnerable, E- Endangered, EP- Endangered Population, CE- Critically Endangered.

2.3.1.2 Habitat constraints assessment and field surveys

During the site assessment on the 28th of February 2023 an assessment of habitat constraints and microhabitats, and targeted flora surveys were undertaken. Targeted surveys for threatened flora were undertaken for all species listed in **Table 2-1** using the parallel field traverse survey technique (DPE 2020b).

2.3.2 Threatened fauna survey methods

2.3.2.1 Review of existing information

The desktop review revealed one threatened fauna species was previously recorded within proximity to the Subject Land. A record of the Cumberland Plain Land Snail (CPLS, *Meridolum corneovirens*) was recorded approximately 450 m (250 m accuracy) to the Northwest of the Subject Land in 2011 (DPE 2023b). As a result of this record a targeted survey was undertaken for CPLS within the Subject Land (**Section 2.3.2.2.1**).

Table 2-2 List of candidate threatened fauna species.

Common Name	Scientific Name	BC Act	EPBC Act	Ecosystem and/or Species Credit Species
Barking Owl	<i>Ninox connivens</i>	V	-	Ecosystem
Black Bittern	<i>Ixobrychus flavicollis</i>	V	-	Ecosystem
Black-chinned Honeyeater (eastern subspecies)	<i>Melithreptus gularis gularis</i>	V	-	Ecosystem
Brown Treecreeper (eastern subspecies)	<i>Climacteris picumnus victoriae</i>	V	-	Ecosystem
Bush Stone-curlew	<i>Burhinus grallarius</i>	E	-	Species
Cumberland Plain Land Snail	<i>Meridolum corneovirens</i>	E	-	Species
Diamond Firetail	<i>Stagonopleura guttata</i>	V	-	Ecosystem
Dusky Woodswallow	<i>Artamus cyanopterus cyanopterus</i>	V	-	Ecosystem
Eastern Coastal Free-tailed Bat	<i>Micronomus norfolkensis</i>	V	-	Ecosystem
Eastern False Pipistrelle	<i>Falsistrellus tasmaniensis</i>	V	-	Ecosystem
Eastern Osprey	<i>Pandion cristatus</i>	V	-	Ecosystem
Eastern Pygmy-possum	<i>Cercartetus nanus</i>	V	-	Species
Flame Robin	<i>Petroica phoenicea</i>	V	-	Ecosystem
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	E	E	Ecosystem
Greater Broad-nosed Bat	<i>Scoteanax rueppellii</i>	V	-	Ecosystem
Greater Glider	<i>Petauroides volans</i>	E	E	Species
Green and Golden Bell Frog	<i>Litoria aurea</i>	E	V	Species
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	V	V	Ecosystem

Common Name	Scientific Name	BC Act	EPBC Act	Ecosystem and/or Species Credit Species
Hooded Robin (south-eastern form)	<i>Melanodryas cucullata cucullata</i>	V	-	Ecosystem
Koala	<i>Phascolarctos cinereus</i>	E	E	Species
Large Bent-winged Bat	<i>Miniopterus orianae oceanensis</i>	V	-	Ecosystem
Little Bent-winged Bat	<i>Miniopterus australis</i>	V	-	Ecosystem
Little Eagle	<i>Hieraaetus morphnoides</i>	V	-	Ecosystem
Little Lorikeet	<i>Glossopsitta pusilla</i>	V	-	Ecosystem
Masked Owl	<i>Tyto novaehollandiae</i>	V	-	Ecosystem
Powerful Owl	<i>Ninox strenua</i>	V	-	Ecosystem
Regent Honeyeater	<i>Anthochaera phrygia</i>	CE	CE	Ecosystem
Scarlet Robin	<i>Petroica boodang</i>	V	-	Ecosystem
Speckled Warbler	<i>Chthonicola sagittata</i>	V	-	Ecosystem
Southern Myotis	<i>Myotis macropus</i>	V	-	Species
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>	V	E	Ecosystem
Square-tailed Kite	<i>Lophoictinia isura</i>	V	-	Dual
Squirrel Glider	<i>Petaurus norfolcensis</i>	V	-	Species
Swift Parrot	<i>Lathamus discolor</i>	E	CE	Ecosystem
Turquoise Parrot	<i>Neophema pulchella</i>	V	-	Ecosystem
Varied Sittella	<i>Daphoenositta chrysoptera</i>	V	-	Ecosystem
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	V	-	Ecosystem
White-throated Needletail	<i>Hirundapus caudacutus</i>	-	V	Ecosystem
Yellow-bellied Sheath-tail-bat	<i>Saccolaimus flaviventris</i>	V	-	Ecosystem

Note- V- Vulnerable, E- Endangered, CE- Critically Endangered. Ecosystem credit species *Botaurus poiciloptilus* (Australasian Bittern) and *Grantiella picta* (Painted Honeyeater) were excluded due to habitat constraints. Species credit species *Ninox connivens* (Barking Owl), *Pandion cristatus* (Eastern Osprey), *Callocephalon fimbriatum* (Gang-gang Cockatoo), *Pteropus poliocephalus* (Grey-headed Flying-fox), *Miniopterus orianae oceanensis* (Large Bent-winged Bat), *Chalinobus dwyeri* (Large-eared Pied Bat), *Miniopterus australis* (Little Bent-winged Bat), *Hieraaetus morphnoides* (Little Eagle), *Tyto novaehollandiae* (Masked Owl), *Ninox strenua* (Powerful Owl), *Anthochaera phrygia* (Regent Honeyeater), *Lathamus discolor* (Swift Parrot) and *Haliaeetus leucogaster* (White-bellied Sea-Eagle) were excluded due to habitat constraints in the BAMC.

2.3.2.2 Habitat constraints assessment and field surveys

During the site assessment on the 28th of February 2023 an assessment of habitat constraints and microhabitats, and targeted fauna surveys were undertaken. Targeted surveys for threatened fauna were undertaken for all species listed in **Table 2-2** with potential diurnal occurrence at the time of survey (February). The methodology of targeted threatened fauna surveys utilised a random meander survey technique.

2.3.2.2.1 Cumberland Plain Land Snail

A targeted survey was undertaken for the CPLS during the site assessment on the 28th of February 2023. All areas of potential habitat (litter of bark, leaves and logs, rubbish, loose soil around grass clumps) were inspected for shells and live individuals. See **Plate 5** for example of a search for CPLS through litter of bark and leaves.



Plate 5 Cumberland Plain Land Snail survey example.



Legend

- Subject Land
- ▲ *Eucalyptus nicholii* (BC Act: Vulnerable, EPBC Act- Vulnerable)

THREATENED FLORA SPECIES

CLIENT: Great River NSW Pty Ltd
PROJ: AU213008889
LOCATION: 14-28, 30-68 and 70-98 Old Castlereagh Road

MAP:Threatened Species
VERSION:A
DATE EXPORTED: 20/04/2023
TECHNICIAN: Natalie.Wood

DATA SOURCES
 Client, RPS, Nearmap 10/01/2023 and 12/08/2021



SCALE 1:2,200
 A3 SIZE / Projection: GDA2020 MGA Zone 56



FIGURE 2-1



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2.4 Weather conditions

The weather conditions present at the time of survey are presented in **Table 2-3**.

The Subject Land received 55.0 mm of rain in the month of February 2023 preceding the site assessment (28th February 2023), this is half the recorded average for this time of year (BOM 2023b). Temperatures leading up to the survey were average for this time of year (BOM 2023b). Weather conditions in the lead up to the site assessment were drier than normal for this time of year, which may have affected the emergence of threatened flora and fauna species.

Table 2-3 Weather conditions at the time of survey, from Penrith Lakes AWS (station 067113, BOM 2023a).

Survey undertaken (e.g. method / targeted species)	Date	Time	Temperature (°C)	Wind	Rainfall (mm)	Other conditions relevant to the species
BAM plots, threatened flora and fauna species survey, targeted Cumberland Land Snail Survey.	28/02/23	8:10 am – 3:30 pm	Min- 20.0 Max- 28.7	Moderate	1.4	Cloudy

2.5 Limitations

Some plant species that occur in the local area, such as cryptic species, are annuals and are present only in the seed bank for much of the year. Other plant species are perennial but are inconspicuous or difficult to identify unless flowering.

Similarly, some fauna species have potential to occur on a seasonal, vagrant or migratory basis and may be absent from the locality for much of the year. Fauna species that are easily disturbed or cryptic may not have been detected.

These potential limitations have been addressed where possible by determining habitat suitability for threatened flora and fauna species.

2.6 Licensing

Research was conducted under the following licences/approvals/authorities:

- NSW National Parks and Wildlife Service Scientific Investigation Licence S100536 (Valid to 30 May 2023); and
- Animal Research Authority (ARA) for Project No: RVF 21/902 with project title Fauna Surveys as part of Environmental Studies. This gives authority for animal research to occur under the NSW Animal Research Act 1985. The Project Approval Period is from 21 March 2022 to 21 March 2027 with the ARA approval periods relevant the Proposed Development being from 21 March 2022 to 21 March 2023 and 21 March 2023 to 21 March 2024.

3 SITE CONTEXT

3.1 Assessment Area

The Assessment Area includes the Subject Land (**Figure 3-1**) and the area within a 1500 m buffer surrounding the Subject Land, the Assessment Area is displayed in **Figure 3-2**.

3.2 Landscape Features

3.2.1 IBRA Bioregions and subregions

The Subject Land and Assessment Area occurs wholly within the Sydney Basin Bioregion within the Cumberland Subregion (DECCEW 2012).

3.2.2 Rivers and streams, estuaries and wetlands

No mapped or unmapped rivers or streams occur within the Subject Land. The Nepean River passes through the Assessment Area approx. 380 m south of the Subject Land (**Figure 3-1** and **Figure 3-2**).

A number of dams occur within the Assessment Area including two dams approx. 40 m south of the Subject Land, a dam approx. 160 m north of the Subject Land and a network of dams and lakes making up the Penrith Lakes (NSW Spatial Services 2022). It is not anticipated such hydrological items will be affected by the Proposed Development.

3.2.3 Habitat connectivity

The Subject Land forms part of a link of vegetation that may provide habitat connectivity for bird species linking potential habitat areas from the East, South and West of the Subject Land. The sparse nature of vegetation within and in proximity to the Subject Land is unlikely to provide habitat connectivity to other fauna groups.

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

No karst, caves, crevices, cliffs, rocks or other geological features of significance were identified within the Subject Land. A desktop image analysis was completed across the Assessment Area and no karst, caves, crevices, cliffs, rocks or other geological features of significance were identified (Google 2022).

3.2.5 Areas of Outstanding Biodiversity Value

No areas of outstanding Biodiversity Value are known to occur within the Subject Land or Assessment Area.

3.2.6 NSW (Mitchell) Landscape

The Subject Land occurs within the Hawkesbury - Nepean Channels and Floodplains Mitchell Landscape as is the large majority of the Assessment Area with encroachment from the Cumberland Plain subregion in the west and northwest of the Assessment Area (NPWS 2003).

The Hawkesbury - Nepean Channels and Floodplains Mitchell Landscape is characterised by Meandering channel and moderately wide floodplain of the Hawkesbury and Nepean rivers on Quaternary sand and gravel. Sand is dominant upstream of the Warragamba River junction, general elevation 0 to 20m, local relief <10m. Undifferentiated alluvial sand to poorly structured gradation profiles of sandy loam or clay loam (NPWS 2003).

The Cumberland Plain Mitchell Landscape is characterised by undulating hills and valleys on horizontal Triassic shale and siltstone, occasional quartz sandstones especially near the margin of the Port Jackson

landscape. General elevation 0 to 45m, local relief <20m. Coastal extension of the Cumberland Plain landscape. Red and brown texture-contrast soils on crests grading to yellow harsh texture-contrast soils in valleys (NPWS 2003).

3.2.7 Soil hazard features

No known occurrences of Acid Sulphate Soils are mapped within the Subject Land or Assessment Area (DPE 2019).



SITE MAP

FIGURE 3-1

CLIENT: Great River NSW Pty Ltd
PROJ: AU213008889
LOCATION: 14-28, 30-68 and 70-98 Old Castlereagh Road

MAP: Subject Site
VERSION: A
DATE EXPORTED: 20/04/2023
TECHNICIAN: Natalie.Wood

DATA SOURCES
 Client, RPS, NSWSS, Nearmap 10/01/2023 and 12/08/202



SCALE 1:3,500
 A3 SIZE / Projection: GDA2020 MGA Zone 56



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Legend

- Subject Land
- Subject Property
- Assessment Area
- Hydroarea
- Hydrolines

LOCATION MAP

CLIENT: Great River NSW Pty Ltd
PROJ: AU213008889
LOCATION: 14-28, 30-68 and 70-98 Old Castlereagh Road

MAP: Location Map
VERSION: A
DATE EXPORTED: 20/04/2023
TECHNICIAN: Natalie.Wood

DATA SOURCES
 Client, RPS, ©Department of Finance and Innovation 2018



FIGURE 3-2



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PROJECT PATH: J:\JOBS\6000 Series\8889 - Nepean Business Park- Landscape Corridor Rehabilitation\10 - Geospatial\03_Projects\IBDAR_8889_Figures.aprx

4 NATIVE VEGETATION, THREATENED ECOLOGICAL COMMUNITIES AND VEGETATION INTEGRITY

In accordance with Question 5 i. of Appendix D and Appendix L Table 28 of the BAM (DPE 2020a) this section is not required to be applied.

5 THREATENED SPECIES

In accordance with Question 5 i. of Appendix D and Appendix L Table 28 of the BAM (DPE 2020a) this section is not required to be applied. Instead, Appendix D.2 of the BAM applies; therefore, the assessor must assess the suitability of the planted native vegetation for use by threatened species and record any incidental sightings or evidence (e.g. scats, stick nests) of threatened species credit species (flora and fauna) using, inhabiting or being part of the planted native vegetation.

5.1 Flora

Threatened flora species whose survey period coincided with the site assessment (February, **Table 5-1**) include:

- *Grevillea juniperina* subsp. *juniperina*;
- *Pimelea spicata*;
- *Eucalyptus benthamii*;
- *Persoonia hirsuta*;
- *Marsdenia viridiflora* subsp. *viridiflora* - endangered population;
- *Wahlenbergia multicaulis* - endangered population;
- *Persicaria elatior*; and
- *Cynanchum elegans*.

The above species were not identified during targeted surveys within the Subject land and were not further assessed,

Further assessment of species whose survey period did not coincide with the site assessment is presented in **Section 5.1.1**.

Table 5-1 Assessed threatened flora species survey periods (DPE 2023c) in grey fill, survey date column bolded.

Scientific Name	J	F	M	A	M	J	J	A	S	O	N	D
<i>Grevillea juniperina</i> subsp. <i>juniperina</i>												
<i>Pilularia novae-hollandiae</i>												
<i>Pimelea spicata</i>												
<i>Pomaderris brunnea</i>												
<i>Eucalyptus benthamii</i>												
<i>Persoonia hirsuta</i>												
<i>Hibbertia</i> sp. <i>Bankstown</i>												
<i>Marsdenia viridiflora</i> subsp. <i>viridiflora</i> - endangered population												
<i>Callistemon linearifolius</i>												
<i>Wahlenbergia multicaulis</i> - endangered population												
<i>Persicaria elatior</i>												
<i>Cynanchum elegans</i>												

5.1.1 Further assessment

5.1.1.1 *Pilularia novae-hollandiae*

Austral Pillwort grows in shallow swamps and waterways, often among grasses and sedges (DPE 2023f). Such habitat does not occur within the Subject Land. Therefore, this species is not considered in the following sections of this report and no specific mitigation measure have been proposed.

5.1.1.2 *Pomaderris brunnea*

Brown Pomaderris grows in moist woodland or forest on clay and alluvial soils of flood plains and creek lines (DPE 2023f) and in open forest, confined to the Colo River and upper Nepean River (National Herbarium of NSW 2023). The Subject Land does not occur along the Colo River or upper Nepean River, vegetation along the Nepean River occurs approximately 300 m to the Southwest of the Subject Land; therefore, this species is unlikely to occur within the Subject Land. Furthermore, Brown Pomaderris grows to 3 m tall (DPE 2023f) and no other *Pomaderris spp.* were identified during the site assessment; therefore, this species is considered very unlikely to occur. Therefore, this species is not considered in the following sections of this report and no specific mitigation measure have been proposed.

5.1.1.3 *Hibbertia sp. Bankstown*

This species is endemic to New South Wales and is currently known to occur in only one population at Bankstown Airport in Sydney's southern suburbs, in the Bankstown LGA (DPE 2023f). The Subject Land does not occur within Bankstown LGA; therefore, this species is very unlikely to occur within the Subject Land. Therefore, this species is not considered in the following sections of this report and no specific mitigation measure have been proposed.

5.1.1.4 *Callistemon linearifolius*

This species was not surveyed during the DPE approved survey period; however, the survey period is the flowering period of this species, with flowers used for positive identification. As this shrub is up to 3-4 m tall (DPE 2023f) and no other *Callistemon spp.* were identified, this species is considered very unlikely to occur within the Subject Land. Therefore, this species is not considered in the following sections of this report and no specific mitigation measure have been proposed.

5.2 Fauna

5.2.1 Fauna habitat

Potential habitat for threatened species identified during the field survey is presented in **Table 5-2**.

Table 5-2 Habitat items within the Subject Land.

Habitat item	Subject Land
Hollows	Two small hollows (<5 cm wide) were identified within two individuals of <i>Eucalyptus tereticornis</i> . These hollows may be suitable for breeding by the Eastern False Pipistrelle, Greater Broad-nosed Bat, Southern Myotis and Yellow-bellied Sheath-tail-bat.
Nest	One Australian Raven (<i>Corvus coronoides</i> , observed) nest was identified within an individual of <i>Eucalyptus tereticornis</i> .
Flowering shrubs	One species of flowering shrub was identified, <i>Acacia parramattensis</i> . This shrub may be suitable for foraging by the Gang-gang Cockatoo and Little Lorikeet.
Flowering/seed bearing trees	Eight species of native flowering trees were identified, including: <i>Eucalyptus amplifolia</i> , <i>Eucalyptus fibrosa</i> , <i>Eucalyptus moluccana</i> , <i>Eucalyptus tereticornis</i> , <i>Grevillea robusta</i> , <i>Melaleuca decora</i> , <i>Melaleuca nodosa</i> and <i>Melaleuca styphelioides</i> . These trees may be suitable for foraging by the Black-chinned Honeyeater (eastern subspecies), Eastern-pygmy

Habitat item	Subject Land
	Possum, Gang-gang Cockatoo, Grey-headed Flying-fox, Little Lorikeet, Speckled Warbler and Swift Parrot.
Fruit bearing shrubs	One species of fruit bearing shrub was identified, <i>Melia azedarach</i> . This tree may be suitable for foraging by the Grey-headed Flying-fox.
Lerp infested trees	Four potentially lerp infested trees were present including, <i>Eucalyptus amplifolia</i> , <i>Eucalyptus fibrosa</i> , <i>Eucalyptus moluccana</i> and <i>Eucalyptus tereticornis</i> . The trees may be suitable for foraging by the Swift Parrot.
Sandstone rocky outcrops, including rock crevices/ caves and cliffs	Absent.
Wetland areas	Absent.
Hollow logs	One hollowed log was identified that may be suitable for protected mammals and reptiles.
Mistletoe	Absent.
Termite mounds	Absent.
Coarse woody debris	Absent.
Culverts, bridges, mine shafts, or abandoned structures	Absent.
Koala use trees (DPE 2022b)	Five koala use trees were identified within the Subject Land, including <i>Casuarina glauca</i> , <i>Eucalyptus amplifolia</i> , <i>Eucalyptus fibrosa</i> , <i>Eucalyptus moluccana</i> and <i>Eucalyptus tereticornis</i> .
Sap and gum sources	Four sap and gum source trees were identified including, <i>Eucalyptus amplifolia</i> , <i>Eucalyptus fibrosa</i> , <i>Eucalyptus moluccana</i> and <i>Eucalyptus tereticornis</i> . These trees may be suitable for foraging of the Greater Glider.
Dense shrubbery	Absent.
Litter of bark, leaves and logs	Areas of bark and leaf litter, and logs were present surrounding <i>Eucalyptus spp.</i> trees. These areas may be suitable for foraging and breeding of the Cumberland Plain Land Snail.
Decorticating bark	Absent.
Estuarine, beach, mudflats, and rocky foreshores	Absent.

5.2.2 Habitat suitability

Habitat suitability was assessed for all ecosystem and species credit species derived from **Section 2.3**, presented in **Table 5-3**. **Table 5-3** assessed the likelihood of occurrence of these species based off habitat constraints listed in **Table 5-2** and the Threatened Biodiversity Profile Search (DPE 2023f). Threatened species listed in **Table 5-3** with suitable habitat within the Subject Land were addressed in further detail in **Section 5.2.3**.

Table 5-3 Suitability of BAMC Ecosystem and Species credits threatened fauna species.

Common Name	Scientific Name	Credit Type	Foraging	Breeding	Identified on Subject Land	Habitat Suitability
Barking Owl	<i>Ninox connivens</i>	Ecosystem	Y	N	NA	Low
Black Bittern	<i>Ixobrychus flavicollis</i>	Ecosystem	N	N	N	Very Low
Black-chinned Honeyeater (eastern subspecies)	<i>Melithreptus gularis gularis</i>	Ecosystem	Y	N	N	Low

REPORT

Common Name	Scientific Name	Credit Type	Foraging	Breeding	Identified on Subject Land	Habitat Suitability
Brown Treecreeper (eastern subspecies)	<i>Climacteris picumnus victoriae</i>	Ecosystem	Y	N	N	Low
Bush Stone-curlew	<i>Burhinus grallarius</i>	Species	Y	N	N	Low
Cumberland Plain Land Snail	<i>Meridolum corneovirens</i>	Species	Y	Y	N	Low-Moderate see Section 5.2.3.1
Diamond Firetail	<i>Stagonopleura guttata</i>	Ecosystem	Y	N	N	Low
Dusky Woodswallow	<i>Artamus cyanopterus cyanopterus</i>	Ecosystem	Y	N	N	Low
Eastern Coastal Free-tailed Bat	<i>Micronomus norfolkensis</i>	Ecosystem	Y	N	NA	Low
Eastern False Pipistrelle	<i>Falsistrellus tasmaniensis</i>	Ecosystem	Y	Y	NA	Low-Moderate see Section 5.2.3.2
Eastern Osprey	<i>Pandion cristatus</i>	Ecosystem	N	N	N	Very Low
Eastern Pygmy-possum	<i>Cercartetus nanus</i>	Species	Y	N	N	Low
Flame Robin	<i>Petroica phoenicea</i>	Ecosystem	Y	N	N	Low
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	Ecosystem	Y	N	N	Low
Greater Broad-nosed Bat	<i>Scoteanax rueppellii</i>	Ecosystem	Y	Y	NA	Low-Moderate see Section 5.2.3.2
Greater Glider	<i>Petauroides volans</i>	Species	Y	N	NA	Low
Green and Golden Bell Frog	<i>Litoria aurea</i>	Species	N	N	NA	Very Low
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	Ecosystem	Y	N	N	Low
Hooded Robin (south-eastern form)	<i>Melanodryas 25ucullate cucullata</i>	Ecosystem	Y	N	N	Low
Koala	<i>Phascolarctos cinereus</i>	Species	Y	N	N	Low see Section 5.2.3.3
Large Bent-winged Bat	<i>Miniopterus orianae oceanensis</i>	Ecosystem	Y	N	NA	Low
Little Bent-winged Bat	<i>Miniopterus australis</i>	Ecosystem	N	N	NA	Very Low
Little Eagle	<i>Hieraaetus morphnoides</i>	Ecosystem	Y	N	N	Low
Little Lorikeet	<i>Glossopsitta pusilla</i>	Ecosystem	Y	N	N	Low
Masked Owl	<i>Tyto novaehollandiae</i>	Ecosystem	Y	N	N	Low
Powerful Owl	<i>Ninox strenua</i>	Ecosystem	Y	N	N	Low
Regent Honeyeater	<i>Anthochaera phrygia</i>	Ecosystem	Y	N	N	Low
Scarlet Robin	<i>Petroica boodang</i>	Ecosystem	Y	N	N	Low

Common Name	Scientific Name	Credit Type	Foraging	Breeding	Identified on Subject Land	Habitat Suitability
Speckled Warbler	<i>Chthonicola sagittata</i>	Ecosystem	Y	N	N	Low
Southern Myotis	<i>Myotis macropus</i>	Species	N	Y	NA	Low-Moderate see Section 5.2.3.2
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>	Ecosystem	Y	N	NA	Low
Square-tailed Kite	<i>Lophoictinia isura</i>	Dual	Y	N	N	Low
Squirrel Glider	<i>Petaurus norfolcensis</i>	Species	N	N	NA	Very Low
Swift Parrot	<i>Lathamus discolor</i>	Ecosystem	Y	N	NA	Low
Turquoise Parrot	<i>Neophema pulchella</i>	Ecosystem	Y	N	N	Low
Varied Sittella	<i>Daphoenositta chrysoptera</i>	Ecosystem	Y	N	N	Low
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	Ecosystem	Y	N	N	Low
White-throated Needletail	<i>Hirundapus caudacutus</i>	Ecosystem	Y	N	N	Low
Yellow-bellied Sheath-tail-bat	<i>Saccolaimus flaviventris</i>	Ecosystem	Y	Y	NA	Low-Moderate see Section 5.2.3.2

5.2.3 Further assessment

5.2.3.1 Cumberland Plain Land Snail

A targeted survey was undertaken for CPLS (**Section 2.3.2.2.1**) and no individuals were identified. One Common Garden Snail (*Cornu aspersum*) was identified during the survey as well as a number of insect species.

Although the species is not likely to be present within the Subject Land, impact mitigation measures have been introduced as a precaution, due to a recent record being in proximity to the Subject Land (2011, DPE 2023b), see **Section 8.4**.



Plate 6 Common Garden Snail (*Cornu aspersum*) identified during CPLS targeted survey.

5.2.3.2 Microbats

Four threatened microbat species were identified as having low-moderate habitat suitability within the Subject Land, including:

- Eastern False Pipistrelle;
- Greater Broad-nosed Bat;
- Southern Myotis; and
- Yellow-bellied Sheath-tail-bat.

As the hollows within the Subject Land may provide roosting or breeding habitat for the above microbats, avoidance measures have been introduced in **Section 7.1.2** and impact mitigation measures in **Section 8.4**.

5.2.3.3 Koala

Koalas were identified as having low-moderate habitat suitability due the presence of potential foraging habitat. While the site assessment did not detect this species and the habitat within the Subject Land is likely sub-optimal due fragmented and disturbed nature of the area surrounding the Subject Land, impact mitigation measures have been introduced as a precaution, see **Section 8.4**.

6 PRESCRIBED BIODIVERSITY IMPACTS

Prescribed impacts identified for the Proposed Development are identified in **Table 6-1**.

Table 6-1 Prescribed impacts identified.

Feature	Present	Description of feature characteristics and location	Threatened entities that use, are likely to use, or are part of the habitat feature. Where relevant, threatened species or fauna that are part of a TEC or EC, that are at risk of vehicle strike
Karst, caves, crevices, cliffs, rocks or other geological features of significance	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No	NA	NA
Human-made structures	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No	NA	NA
Non-native vegetation	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No	NA	NA
Habitat connectivity	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	The Subject Land forms part of a link of vegetation that may provide habitat connectivity for bird species linking potential habitat areas from the east, south and west of the Subject Land (Figure 6-1). The Subject Land is deemed unlikely to be used by other fauna groups due to the sparse and fragmented (fences, roads) nature of the area surrounding the Subject Land.	Barking Owl, Black-chinned Honeyeater (eastern subspecies), Brown Treecreeper (eastern subspecies), Bush Stone-curlew, Diamond Firetail, Dusky Woodswallow, Flame Robin, Gang-gang Cockatoo, Grey-headed Flying-fox, Hooded Robin (south-eastern form), Little Eagle, Little Lorikeet, Masked Owl, Powerful Owl, Regent Honeyeater, Scarlet Robin, Speckled Warbler, Square-tailed Kite, Swift Parrot, Turquoise Parrot, Varied Sittella and White-bellied Sea-Eagle.
Waterbodies, water quality and hydrological processes	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No	NA	NA
Wind turbine strikes (wind farm development only)	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No	NA	NA
Vehicle strikes	<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No	NA	NA

6.1.1 Habitat connectivity

The list of threatened entities in **Table 6-1** was produced from threatened bird species that have potential foraging habitat within the Subject Land, which could use the Subject Land as intermittent foraging habitat. The Subject Land is unlikely to be used by other fauna groups due to the sparse and fragmented nature of the surrounding area.

The habitat connectivity within the Subject Land is unlikely to be of high importance to the habitat connectivity of threatened bird species. Despite vegetation removal within the Subject Land, habitat connectivity will persist through areas of planted native vegetation to the north. A VMP will be produced to re-establish this section of the habitat corridor within the Subject Land, at the completion of works (**Section 8.4**).



Legend

- Subject Land
- Subject Property
- Assessment Area
- Habitat Connectivity

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PRESCRIBED IMPACTS

CLIENT: Great River NSW Pty Ltd
PROJ: AU213008889
LOCATION: 14-28, 30-68 and 70-98 Old Castlereagh Road

MAP: Prescribed Impacts
VERSION: A
DATE EXPORTED: 20/04/2023
TECHNICIAN: Natalie.Wood

DATA SOURCES
 Client, RPS, ©Department of Finance and Innovation 2018

200 0 200 400 600
 m
 SCALE 1:13,000
 A3 SIZE / Projection: GDA2020 MGA Zone 56



FIGURE 6-1



IMPORTANT NOTE
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7 AVOID OR MINIMISE IMPACTS ON BIODIVERSITY VALUES

7.1 Avoid or minimise direct, indirect and prescribed impacts

7.1.1 Project location

Opportunities to locate the Proposed Development to avoid and minimise direct and indirect impacts to native vegetation and threatened entities and their habitat was limited. The location of the Proposed Development will be determined by the raised levels on the site boundary (Scott Carver 2023) involving the relocation of a landscaping batter closer to Old Castlereagh Road (**Figure 7-1**).

7.1.2 Project design

The intent of the Proposed Development is to raise the levels on the northern site boundary. The best long term outcome for all trees on this boundary was determined by Australian Tree Consultants Pty Ltd to be a full replacement strategy that would also permit comprehensive soil improvements and ensure consistent growth and health of all new trees (Australian Tree Consultants Pty Ltd 2019). This was to include the complete revegetation of the Subject Land with species of the mapped plant community (PCT 4025 – Cumberland Red Gum Riverflat Forest, DPE 2022a, **Section 8.4**). This will result in temporary impacts to habitat connectivity, native vegetation and threatened entities and their habitats, with the goal of achieving no-net loss in future years (**Figure 7-1**).

As a result of consultation with the Proponent during the design phase of the Proposed Development, the two hollow-bearing trees containing small hollows (**Section 5.2**) will be retained by the Proposed Development. The retention of these hollow-bearing trees will avoid impacts to the breeding habitat of threatened microbat species determined as having low-moderate habitat suitability within the Subject Land, including the:

- Eastern False Pipistrelle;
- Greater Broad-nosed Bat;
- Southern Myotis; and
- Yellow-bellied Sheath-tail-bat.

Furthermore, one of the above hollow-bearing trees also contains an Australian Raven (*Corvus coronoides*, observed, **Section 5.2**) nest which will be similarly retained and avoided. It should be noted that the moving of the batter may have a longer term impact on the two hollow-bearing trees being retained.



Legend

- Subject Land
- Direct Impacts – Planted Native Vegetation
- Hollow-bearing Trees

FINAL PROPOSED FOOTPRINT

CLIENT: Great River NSW Pty Ltd
PROJ: AU213008889
LOCATION: 14-28, 30-68 and 70-98 Old Castlereagh Road

MAP: Final Footprint
VERSION: A
DATE EXPORTED: 5/05/2023
TECHNICIAN: Angus McClelland

DATA SOURCES
 Client, RPS, Nearnap 10/01/2023 and 12/08/2021

20 0 20 40 60 80 100 120 m

SCALE 1:2,200
 A3 SIZE / Projection: GDA2020 MGA Zone 56



FIGURE 7-1



IMPORTANT NOTE
 1. This plan was prepared for the sole purposes of the client for the specific purpose of providing a professional advisory plan. This plan is strictly limited to the Purpose and does not apply directly or indirectly and will not be used for any other application, purpose, use or matter.
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 4. The aerial photography used in this plan has not been rectified. This image has been overlaid as a best fit on the boundaries shown and position is approximate only.

PROJECT PATH: J:\UOBS\8000 Series\8889 - Nepean Business Park- Landscape Corridor Rehabilitation\10 - Geospatial\03_Projects\IBDAR_8889_Figures.aprx

8 ASSESSING THE IMPACTS OF THE PROPOSED DEVELOPMENT ON BIODIVERSITY VALUES

8.1 Impacts of Clearing of Threatened Species Habitat

8.1.1 Foraging

1.33 ha of native vegetation that may provide foraging habitat to species listed in **Table 8-1** will be removed by the proposed development.

Table 8-1 Species foraging habitat to be impacted.

Common Name	Scientific Name	Habitat Suitability
Barking Owl	<i>Ninox connivens</i>	Low
Black-chinned Honeyeater (eastern subspecies)	<i>Melithreptus gularis gularis</i>	Low
Brown Treecreeper (eastern subspecies)	<i>Climacteris picumnus victoriae</i>	Low
Bush Stone-curlew	<i>Burhinus grallarius</i>	Low
Cumberland Plain Land Snail	<i>Meridolum corneovirens</i>	Low- moderate
Diamond Firetail	<i>Stagonopleura guttata</i>	Low
Dusky Woodswallow	<i>Artamus cyanopterus cyanopterus</i>	Low
Eastern Coastal Free-tailed Bat	<i>Micronomus norfolkensis</i>	Low
Eastern False Pipistrelle	<i>Falsistrellus tasmaniensis</i>	Low- moderate
Eastern Pygmy-possum	<i>Cercartetus nanus</i>	Low
Flame Robin	<i>Petroica phoenicea</i>	Low
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	Low
Greater Broad-nosed Bat	<i>Scoteanax rueppellii</i>	Low- moderate
Greater Glider	<i>Petauroides volans</i>	Low
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	Low
Hooded Robin (south-eastern form)	<i>Melanodryas cucullata cucullata</i>	Low
Koala	<i>Phascolarctos cinereus</i>	Low- moderate
Large Bent-winged Bat	<i>Miniopterus orianae oceanensis</i>	Low
Little Eagle	<i>Hieraaetus morphnoides</i>	Low
Little Lorikeet	<i>Glossopsitta pusilla</i>	Low
Masked Owl	<i>Tyto novaehollandiae</i>	Low
Powerful Owl	<i>Ninox strenua</i>	Low
Regent Honeyeater	<i>Anthochaera phrygia</i>	Low
Scarlet Robin	<i>Petroica boodang</i>	Low
Speckled Warbler	<i>Chthonicola sagittata</i>	Low
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>	Low
Square-tailed Kite	<i>Lophoictinia isura</i>	Low
Swift Parrot	<i>Lathamus discolor</i>	Low
Turquoise Parrot	<i>Neophema pulchella</i>	Low

Common Name	Scientific Name	Habitat Suitability
Varied Sittella	<i>Daphoenositta chrysoptera</i>	Low
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	Low
White-throated Needletail	<i>Hirundapus caudacutus</i>	Low
Yellow-bellied Sheath-tail-bat	<i>Saccolaimus flaviventris</i>	Low-moderate

8.1.2 Breeding

1.33 ha of native vegetation will be removed by the Proposed Development that may provide areas of breeding habitat for the Cumberland Plain Land Snail.

8.2 Indirect Impacts

The indirect impacts considered include:

- **Weeds:** During the construction phase of the project weed species may be spread from and to the Subject Land. The majority of the areas surrounding the Subject Land are dominated by exotic vegetation. These weeds will be managed during revegetation activities.
- **Pathogens:** Phytophthora and Myrtle Rust that affect native trees and myrtaceous species have potential to be spread by the Proposed Development due to ground disturbance associated with the vegetation clearing and batter relocation.

8.3 Prescribed Impacts

8.3.1 Habitat connectivity

Native vegetation with the Subject Land adds to the connectivity of the surrounding area, in providing intermittent foraging habitat for bird species travelling from one area of habitat to another. The removal of vegetation from the Subject Land will narrow a section of the corridor; however, habitat connectivity will persist through similar areas of vegetation to the north (approx. 20m). Following the completion of the changing of levels, the Subject Land and surrounding areas are to be revegetated with native species of the mapped plant community (PCT 4025 - Cumberland Red Gum Riverflat Forest, DPE 2023a, **Section 8.4**). Therefore, connectivity will only be temporarily impacted by the Proposed Development and will result in no-net loss in future years.

Threatened bird species listed in **Table 6-1** are unlikely to be impacted by the narrowing of the wildlife corridor given the similar areas persisting to the north of the Subject Land. Furthermore, as above this habitat will be restored with no-net loss in future years.

8.4 Mitigation and Management of Impacts

Table 8-2 lists mitigation measures recommended for minimising the direct and indirect impacts of the Proposed Development on biodiversity.

Table 8-2: Recommended Mitigation Measures

Impact	Mitigation Measure	Timing
Removal of threatened species habitat and habitat features	<p>A suitably qualified Project Ecologist should be engaged during vegetation clearing to undertake a pre-clearing inspection of the Subject Land. The pre-clearing inspection will include:</p> <ul style="list-style-type: none"> Targeted searches for any new threatened species (with focus on Cumberland Plain Land Snails and threatened flora not previously surveyed); Demarcation of fauna habitat; and Demarcation of Priority Weeds listed under the <i>Biosecurity Act 2015</i>. 	Prior to commencement
	<p>A two-stage clearing protocol should be utilised under the supervision of a suitably qualified Project Ecologist. Stage 1 is intended to disturb the clearing area in order to encourage any resident fauna to leave prior to habitat removal. Stage 1 should be undertaken 24 hours prior to Stage 2 and involves:</p> <ul style="list-style-type: none"> Targeted searches for Cumberland Plain Land Snails immediately prior to clearing; Relocation of any Cumberland Plain Land Snails located during targeted searches to suitable habitat nearby; Removal of non-fauna habitat; Demarcation of any fauna habitat; and Mechanical 'knocking' of habitat trees (tree hollows/nests, i.e., with excavator). <p>The Project Ecologist should be engaged to supervise Stage 2 of the vegetation clearing which involves:</p> <ul style="list-style-type: none"> Mechanical 'knocking' of habitat trees; Soft felling/clearing of any fauna habitat identified (tree hollows, nests and hollows logs); Project Ecologist inspection of fauna habitat utilising flashlight and/or endoscopic camera; and Relocating any displaced fauna to suitable habitat or transporting injured fauna to WIRES or veterinary care. 	Prior to commencement and during vegetation clearing
Impacts to native vegetation	A VMP will be prepared to manage the restoration of the Subject Land at the completion of works. The VMP should include revegetation works with locally indigenous individuals of PCT 4025 - Cumberland Red Gum Riverflat Forest (DPE 2023a) and ongoing weed control.	Post construction
Weeds and Pathogens	Hygiene protocols should be implemented to prevent the spread of weeds or pathogens between infected and uninfected areas of the Subject Land.	Pre, during and post construction
Erosion and sediment impacts	A site-specific Erosion and Sediment Control Plan is recommended detailing the measures and controls to be applied to minimise erosion and sediment control risks. These may include: runoff, diversion and drainage points; sediment basins and sumps; scour protection; stabilising disturbed areas as soon as possible, fencing and swales; and staged implementation arrangements. The Plan will also include arrangements for managing wet weather events, and working with high surface water levels, including monitoring of potential high-risk events (such as storms) and specific controls and follow-up measures to be applied in the event of wet weather.	During construction
Minimise risk from spills	All fuels, chemicals and other hazardous materials will be stored in a roofed, fire-protected and impervious bunded area at least 50 m from waterways, drainage lines, basins, flood-affected areas or slopes above 10%. Bunding design will comply with relevant Australian Standards and should generally be in accordance with relevant guidelines.	During construction

9 CONCLUSION

The planted native vegetation within the Subject Land is potentially suitable for a range of threatened fauna species; however, no incidental sightings or evidence (e.g. scats, stick nests) of threatened species were identified during the site assessment.

During the design phase of the Proposed Development, the two identified hollow-bearing trees were avoided.

Habitat connectivity was identified within the Subject Land for a number of threatened species and therefore, mitigation measures were introduced to avoid and minimise impacts to these threatened species. Key mitigation includes:

- Pre-clearing inspections;
- Two-stage clearing process;
- Preparation of a VMP; and
- Hygiene protocols.

10 REFERENCES

- Australian Government Bureau of Meteorology [BOM] (2023a) Penrith, New South Wales, February 2023 Daily Weather Observations.
- Australian Tree Consultants Pty Ltd (2019) Re – Arborist Inspection – Tree Survey - Penrith Lakes Employment Land Old Castlereagh Rd.
- BOM (2023b) Climate statistics for Australian locations- Penrith Lakes AWS.
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- Department of Climate Change, Energy, the Environment and Water [DCCEEW] (2005) Directory of Important Wetlands in Australia
- DCCEEW (2012) Interim Biogeographic Regionalisation for Australia, Version 7.
- DCCEEW (2023a) Australian Government's Species Profiles and Threats (SPRAT) database.
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- DPE (2020a) Biodiversity Assessment Method.
- DPE (2020b) Surveying threatened plants and their habitats.
- DPE (2022a) NSW State Vegetation Type Map.
- DPE (2022b) Koala (*Phascolarctos cinereus*) Biodiversity Assessment Method Survey Guide.
- DPE (2023a) Biodiversity Values Map and Threshold Tool.
- DPE (2023b) BioNet Atlas.
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Appendix A
**Minimum information requirements for the Biodiversity
Development Assessment Report: Streamlined
assessment module – Planted native vegetation**

Table 28 Minimum information requirements for the Biodiversity Development Assessment Report: Streamlined assessment module – Planted native vegetation

Report section	BAM ref.	Information	Maps & tables (in document)	Data (to be supplied)
Introduction	Chapters 2 and 3	INFORMATION Introduction to the biodiversity assessment including: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> brief description of proposed development <input checked="" type="checkbox"/> identification of subject land⁴ boundary, including: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> operational footprint <input checked="" type="checkbox"/> construction footprint indicating clearing associated with temporary/ancillary construction facilities and infrastructure <input checked="" type="checkbox"/> general description of the subject land <input checked="" type="checkbox"/> sources of information used in the assessment, including reports and spatial data 		
		MAPS and TABLES (in document) – N/A		
		DATA (to be supplied) – N/A		
Planted native vegetation	Appendix D, D.1	INFORMATION <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Determination of which subsection of the decision-making key (D.1) applies to the native vegetation to be cleared or impacted by the proposal <input checked="" type="checkbox"/> Justification and evidence for the above determination (e.g. photos, management plans/agreements, etc.) 		
		MAPS and TABLES (in document) <input checked="" type="checkbox"/> Map of the subject land boundary showing the final proposal footprint, including the construction footprint for any clearing associated with temporary/ancillary construction facilities and infrastructure (if BDAR)		
		DATA (to be supplied) – N/A		
Landscape context	Sections 3.1 and 3.2, Appendix E	INFORMATION Identification of site context components and landscape features at the proposed site, including: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> general description of subject land topographic and hydrological setting, geology and soils <input checked="" type="checkbox"/> IBRA bioregions and subregions (as described in BAM Subsection 3.1.3(2.)) 		

⁴ As defined in the BAM.

Biodiversity Assessment Method

Report section	BAM ref.	Information	Maps & tables (in document)	Data (to be supplied)
		<p>MAPS AND TABLES (in document)</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Site Map <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Boundary of subject land <input checked="" type="checkbox"/> Cadastre of subject land <input checked="" type="checkbox"/> Location Map <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Digital aerial photography at 1:1,000 scale or finer) <input checked="" type="checkbox"/> Boundary of subject land 		
		<p>DATA (to be supplied)</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> All report maps as separate jpeg files <p>Individual digital shape files of:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> subject land boundary <input checked="" type="checkbox"/> assessment area (i.e. buffer area) boundary <input checked="" type="checkbox"/> cadastral boundary of subject land 		
Native vegetation	Chapter 4, Appendix A and Appendix H	<p>INFORMATION</p> <p>Note: If D.1(2.i.) or D.1(3.i.) of the decision-making key in Appendix D apply, Chapter 4 is not required. If D.1(1.i.) or D.1(4.i.) apply, Chapter 4 is required – refer to the minimum information requirements for a BDAR or BCAR in Appendix K.</p>		
		<p>MAPS and TABLES (in document) – N/A</p>		
		<p>DATA (to be supplied) – N/A</p>		
Threatened species habitat (planted native vegetation)	Appendix D, D.2 (and Chapter 5 of the BAM)	<p>INFORMATION</p> <p>Note: If D.1(2.i.) or D.1(3.i.) of the decision-making key in Appendix D apply, Chapter 5 is not required and the assessment of planted native vegetation for threatened species habitat must be conducted in accordance with D.2. If D.1(1.i.) or D.1(4.i.) apply, Chapter 5 is required – refer to the minimum information requirements for a BDAR or BCAR in Appendix K.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Describe the review of existing information and assessment of the suitability of the planted native vegetation for use by threatened species <input checked="" type="checkbox"/> Record any incidental sightings or evidence (e.g. scats) of threatened species credit species (flora and fauna) found to be using, inhabiting or part of, the planted native vegetation 		
		<p>MAPS and TABLES (in document)</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Field data sheet including records of any incidental sightings or evidence of threatened species credit species as outlined above 		

Biodiversity Assessment Method

Report section	BAM ref.	Information	Maps & tables (in document)	Data (to be supplied)
		<input checked="" type="checkbox"/> Table detailing the threatened species credit species found to be using, inhabiting or part of the planted native vegetation <input checked="" type="checkbox"/> Map of threatened species credit species found to be using, inhabiting or part of the planted native vegetation		
		DATA (to be supplied) – N/A		
Prescribed impacts	Chapter 6	INFORMATION		
		<input checked="" type="checkbox"/> Any prescribed impacts from the planted native vegetation proposal must be set out in the BDAR consistent with Appendix K		
		MAPS and TABLES (in document)		
		<input checked="" type="checkbox"/> If relevant, map showing location of any prescribed impact features (i.e. karst, caves, crevices, cliffs, rocks, human-made structures, etc.)		
		DATA (to be supplied)		
		<input checked="" type="checkbox"/> Digital shape files of prescribed impact feature locations <input checked="" type="checkbox"/> Prescribed impact features map in jpeg format		
Avoid and minimise impacts	Chapter 7	INFORMATION		
		<input checked="" type="checkbox"/> Demonstration of efforts to avoid and minimise impacts on biodiversity values (including prescribed impacts) associated with the proposal location in accordance with Chapter 7		
		<input checked="" type="checkbox"/> Describe efforts to avoid and minimise impacts (including prescribed impacts) to biodiversity values through proposal design (as described in BAM Subsection 7.2.2)		
		<input checked="" type="checkbox"/> Identification of any other site constraints that the proponent has considered in determining the location and design of the proposal (as described in BAM Subsection 7.2.1(3.))		
		MAPS and TABLES (in document)		
		<input checked="" type="checkbox"/> Table of measures to be implemented before, during and after construction to avoid and minimise the impacts of the proposal, including action, outcome, timing and responsibility <input checked="" type="checkbox"/> Map of final proposal footprint, including construction and operation <input checked="" type="checkbox"/> Maps demonstrating indirect impact zones where applicable		
		DATA (to be supplied)		
		Digital shape files of: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> final proposal footprint <input checked="" type="checkbox"/> direct and indirect impact zones <input checked="" type="checkbox"/> Maps in jpeg format		

Biodiversity Assessment Method

Report section	BAM ref.	Information	Maps & tables (in document)	Data (to be supplied)
Assessment of Impacts	Chapter 8, Sections 8.1 and 8.2	INFORMATION Determine the impacts on threatened species habitat, including: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> description of impacts of clearing of threatened species habitat (as described in BAM Sections 8.1) <input checked="" type="checkbox"/> description of the nature, extent, frequency, duration and timing of indirect impacts of the proposal (as described in BAM Section 8.2) <input checked="" type="checkbox"/> Any prescribed impacts from the planted native vegetation proposal must be set out in the BDAR consistent with Appendix K 		
		MAPS and TABLES (in document) – N/A		
		DATA (to be supplied) – N/A		
Mitigation and Management of Impacts	Chapter 8, Sections 8.4 and 8.5	INFORMATION Identification of measures to mitigate or manage impacts in accordance with the recommendations in BAM Section 8.4 including (as described in BAM Subsection 8.4.1(2.)): <ul style="list-style-type: none"> <input checked="" type="checkbox"/> techniques, timing, frequency and responsibility <input checked="" type="checkbox"/> identify measures for which there is risk of failure <input checked="" type="checkbox"/> evaluate the risk and consequence of any residual impacts <input checked="" type="checkbox"/> document any adaptive management strategy proposed Identification of measures for mitigating impacts related to: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> displacement of resident fauna (as described in BAM Subsection 8.4.1(2.)) <input checked="" type="checkbox"/> indirect impacts on threatened species habitat (as described in BAM Subsection 8.4.1(3.)) 		
		MAPS and TABLES (in document) <input checked="" type="checkbox"/> Table of measures to be implemented before, during and after construction to mitigate and manage impacts of the proposal, including action, outcome, timing and responsibility		
		DATA (to be supplied) – N/A		
Impact summary	Appendix D, D.2	INFORMATION Note: If D.1(2.i) or D.1(3.i.) of the decision-making key in Appendix D apply, Chapter 9 is not required and the assessment of planted native vegetation for threatened species must be conducted in accordance with D.2 of the BAM. If D.1(1.i.) applies, refer to the minimum information requirements for a Biodiversity Development Assessment Report in Appendix K.		
		MAPS and TABLES (in document) – N/A		

Biodiversity Assessment Method

Report section	BAM ref.	Information	Maps & tables (in document)	Data (to be supplied)
		DATA (to be supplied) <input checked="" type="checkbox"/> Maps in jpeg format		

Appendix B EPBC Act Protected Matters Report



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 27-Feb-2023

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	11
Listed Threatened Species:	60
Listed Migratory Species:	16

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	242
Commonwealth Heritage Places:	2
Listed Marine Species:	22
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	7
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	37
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties				[Resource Information]
Name	State	Legal Status	Buffer Status	
Greater Blue Mountains Area	NSW	Declared property	In buffer area only	

National Heritage Places				[Resource Information]
Name	State	Legal Status	Buffer Status	
Natural				
The Greater Blue Mountains Area	NSW	Listed place	In buffer area only	

Listed Threatened Ecological Communities

[[Resource Information](#)]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status	
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered	Community likely to occur within area	In feature area	
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area	In feature area	
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community may occur within area	In buffer area only	
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area	In feature area	
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest	Critically Endangered	Community likely to occur within area	In buffer area only	
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area	In feature area	
Shale Sandstone Transition Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area	In feature area	
Temperate Highland Peat Swamps on Sandstone	Endangered	Community known to occur within area	In buffer area only	
Turpentine-Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area	In buffer area only	

Community Name	Threatened Category	Presence Text	Buffer Status
Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion	Endangered	Community likely to occur within area	In buffer area only
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [[Resource Information](#)]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat known to occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
Erythrorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area	In feature area
FISH			
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat known to occur within area	In feature area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat likely to occur within area	In feature area
FROG			
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat known to occur within area	In feature area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat may occur within area	In buffer area only
MAMMAL			
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat known to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Notamacropus parma Parma Wallaby [89289]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area	In feature area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
Acacia bynoeana Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat known to occur within area	In feature area
Acacia gordonii [5031]	Endangered	Species or species habitat may occur within area	In buffer area only
Acacia pubescens Downy Wattle, Hairy Stemmed Wattle [18800]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Acrophyllum australe [3983]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Allocasuarina glareicola [21932]	Endangered	Migration route known	In feature area to occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat likely to occur within area	In feature area
Eucalyptus aggregata Black Gum [20890]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Genoplesium baueri Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid [7528]	Endangered	Species or species habitat may occur within area	In buffer area only
Hakea dohertyi Kowmung Hakea [66701]	Endangered	Species or species habitat may occur within area	In buffer area only
Haloragis exalata subsp. exalata Wingless Raspwort, Square Raspwort [24636]	Vulnerable	Species or species habitat may occur within area	In feature area
Haloragodendron lucasii Hal [6480]	Endangered	Species or species habitat may occur within area	In buffer area only
Melaleuca deanei Deane's Melaleuca [5818]	Vulnerable	Species or species habitat known to occur within area	In feature area
Micromyrtus minutiflora [11485]	Vulnerable	Species or species habitat known to occur within area	In feature area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Persoonia acerosa Needle Geebung [7232]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Persoonia hirsuta Hairy Geebung, Hairy Persoonia [19006]	Endangered	Species or species habitat known to occur within area	In feature area
Persoonia nutans Nodding Geebung [18119]	Endangered	Species or species habitat known to occur within area	In feature area
Pimelea curviflora var. curviflora [4182]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pimelea spicata Spiked Rice-flower [20834]	Endangered	Species or species habitat known to occur within area	In feature area
Pomaderris brunnea Rufous Pomaderris, Brown Pomaderris [16845]	Vulnerable	Species or species habitat may occur within area	In feature area
Pterostylis saxicola Sydney Plains Greenhood [64537]	Endangered	Species or species habitat likely to occur within area	In feature area
Pultenaea glabra Smooth Bush-pea, Swamp Bush-pea [11887]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pultenaea parviflora [19380]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area	In feature area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat may occur within area	In feature area
Thelymitra kangaloonica Kangaloon Sun Orchid [81861]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Zieria involucrata [3087]	Vulnerable	Species or species habitat may occur within area	In buffer area only

REPTILE

Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat may occur within area	In feature area
Hoplocephalus bungaroides Broad-headed Snake [1182]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

SNAIL

Pommerhelix duralensis Dural Land Snail [85268]	Endangered	Species or species habitat known to occur within area	In buffer area only
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Listed Migratory Species

[[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area

Migratory Terrestrial Species

Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area	In buffer area only
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Communications, Information Technology and the Arts - Australian Postal Corporation		
Commonwealth Land - Australian Postal Commission [12815]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [12819]	NSW	In buffer area only
Communications, Information Technology and the Arts - Telstra Corporation Limited		
Commonwealth Land - Australian Telecommunications Commission [14629]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12756]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12757]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14628]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12776]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12818]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [16421]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12827]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12899]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12810]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Australian Telecommunications Commission [15500]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [12836]	NSW	In buffer area only
Defence		
Commonwealth Land - Defence Service Homes Corporation [12817]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [12816]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [12820]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14562]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [12824]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14561]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14546]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10159]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10174]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10149]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10175]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10170]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10171]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10173]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10156]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10162]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10163]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10166]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10167]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10160]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10161]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10169]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10164]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10168]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10165]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10172]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10151]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10150]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10152]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10155]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10153]	NSW	In buffer area only
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10154]	NSW	In buffer area only
Defence - AIR HEADQUARTERS AUSTRALIA - GLENBROOK [10235]	NSW	In buffer area only
Defence - AIR HEADQUARTERS AUSTRALIA - GLENBROOK [10239]	NSW	In buffer area only
Defence - AIR HEADQUARTERS AUSTRALIA - GLENBROOK [10240]	NSW	In buffer area only
Defence - AIR HEADQUARTERS AUSTRALIA - GLENBROOK [10238]	NSW	In buffer area only
Defence - AIRTC ST MARYS [10007]	NSW	In buffer area only
Defence - LONDONDERRY PARACHUTE DROP ZONE [10203]	NSW	In buffer area only
Defence - LONDONDERRY RTS (Communication Station) [10202]	NSW	In buffer area only
Defence - LONDONDERRY RTS (Communication Station) [10201]	NSW	In buffer area only
Defence - PENRITH DEPOT (Army Stores) [10208]	NSW	In buffer area only
Defence - PENRITH DEPOT (Army Stores) [10206]	NSW	In buffer area only
Defence - PENRITH DEPOT (Army Stores) [10207]	NSW	In buffer area only
Defence - RANMME (DEOH) [10176]	NSW	In buffer area only
Defence - RANMME (DEOH) [10177]	NSW	In buffer area only
Defence - SIGNAL STRS DEPOT-KINGSWOOD [10210]	NSW	In buffer area only
Defence - SIGNAL STRS DEPOT-KINGSWOOD [10209]	NSW	In buffer area only
Defence - Defence Housing Authority		
Commonwealth Land - Defence Housing Authority [12831]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12830]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12833]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [12835]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12832]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12837]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12834]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12828]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12795]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12908]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12796]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12793]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16497]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12772]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12770]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12773]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12797]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12856]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12854]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12851]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12755]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12852]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12901]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12857]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12829]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12813]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12814]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12791]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12790]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12799]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [12774]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12775]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12858]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12859]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12893]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12895]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16496]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12823]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12759]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12758]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12777]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15675]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15912]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12763]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12760]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12762]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12767]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12764]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12804]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12766]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12761]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15423]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15424]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12882]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12881]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12883]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12786]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [12787]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12780]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12781]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15643]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12768]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12769]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15645]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12784]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15644]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12785]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15647]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15646]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15649]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15648]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12782]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12812]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12788]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12789]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12783]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12779]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12778]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12838]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12839]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12867]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12864]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12863]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12860]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [12861]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12866]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12909]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12862]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12869]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12868]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12914]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12915]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12911]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12910]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12913]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12912]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12865]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12805]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12806]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12800]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12801]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12802]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12803]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12808]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12809]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15914]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15913]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15911]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15910]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12884]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12885]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [12886]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12892]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15087]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12894]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12754]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12891]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12896]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16300]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12900]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12880]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12887]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12844]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12843]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12840]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12841]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12842]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12765]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12849]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12794]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12845]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12792]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12846]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12877]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12874]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12871]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12876]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12811]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [12853]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12875]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12798]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12855]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12873]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12872]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12870]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12903]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12902]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12879]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12878]	NSW	In buffer area only
Commonwealth Land - Deputy Director of War Service Homes [14566]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14552]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14565]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14564]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14550]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14559]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14551]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14560]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [12821]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14547]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14548]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14567]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14549]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14563]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [12807]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Director of War Service Homes [12822]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [12826]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [12825]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [12848]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [12847]	NSW	In buffer area only

Transport and Regional Services - Airservices Australia

Commonwealth Land - Airservices Australia [12850]	NSW	In buffer area only
Commonwealth Land - Airservices Australia [14230]	NSW	In buffer area only

Unknown

Commonwealth Land - [14627]	NSW	In buffer area only
Commonwealth Land - [14626]	NSW	In buffer area only
Commonwealth Land - [15425]	NSW	In buffer area only
Commonwealth Land - [16484]	NSW	In buffer area only
Commonwealth Land - [16483]	NSW	In buffer area only
Commonwealth Land - [16482]	NSW	In buffer area only
Commonwealth Land - [16481]	NSW	In buffer area only
Commonwealth Land - [16485]	NSW	In buffer area only
Commonwealth Land - [16486]	NSW	In buffer area only
Commonwealth Land - [12771]	NSW	In buffer area only

Commonwealth Heritage Places

[[Resource Information](#)]

Name	State	Status	Buffer Status
Natural			
Orchard Hills Cumberland Plain Woodland	NSW	Listed place	In buffer area only
Shale Woodland Llandilo	NSW	Listed place	In buffer area only

Listed Marine Species

[[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]		Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Agnes Banks	Nature Reserve	NSW	In buffer area only
Blue Mountains	National Park	NSW	In buffer area only
Castlereagh	Nature Reserve	NSW	In buffer area only
Mulgoa	Nature Reserve	NSW	In buffer area only
Wianamatta	Nature Reserve	NSW	In buffer area only
Wianamatta	Regional Park	NSW	In buffer area only
Yellomundee	Regional Park	NSW	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Chapman Street Residential Development	2019/8552	Controlled Action	Post-Approval	In buffer area only
Development of a subdivision, Lot 3 Rickards Road, Castlereagh, NSW	2016/7833	Controlled Action	Post-Approval	In buffer area only
Glenmore Park Stage 2 - 120 Lot Residential Development At Lot 1 DP222144	2004/1867	Controlled Action	Completed	In buffer area only
Sydney Metro, Western Sydney Airport - St Marys to Elizabeth Drive	2020/8687	Controlled Action	Post-Approval	In buffer area only
The Northern Road upgrade - Mersey Rd, Bringelly to Glenmore Parkway, Glenmore Park, NSW	2016/7696	Controlled Action	Post-Approval	In buffer area only
Warragamba Dam Raising Project	2017/7940	Controlled Action	Assessment Approach	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
18-hole, golf course development, west of Eastern Creek	2004/1757	Not Controlled Action	Completed	In buffer area only
Clearance of 6.3ha of Cumberland Plain Woodland for industrial subdivision cnr of Old Walgrove and W	2004/1445	Not Controlled Action	Completed	In buffer area only
Clearance of 6ha Shale Plains Woodland	2004/1346	Not Controlled Action	Completed	In buffer area only
Concrete Batching Plant and Associated Facilities	2005/2067	Not Controlled Action	Completed	In buffer area only
Development within Caddens Release Area	2010/5429	Not Controlled Action	Completed	In buffer area only
Electricity Substation at Old Wallgrove Road	2005/2220	Not Controlled Action	Completed	In buffer area only
Erection of a dwelling and associated access and infrastructure, 19 Tidswell Str	2003/1078	Not Controlled Action	Completed	In buffer area only
gas main installation from Eastern Creek to Erskine Park	2005/2235	Not Controlled Action	Completed	In buffer area only
hazard reduction burn	2003/1181	Not Controlled Action	Completed	In feature area
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In buffer area only
Multi User Depot	2002/562	Not Controlled Action	Completed	In buffer area only
Orchard Hills Water Filtration Plant	2001/373	Not Controlled Action	Completed	In buffer area only
Residential Development, Stages 1-3	2002/710	Not Controlled Action	Completed	In feature area
Residential development at Doonside Crescent Woodcroft, Blacktown LGA	2004/1378	Not Controlled Action	Completed	In buffer area only
Rezoning & Disposal of Quakers Hill property	2001/281	Not Controlled Action	Completed	In buffer area only
Sale of Land - Lot 1 in DP 533370	2003/1121	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Sewerage Scheme for the three villages of Mulgoa, Wallacia and Silverdale	2003/1314	Not Controlled Action	Completed	In buffer area only
Subdivision of precincts C, D and E of Bradley Ridge	2010/5745	Not Controlled Action	Completed	In buffer area only
Upgrade of Existing DECCW Radio Communications Facility	2010/5374	Not Controlled Action	Completed	In buffer area only
Wetland rehabilitation, Stage 3, Lakeside Village Estate	2002/628	Not Controlled Action	Completed	In feature area
Wonderland Business Park Precinct, Stage 1, Lot D1	2004/1626	Not Controlled Action	Completed	In buffer area only
Xavier College Extension	2001/455	Not Controlled Action	Completed	In buffer area only
Xavier College High School development	2001/429	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Cross Country and Downhill Tracks	2011/6171	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Removal of stockpiles soil and other material	2006/3198	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Replacement of flows with recycled water	2006/3050	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
St Mary's Rugby League Club upgrade	2011/6042	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Transfer of Airservices Australia property	2011/5809	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
St Marys Rugby League Club new training field	2011/5836	Referral Decision	Completed	In buffer area only

Bioregional Assessments

SubRegion	BioRegion	Website	Buffer Status
Sydney	Sydney Basin	BA website	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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Appendix C
Determination of Development Application- To carry out gravel and sand extraction and the rehabilitation of land within the Penrith Lakes Scheme Area

(DAI)
C/11

DETERMINATION OF A DEVELOPMENT APPLICATION
BY THE MINISTER PURSUANT TO SECTION 101

APPLICANT: Penrith Lakes Development Corporation.
DEVELOPMENT APPLICATION: To carry out gravel and sand extraction and the rehabilitation of land within the Penrith Lakes Scheme Area, in particular -

- (a) to carry out gravel and sand extraction on the land described in Schedule 1; and
- (b) to carry out the rehabilitation of the land described in Schedules 1 and 2.

(Application lodged on the 12th May, 1981 with the Penrith City Council and registered in the Council's records as D.A. No. 350/81).

COUNCIL: Penrith City Council.

In accordance with section 101(6) of the Environmental Planning and Assessment Act, 1979, I, the Minister for Planning and Environment, after consideration of the findings and recommendations of a Commission of Inquiry, CONSENT to the development application referred to above subject to the following conditions:

- STATUTORY RESPONSIBILITY. 1. That the Applicant (and its successors in title) shall for the duration of this Development Consent meet the statutory requirements of all public authorities having statutory responsibilities in respect of the proposed development, and shall negotiate with all authorities having an interest in the proposed development with a view to meeting any reasonable requirements relative to the proposed development.
- S.P.C.C. APPROVALS. 2. That the Applicant shall, prior to the commencement of construction of the proposed development obtain from the State Pollution Control Commission all statutory approvals required under the Clean Air Act, 1961, Clean Waters Act, 1970 and Noise Control Act, 1975, in regard to any necessary pollution control safeguards.
- DEED OF AGREEMENT. 3. That, subject to condition 6 hereunder, the Applicant, prior to commencing the carrying out of any works to which this consent applies shall enter into Deeds of Agreement with the Council with respect to the matters referred to in conditions 5, 24, 32 and 33 hereunder PROVIDED THAT in the event of failure to reach agreement in respect of any of the terms of the said Agreements, then the matter shall be referred to the Minister for Planning and Environment for determination.

- GUARANTEE. 4. (a) That the Applicant shall, prior to the commencement of operation of the proposed development other than the works permitted by condition 6, guarantee performance of rehabilitation requirements set out in this consent or meet the costs of remedial works to be carried out by the Minister in the event of default of the Applicant and/or operator to carry out these works;
- (b) That for the purposes set out in 4(a) above, the applicant shall lodge with the Council a bank guarantee for the sum of One Million Dollars, in a form approved by the Minister and executed by a bank approved by the Minister whereby the bank undertakes to pay to the Minister the said sum of One Million Dollars upon the Applicant failing to perform or committing a breach of the conditions related to rehabilitation requirements set out in the Land Management Plan referred to in conditions 7 and 8 hereunder PROVIDED HOWEVER that upon the Applicant completing its extraction operations and having reclaimed the disturbed area of extraction to the satisfaction of the Minister, the Bank guarantee shall be reduced by an amount equal to 60% of the existing bank guarantee PROVIDED FURTHER that the Applicant's obligations under this condition shall remain in force until the Minister is satisfied that the conditions set out in this consent have been fully performed and upon the Minister being so satisfied the said Bank guarantee or any unused part thereof shall be released to the Applicant.
- (c) That the Bank guarantee shall be reviewed at yearly intervals, the first of which interval shall be one year from the date of this consent, in consultation with the Applicant and progressively reduced upon satisfactory completion of agreed works at the discretion of the Minister. The basis of reviewing the Bank guarantee shall be the Sydney Consumer Price Index published by the Commonwealth Bureau of Statistics for that year in accordance with the following formula: New Bank guarantee equals -
- $$\text{Existing sum} \times \frac{\text{C.P.I. (year of Review)}}{\text{C.P.I. 1982}}$$
- (d) That if the Applicant fails to comply with or breaches any of the conditions of consent, then but not otherwise, the Council may thereupon demolish, recontour, revegetate and remove or take such other action as it may think fit to compel the Applicant's compliance with the said conditions and all losses and expenses consequent upon such demolition, recontouring, revegetation or removal or any other action as aforesaid and all damages which may sustain thereby shall be recovered by the Minister from the Applicant as a debt in any Court of competent jurisdiction to the extent of the Bank Guarantee referred to in clause 4(b).

- (e) That in the event of default by the Applicant in respect of matters referred to in this condition, the Minister:
 - (i) may serve on the Applicant a notice (which is hereinafter referred to as "the default notice") -
 - (a) indicating the matters, in which, in the opinion of the Minister, the Applicant is said to be in default;
 - (b) requiring the applicant, in the manner and within the date and time specified in the default notice to:
 - (1) rectify the default referred to therein, and allowing reasonable time for rectification of any such default; and
 - (2) showing cause why the Minister should not exercise his right under condition 4(d) PROVIDED THAT the Minister may defer the coming into operation of condition 4(d) above until the expiration of the time specified in the default notice; and
 - (3) showing cause why the Minister should not institute proceedings under section 123 of the Environmental Planning and Assessment Act.
 - (ii) may consider any explanation and representation made by the Applicant in pursuance of subclause (i)(b)(2) of this condition.

MODIFICATION OF EXISTING CONSENTS.

- 5. The conditions included in existing consents to extractive operations on land to which this application relates shall be modified to include the conditions set out in this consent in respect of rehabilitation/reclamation of lands the subject of those consents. The Applicant shall obtain the agreement of individual owners of land the subject of this application to such modification. Those owners and companies presently extracting by virtue of those consents are to each enter into a Deed of Agreement releasing the Council and the Minister for Planning and Environment against any claim for compensation as a result of that modification.

PRIMARY SUBAREA OPENING.

- 6. That the Applicant may, immediately after the granting of consent to this application, begin extraction of the subareas designated as BMG 1 and BMG 2 of Portion 308 and PCS 1 and RMC 1 of Portion 89 as shown in the plans Figures 1 and 2, subject to:
 - (a) rehabilitation of those subareas being carried out as approved in the Land Management Plan, referred to in condition 7 hereunder.
 - (b) no further extraction than that described in this condition, proceeding before approval of the Land Management Plan referred to in condition 7 hereunder.

- (c) the provisions of conditions 31 and 34 will not apply in respect of this condition.

The Applicant may proceed to construct noise bunds.

LAND
MANAGE-
MENT PLAN.

7. That the Applicant shall within three months of the date of this consent or within such further time as the Director of the Department of Environment and Planning may, by notice in writing to the Applicant specify, and before the carrying out of any works other than those works specified in condition 6, submit to the Director and the Council, a Land Management Plan to be prepared to the satisfaction of the Director and the Council in consultation with the Soil Conservation Service of New South Wales and in accordance with the guidelines set out in condition 8 PROVIDED THAT in the event of failure to reach agreement in respect of any of the terms of the said Land Management Plan, then the matter shall be referred to the Minister for Planning and Environment for determination.

DETAILS
LAND
MANAGE-
MENT
PLAN.

Rehabilitation

8. That the Land Management Plan referred to in condition 7 above:
- (a) shall apply to all lands delineated in the plan Figure 3.
 - (b) shall include a sequential programme for extraction and rehabilitation of the subject land which shall specify final end uses of the land including the lakes, where applicable except that the Council may approve deferral of the implementation of such a programme for a period of up to two years from the date of approval of the Land Management Plan, but such deferral does not apply to provisions relating to the placement of fill material for the prevention of soil erosion and the establishment of soil stability nor to provisions relating to the successful establishment of a stable vegetation cover.
 - (c) will be based on detailed field surveys as carried out to date by the Soil Conservation Service of New South Wales.
 - (d) shall include contour maps and plans at a scale of 1:2000 and at 1 metre intervals showing existing topography prior to extraction and proposed final contours of post extracted land and lake forms after final rehabilitation.
 - (e) shall define general principles to be followed in handling and treatment of fill material and topsoil.
 - (f) shall define general principles to be followed in the shaping and construction of lake batters and margins.

- (g) shall include details of final rehabilitation plantings to be undertaken including species names, density or spacing, location and number of trees and shrubs to be planted. The plan will also include details of proposed ground cover plantings or sowing of grasses and cover crops except that Council in consultation with the Soil Conservation Service of New South Wales may allow variations to these plantings in its approval of subarea works as described in clause 11(a), as a result of performance trials.
- (h) shall demonstrate the proposed respective locations of site for plant, buildings, roads, means of access to works, drainage, parking area and other works generally if applicable.
- OPENING OF OTHER SUB-AREAS. 9. That, in respect of any lands to be quarried other than the land referred to in condition 6, not more than two (2) parcels of such lands each having an area of eight (8) hectares, shall be opened, excavated or worked at any one time, except with the written consent of the Council. A third or subsequent eight (8) hectares parcel of land shall not be opened unless restoration of the preceding area is continuing in accordance with the Council approvals referred to in condition 11(a) hereunder.
- SUB-AREA REHABILITATION. 10. That for each subarea of land to be newly extracted and rehabilitated the Applicant shall obtain the Council's approval in respect of the associated lands to be simultaneously rehabilitated.
- PREPARATION FOR NEW EXTRACTION. 11. (a) That prior to two months before the proposed opening up of a new subarea (as defined in clauses 9 and 10), but with the exception of those areas defined in clause 6, the Applicant shall submit a detailed schedule and accompanying plans of proposed extraction/rehabilitation works for that subarea for approval by the Council in consultation with the Soil Conservation Service of New South Wales.
- (b) That the Applicant shall carry out laboratory and field testing approved by the Soil Conservation Service of N.S.W. to develop soil improvement practices and soil management techniques best suited to specific areas, for the period of this consent.
- TREATMENT OF LAKES. 12. That prior to the carrying out of any works on the land, subject to this application other than the works permitted by condition 6, the Applicant shall submit for the approval of the Council in consultation with the Soil Conservation Service of New South Wales plans showing the proposed treatment of all batters and lake margins to each of the lakes.
- LAKE SHAPES. 13. That any rehabilitation prior to the approval of the Land Management Plan is to proceed so as to generally accord with the lake shapes shown on Drawing No. B9/10011 dated September, 1981.

- PLANS. 14. That the Applicant shall furnish to the Council a plan of all executed engineering works immediately upon completion of those works; such plans will be to a standard satisfactory to the Council and in accordance with Council's normal requirements for documents related to executed works.
- JOINT INSPECTION. 15. That the Applicant shall make a representative available for joint inspection of the lands with officers of the Council, the Soil Conservation Service and any other Authorities concerned with the proposed operation of these conditions. Such inspections shall be carried out each three (3) months but shall not be regarded as replacing any other inspections which any other Authority is entitled to make.
- MONITORING. 16. (a) That the Applicant shall establish monitoring programmes pertinent to the expansion of the quarry and its associated rehabilitation works and shall prior to the commencement of the proposed development, except for that development permitted by clause 6, submit the proposed programmes for the approval of the Council and the Director.
- (b) That at 12 monthly intervals from the date of this consent the applicant shall furnish to the Department and the Council, photogrammetric surveys at an appropriate scale showing the extent of rehabilitation which has been carried out on the lands.
- MONITORING REPORTS. 17. That the Applicant shall provide the Department and the Council on an annual basis, with a report containing evidence of all monitoring results and an assessment of the performance of the environmental controls of the project. Such report should be for the period ending 31st December and should be presented to the Department by 1st April in the subsequent year. The report should include a plan of areas quarried, including areas quarried in the previous twelve months; a plan showing original contours with an overlay showing post-quarrying contours of areas rehabilitated, a description of rehabilitation and revegetation work carried out including details of species planted, and details of all monitoring results and an assessment of environmental controls of the project.
- WATERING OF VEGETATION. 18. That the Applicant shall maintain an adequate water supply to all vegetation established for rehabilitation purposes until such times as the vegetation is self supporting.
- SETTLEMENT AND DRAINAGE. 19. That the Applicant shall continue rehabilitation until all rehabilitated land has substantially completed settlement, the surface has been stabilised and vegetation and a stable drainage pattern established.
- WATER RESOURCES COMMISSION. Water and Groundwater 20. That the Applicant is to carry out management of the underground water resource in accordance with the requirements of the Water Resources Commission.

ADVERSE
WATER
SUPPLY.

21. That the Applicant shall, if directed in writing by the Council on the advice of Water Resources Commission and at the Applicant's cost, make available or make arrangements for a supply of water to any person in the immediate locality of the operations who at the date of consent was licensed under the Water Act, 1912, to extract water from the aquifer and who can demonstrate to the satisfaction of the Water Resources Commission that the supply of such water has been adversely affected in quality or quantity by the operations. Provided that Council in making such a direction shall not require an alternative supply of water exceeding the provision of the licence and shall specify a period for maintenance of the supply which in its opinion is reasonable having regard to the circumstances, after which the direction shall cease to have effect.

STORMWATER.

22. That the Applicant shall make arrangements satisfactory to the Council to ensure that urban stormwater run off does not enter the proposed lakes. These arrangements may include the diversion of any internal water course which traverses the lands and which would otherwise discharge to the proposed lakes.

MAINTEN-
ANCE OF
WATER
LEVELS.

23. That the Applicant shall maintain water levels within the lakes north of Castlereagh Road which are not to be affected by further quarrying in this proposal at a level determined and approved by the Water Resources Commission in consultation with the Council following a study of the groundwater table level by the applicants at their costs. Elsewhere, water levels within the lakes are to be maintained generally at the levels shown on Plan No. B9/10001 dated 6th May, 1981, unless otherwise directed by the Council.

CESSATION
OF ACTIVITY.

24. That the Applicant shall enter into an agreement with the Council to provide that, in the event of there being no further extractive activity on a part of the lands the subject of this application that in respect of that part of land the applicant shall;

- (a) maintain water levels within the lakes in accordance with levels determined and approved by the Water Resources Commission in consultation with the Council following a study of the groundwater table level by the applicants at their cost.
- (b) carry out maintenance arising from slippage, macrophyte planting and desilting.
- (c) maintain security fencing.
- (d) maintain landscaping and planting.
- (e) maintain the lands in a generally neat and clean fashion,

such agreement to be assignable to all subsequent owners of such land.

- ALTERNATIVE SOURCE OF WATER. 25. That in the event of it being demonstrated that water levels cannot be maintained in accordance with condition 24 by means of recharge from the internal aquifer, then, the Applicant shall provide an alternative source of water supply adequate to maintain these levels with water of a quality which in the opinion of Council is consistent with the use to be carried out on lands adjacent to such lakes.
- LAKES FLOW. 26. That the Applicant is to regularly monitor inflow and outflow between the lakes and the aquifer and water levels in the lake and to provide the Council and the Water Resources Commission with the results of such monitoring.
- HIGH BANK. 27. That the Applicant shall prepare and submit for the approval of the Council and the Water Resources Commission as appropriate, engineering designs for the stabilisation of those sections of the Nepean River High Bank south of Castlereagh Road subject to extraction under this consent and shall carry out such works as required by the Water Resources Commission in consultation with the Council to ensure its protection.

Transport Routes and Associated Works

- TRANSPORT ROUTING. 28. That the route for the carriage of materials from Portion 299 shall be by way of Farrells Lane to Castlereagh Road thence by Castlereagh Road to Sheens Lane.
- TRANSPORT ROUTING. 29. That the route for the carriage of all materials other than those extracted from Portion 299 shall be via internal trunk haul roads established from time to time in locations as approved by the Council.
- TRUNK HAUL ROUTES. 30. That prior to the commencement of operations other than those permitted under condition 6, the Company is to submit for the Council's consideration and approval, internal trunk haul routes and those trunk haul routes shall be constructed and maintained to a standard satisfactory to Council and shall not be relocated or varied without prior permission of the Council being granted.
- TRUNK HAUL ROUTES. 31. That no road, public reserve, public place, or other place not included in the routes referred to in conditions 29 and 30 shall be used for the passage of vehicles in the transport of plant or extractive material between the lands and any State Highway, Trunk, Main or Secondary road as respectively classified under the Main Roads Act, 1924, as amended.
- ROADS. 32. That the Applicant shall enter into an Agreement with the Council to contribute to:
- (a) the construction and/or reconstruction of the roads referred to in conditions 28 and 29 above used in the transport of extractive material, to the satisfaction of Council standards; and
 - (b) the maintenance of such roads.

- UNDERPASS 33 (a) That prior to any construction work associated with the Castlereagh Road underpass, the Applicant shall enter into a Deed of Agreement with the Council in respect to the terms and conditions relating to the construction and maintenance of that underpass.
- (b) That prior to the construction of the Castlereagh Road underpass a temporary diversion of Castlereagh Road around the site of the proposed underpass shall be constructed to the requirements of the Department of Main Roads and the City Engineer in accordance with plans and specifications which are to be submitted to the Department of Main Roads and the City Engineer for consideration and approval; such works are to be carried out at the Applicant's cost.
- (c) That planning for the proposed underpass shall include provision for the future widening of Castlereagh Road to the satisfaction of the Department of Main Roads.
- (d) That upon completion of the Castlereagh Road underpass, the temporary diversion road shall be removed at the Applicant's cost.
- ACCESS ROAD AND PARK 34 That the access road extending from the termination of Lugard Street to the proposed part on Portions 321 and 338 and the proposed carpark on those portions shall be located, designed and constructed of an all-weather impervious material to the requirements and to the satisfaction of the City Engineer. Sealing is to be deferred until after the completion of the high bank or such later time as the Council may agree.
- ROAD CLOSURE 35 That Sheens Lane and Longs Lane shall be closed and acquired by the Applicant, at its own cost. Upon closure the conditions of this consent will apply to Longs Lane.
- ROAD CLOSURE 36 That the maintenance of trunk haul roads, fences, stockpiles and rehabilitation areas shall be to the satisfaction of the Council other than for the previously approved crossing of McCarthy's Lane. The Applicant is to take such measures as are considered necessary by the Police Department (Traffic Branch) to minimise any danger to the public associated with the crossing of McCarthy's Lane.
- HISTORICAL ETC 37 The Applicant shall engage a qualified historical or industrial archaeologist to investigate and record archaeological and historical sites and artifacts.
- TREES 38 That the Applicant retain the stand of trees at the southern boundary of Portion 310
- HOURS OF OPERATION 39 That the Applicant restrict the hours of operation of the development the subject of the consent generally to between the hours of 6.00 am and 8.00 pm, Mondays to Saturdays with no operation, other than in a case of emergency outside those hours or on Sundays and public holidays.
- USE OF WATERING 40 That the Applicant shall keep all unsealed roads used for extractive or other material or over-burden haulage sufficiently damp, at all times to prevent wind-blown or traffic generated dust. Plant shall be provided and operated to enable watering at least at a rate of 1.5 litres per square metre per hour. Temporary roads used for top soil haulage shall be similarly treated.
- USE OF WATERING 41 That the Applicant dampen all top soil before stripping to prevent dust generation and ensure that noise control bunds, near residences are watered or otherwise established as quickly as practicable after formation. Access to areas awaiting rehabilitation shall be restricted by suitable markers and stabilisation of these areas shall be carried out as quickly as possible to reduce wind erosion.

- USE OF WATERING 42 That the Applicant install effective water sprays or other dust suppression equipment approved by the Council in consultation with the State Pollution Control Commission for every major stockpile of material, within the area the subject of the Development Application, whether composed of extractive materials or overburden. Spray systems shall be capable of applying water at a rate of not less than 2.3 litres per square metre of the stockpile per hour.
- USE OF WATERING 43 That the Applicant ensure that stockpile water spray systems, within the area the subject of the Development Application shall be capable of being automatically controlled by a suitable anemometer positioned in clear wind at a height of not less than 10 metres above ground level or to the satisfaction of the Council and the State Pollution Control Commission. The automatic control system shall incorporate a manual override.
- USE OF WATERING 44 That during hours of operation as specified in condition 39 above the spray systems shall be operated to prevent wind blown dust when wind speeds exceed 5 metres per second or when the stockpiles, within the area the subject of the Development Application, are being worked. When the stockpiles are unmanned the operation of the spray systems shall be automatically controlled to prevent wind blown dust to operate when winds in excess of 5 metres per second occur.
- SAFETY 45 That in any location where public access to recently completed tailings ponds area is allowed the Applicant shall ensure that the tailings ponds are secured by manproof fences.
- DUST CONTROL 46 That the Applicant maintain all dust control equipment in good operating condition and ensure that it is operable at all times with the exception of shutdowns for maintenance. Air flows from radiator fans and exhaust gases from the engines of earthmoving equipment shall be directed upwards so that it does not impinge on the ground. Planned maintenance shutdowns of the stockpile spray system shall not be scheduled to commence during periods when the wind speeds in excess of 5 metres per second are forecast as could reasonably be expected within the period of shutdown.
- AIR MONITORING 47 That the Applicant formulate in conjunction with the Council and the State Pollution Control Commission an air monitoring programme to assess the impact of on-site activities on ambient air quality. A report detailing the monitoring programme shall be submitted to the Council within three months of the date of this approval. Thereafter results from the programme shall be reported to the Council at monthly intervals.
- LIMITS OF WORKING 48 That the Applicant shall not excavate, carry out works or stockpile
- (a) within 30 metres of any Main or County Road;
 - (b) within 15 metres of any other dedicated road, any public place or public reserve; and
 - (c) within 15 metres of any adjoining privately owned property except with the written permission of the owner of that property and the consent of the Council.
- DAMAGE TO OTHER PROPERTY 49 That the Applicant carry out all works on the land the subject of the application in such a manner as not to cause any injury, loss or damage to persons and stock on any other property.
- ALTERATION TO SERVICES ETC. 50 That the Applicant carry out any alterations as necessitated by the development to services or municipal facilities on the

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subject land or those adjoining the development. The alterations shall be carried out at the applicant's expense and to the satisfaction of the Council.

(File No.

Dated at Sydney this 8th day of July 1982.



ERIC BEDFORD

Minister for Planning and
Environment.

SCHEDULE 1

New Extraction Areas

Land included in development application	Land Description	Map Reference on Map annexed hereto and marked with the letter "A"
Por 308	Vol:10279 Fol 101 C.3551.2030	P 24
Pt.Por 321	Vol 10279 Fol 101 C.3551.2030	P 24
Por 309	Vol 8117 Fol 100 Por 309 C3552.2030	R 23
Por 310	Vol 8321 Fol 247 Por 310 C3552.2030	R 23
Pt. Por 89	Vol 3848 Fol 68 Pt Por 89 Parish of Castlereagh	R 15 (Pt)
	Conveyance Book 2557 No 330 Pt Por 89	R 20
	Vol 5712 Fol 175 Pt Lot 1 DP 942402	R 18 (Pt)
	Vol 6070 Fol 10 Plan/in transfer B748772 D.P.181273	R 17 (Pt)
	Vol 5884 Fol 87	R 16
	Part of lot 1 D.P.175056	(Pt)
	Vol 8168 Fol 110	R 19 (Pt)
	Land in D.P. 356204 Longs Lane	

SCHEDULE 1
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SCHEDULE 2

Areas Under Existing Development Consents

Land included in development application	Land Description	Reference on Map annexed hereto and marked with the letter "A"
	Lot 1 DP 229462	
	Vol 7186 Fol 105 Lot A in transfer G335715 DP 394967	P4
Por 85	Vol 10547 Fol 179 closed road within Por 85	P14
	Vol 10832 Fol 142 Part resumed road through Por 85	P15
	Vol 3483 Fol 17 Lot 7 DP 9108	P11
	Vol 9971 Fol 86 Lot 1 DP 505283	P12
	Conveyance No. 693 Book 2803 Pt Por 85	P13
Por 86	Vol 10547 Fol 179 closed road within Por 86	P14
	Vol 13001 Fol 43 Lot 62 DP 581860	P17
	Vol 8317 Fol 22 Pt Lot 1 DP 9108 (transfer H778986)	P19
Pt Por 89	Vol 3848 Fol 68 Pt Por 89 Parish of Castlereagh	R 15 (Pt)
	Vol 5712 Fol 175 Pt Lot 1 DP 942402	R18 (Pt)
	Vol 6070 Fol 10 Plan in transfer B748772 D.P. 181279	R17 (Pt)
	Vol 7387 Fol 100 Lot A MPS (RP) 94951	P20
	Vol 7344 Fol 16 Lot B MPS (RP) 94951	P21
	Vol 8168 Fol 110 Pt Por 89	R19

SCHEDULE 2

Areas Under Existing Development Consents

Land included in development application	Land Description	Reference on Map annexed hereto and marked with the letter "A"
Por 301	Vol 9190 Fol 233 Lots 1 & 2 DP 200839	J15 G1
Por 302	Vol 5547 Fol 169 Por 302 C3548.2030	G2
Por 303	Vol 5547 Fol 170 Por 303 C5665.2030. Parish of Castlereaigh	B24
Por 304	Vol 7540 Fol 195 Por 304 C3549.2030	F10
Por 305	Vol 5370 Fol 23 Por 305 C3549.2030 Parish of Castlereaigh	B26
Por 306	Vol 7103 Fol 39 Por 306 C7109.2030 Parish of Castlereaigh	B27
Por 307	Vol 7068 Fol 105 Por 307 C7110.2030 Parish of Castlereaigh	B28
Por 325	Vol 5547 Fol 168 Por 325 C.5666.2030 Parish of Castlereaigh	B25
Por 337	Vol 7184 Fol 69 Por 337 C.7109.2030 Parish of Castlereaigh	B29
Por 338	Vol 7068 Fol 24 Por 338 C.7110.2030 Parish of Castlereaigh	B30
Por 299	Vol 7960 Fol 60 Por 299 C.3426.2030	F3
Por 80	Vol 10547 Fol 143 Closed road within Por 299	F4
Por 80	Vol 7186 Fol 104 Lot B in transfer G335715 DP 394967	P3
Por 80	Vol 10347 Fol 27	P5